

Econ 664 Empirical Studies in Industrial Organization

Fall 2022

Monday & Wednesday 11am – 12:15pm, Tydings 1132

Lecture notes, student presentations and assignments will be available on elms.umd.edu.

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Contact Information

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Overview

This course introduces students to the recent empirical literature of industrial organization. It is one of the three advanced courses on empirical IO, the other two are Econ625 taught by Professor Andrew Sweeting in Spring 2023 and Econ662 taught by Professor Chenyu Yang in Spring 2023.

The goal of this course is that, at the end of the semester, students have a good idea of how to take an industrial organization theory to data or vice versa. Specifically, the class consists of four themes: pricing and contracting; cartels, collusion and merger reviews; demand estimation; and information economics. Each theme will cover a range of regulated and unregulated industries, along with relevant government interventions such as antitrust, consumer protection, data laws, and innovation policies. The course will complement more detailed discussions of how to solve and estimate static and dynamic models in Econ 625 and Econ662.

Each theme of this course will cover 5-6 lectures, plus two student representations. In the lectures, we will focus on a series of research papers and discuss their research question, related theory, data, identification strategies, estimation techniques and policy implications. At the end of each theme, students will present two working papers for a topic that is related to the theme but not yet covered in the lectures. The topic and papers are listed below in the course outline.

Prerequisite

You are assumed to be familiar with econometrics and microeconomics theory, including game theory. Therefore, first year graduate courses in these areas are regarded as prerequisite. This course is also one of the courses in the second-year graduate sequence in industrial organization, so it is required for those taking industrial organization as a field. Students from other fields or other departments are welcome.

Readings and Lecture Notes

There is no textbook. Reading list is provided below in the course outline. For the papers to be discussed in lecture (denoted with *), I will provide an electronic copy on elms. The papers listed as useful readings are for your information and won't be discussed in details during the lecture. You should be able to find them at JSTOR (www.jstor.org), NBER working papers (<http://www.nber.org>), SSRN working paper (www.ssrn.org), the UMD electronic journal list (www.lib.umd.edu), or the authors' websites.

Lecture notes will be posted on elms before class. Please note the date of the .ppt file, as each file may cover multiple papers within a theme, and I may update the slides throughout the semester.

IO Theories

We no longer have a dedicated IO theory class, so for each required paper, I will summarize the theory that I believe all IO economists should know for the focal topic. The theory will be taught at “Academic Masters” level (i.e., it will be theory-for-empirical people, not theory-for-theorists). Most universities do not have IO theory courses so there is nothing unusual about this.

The following reference books might be helpful for IO theories:

- Jean Tirole: *The Theory of Industrial Organization*, 1988.
- Luis M.B. Cabral (edited): *Readings in Industrial Organization*, 2000.
- Mark Armstrong and Robert Porter (edited): *The Handbook of Industrial Organization, Volume 3*, 2007.
- Paul Belleflamme and Martin Peitz: *Industrial Organization: Markets and Strategies*, Cambridge University Press, second edition 2015.
- Paul Belleflamme and Martin Peitz: *The Economics of Platforms*, Cambridge University Press, 2022.

Assignments

You are required to fulfill the following assignments, with grading weights in parentheses. There is no mid-term or final.

(10) Paper summary before class

To maximize class engagement, for each required paper we will designate 4+ students to do extra preparation before the class:

- #1: highlights research question and literature contribution;
- #2: describes the data's pros and cons for the main question addressed by the paper;
- #3: describes the methodology of the paper; explains how it compares to alternative methods;
- #4: points out at least one new research direction that could build upon the focal paper. The new direction could ask a related question using the same data or using different data in another empirical setting. The writing should reflect some detailed thoughts into the new research question, why it is important, and how it would contribute to the literature.

These students should submit a one-page written summary on their designated topic on ELMS, due at midnight before the date of the paper discussion in class.

(10) Class discussion

Every student is expected to read each required paper before the class and actively participate in discussion during the class. The value of discussion will be maximized if you prepare well, listen to the others' comments and offer insights to your peers (and to your professor).

In total, we have 4 themes. I would like to have one student volunteer to be the “leader” of the theme. The leader will compile new research ideas that arise in the class discussion throughout that theme. These “idea books” will be shared with the whole class at the end of each theme.

In the first class, I will set up a **signup sheet** in the collaboration section of elms.umd.edu. Every student can volunteer in 5 tasks, so that you can spread the workload evenly. Writing up a summary for a specific paper is counted as one task, being a leader for a theme is another task. If you volunteer to be the leader of a theme, you can sign up for 4+ paper summaries. If you are not the leader of a theme, you need to sign up for 5 paper summaries.

(30) Class Presentation

You are required to perform two class presentations throughout the class:

- (1) present a working paper on one student-presentation topic at the end of a theme, and
- (2) present your original research proposal at the end of the semester.

The end-of-theme papers are often empirical papers on a similar topic. Depending on the number of class attendants, student presenters within the same theme may coordinate on how they would

like to comment on the relationship between the two papers (similarities, differences, match/mismatch, etc).

(50) Research Proposal

You are expected to assemble a research proposal at the end of the semester, describing a research question that you would like to answer in the area of empirical IO, the data you would like to use and the identification strategy you are going to adopt assuming the availability of perfect data. To facilitate feedback, each student is required to present his/her research proposal in a 15-25 minutes slot in the last two class meetings. The written proposal is due on Dec 20, 2021. I would encourage you to discuss your preliminary idea(s) with me or your fellow students throughout the semester, so that you can screen out bad ideas and end up with something feasible to work on for your research proposal.

Course Format

We will hold every class in person at Tydings 1132. Masks are not required in classroom. If any instructor or student tests positive for COVID-19, they should report their positive test at return.umd.edu. Visit the [health center website](https://healthcenter.umd.edu) for information about requirements for returning to campus after a positive test. UMD's policies on graduate courses and graduate student rights and responsibilities can be found at <https://gradschool.umd.edu/faculty-and-staff/course-related-policies>.

Office hour is subject to email appointment, and the format of office hour can be in-person or virtual (via Zoom) depending on mutual preference.

Course Outline

Theme 1: Pricing and Contracting

Aug. 29-Sept. 14: Lectures covering:

*[Ian Ayres and Peter Siegelman "Race and Gender Discrimination in Bargaining for a New Car"](#) American Economic Review, 85(3), June. 1995.

*[Pinelopi K. Goldberg, "Dealer Price Discrimination in New Car Purchases: Evidence from the Consumer Expenditure Survey,"](#) Journal of Political Economy 104 (June 1996), 622-654.

Useful readings:

[John List, "The Nature and Extent of Discrimination in the Marketplace: Evidence from the Field"](#) The Quarterly Journal of Economics, Feb. 2004, 49-89.

*[Ali Hortacsu](#) and [Chad Syverson](#): "[Product Differentiation, Search Costs and Competition in the Mutual Fund Industry: A Case Study of S&P 500 Index Funds](#)", Quarterly Journal of Economics, v.119, May 2004.

*[Phillip Leslie](#) and [Alan Sorensen](#): "[Resale and Rent-Seeking: An Application to Ticket Markets](#)", Review of Economic Studies, 2014, 81(1): 266-300.

*[Raluca M. Ursu](#) "[The Power of Rankings: Quantifying the Effect of Rankings on Online Consumer Search and Purchase Decisions](#)" Marketing Science, 2018, 37(4): 530-552.

*Tom Blake, [Sarah Moshary](#), Kane Sweeney and [Steve Tadelis](#) "[Price Salience and Product Choice](#)" Marketing Science 2021 July-August.

Sept. 19-21: Student presentations on Theme 1: Differential Pricing

*[Francesco Decarolis](#) "[Medicare Part D: Are Insurers Gaming the Low Income Subsidy Design?](#)" *American Economic Review*, 2015, 105(4): 1547-1580.

Useful reading:

Amy Finkelstein, Nathaniel Hendren, and Mark Shepard "[Subsidizing Health Insurance for Low-Income Adults: Evidence from Massachusetts](#)" *American Economic Review* 2019, 109(4): 1530-1567.

*[Kevin Williams](#): "[The Welfare Effects of Dynamic Pricing: Evidence from Airline Markets](#)", *Econometrica*, March 2022, 90(2): 831-858.

Theme 2: Cartel, Collusion and Merger Reviews

Sept. 26 – Oct. 10: Lectures covering:

*[Robert Porter](#): "[A Study of Cartel Stability: The Joint Executive Committee, 1880-1886](#)", Bell Journal of Economics 14 (Autumn 1983), 301-314.

*[Chris Knittel](#) and [Victor Stango](#): "[Price Ceilings as Focal Points for Tacit Collusion: Evidence from Credit Cards](#)" *American Economic Review*, Dec. 2003.

*[John Asker](#): "[A Study of the Internal Organisation of a Bidding Cartel](#)", *American Economic Review*, v100(3), 724-762, 2010.

*David P. Byrne and Nicolas de Roos "[Learning to Coordinate: A Study in Retail Gasoline](#)", *American Economic Review* 2019, 109(2): 591-619.

*[Colleen Cunningham, Florian Ederer](#) and [Song Ma](#) “[Killer Acquisitions](#)”, Journal of Political Economy, 2021.

Useful readings:

David Genesove and Wallace P. Mullin "[Rules, Communication, and Collusion: Narrative Evidence from the Sugar Institute Case](#)," The American Economic Review, June 2001, 379-398.

[Glenn Ellison](#): "[Theories of Cartel Stability and the Joint Executive Committee](#)," RAND Journal of Economics 25 (Spring 1994), 37-57.

Emilio Calvano, Giacomo Calzolari, Vincenzo Denicolo, Sergio Pastorello "[Artificial Intelligence, Algorithmic Pricing, and Collusion](#)" American Economic Review, 2020, 110(10): 3267-97.

[Thomas G. Wollmann](#): "[Stealth Consolidation: Evidence from an Amendment to the Hart-Scott-Rodino Act](#)", American Economic Review: Insights 2019, 1(1),77-94.

[Thomas G. Wollmann](#): "[How to Get Away with Merger: Stealth Consolidation and Its Effects on US Healthcare](#)" Working paper, 2021.

Oct. 12-17: Student Presentations on collusion:

*Emilio Calvano, Giacomo Calzolari, Vincenzo Denicolo and Sergio Pastorello "[Artificial Intelligence, Algorithmic Pricing, and Collusion](#)" American Economic Review 2020, 110(10): 3267-3297.

*Amanda Starc and Thomas Wollmann "[Does entry remedy collusion? Evidence from the generic prescription drug cartel](#)" NBER Working paper #29886.

Theme 3: Demand Estimation and Oligopolistic Competition in Differentiated Products Markets

Oct. 19 – Oct. 31: Lectures covering:

*[Steve Berry](#) "Estimating Discrete-Choice Models of Product Differentiation" RAND Journal of Economics 25(2) (1994) 242-262.

*[Steve Berry](#), James Levinsohn and [Ariel Pakes](#): "Voluntary Export Restraints on Automobiles: Evaluating a Strategic Trade Policy" American Economic Review 89(3) (1999) 400-430.

*[Gautam Gowrisankaran](#) and [Marc Rysman](#): "[Dynamics of Consumer Demand for New Durable Goods](#)" *Journal of Political Economy*, 2012, Volume 120, 1173-1219.

*[Nikhil Agarwal](#) and [Paulo Somaini](#) (2018): "[Demand Analysis using Strategic Reports: An Application to a School Choice Mechanism](#)", *Econometrica*, March 2018.

Useful readings:

[Dennis Epple](#), " [Hedonic Prices and Implicit Markets: Estimating Demand and Supply Functions for Differentiated Products](#), " *Journal of Political Economy*, 95(1), 1987, 59-80.

[Steve Berry](#), "[Estimating Discrete Choice Models of Product Differentiation](#)" *RAND Journal of Economics* 25 (Summer 1994) 242-262.

[Aviv Nevo](#) "[Measuring Market Power in the Ready-to-Eat Cereal Industry](#)" *Econometrica* 2001, 69(2) 307-342.

[Aviv Nevo](#) "[A Research Assistant's Guide to Random Coefficients Discrete Choice Models of Demand](#)" NBER Technical Working Paper No. 221, 1998.

Daniel A. Ackerberg and Marc Rysman "Unobserved product differentiation in discrete-choice models: estimating price elasticities and welfare effects", *RAND Journal of Economics*, 36(4): Winter 2005, 771-788.

[Jean-Pierre Dube](#), [Jeremy Fox](#) and Che-Lin Su [BLP codes and "Improving the Numerical Performance of BLP Static and Dynamic Discrete Choice Random Coefficients Demand Estimation"](#) *Econometrica*, Sept. 2012.

[Chris Knittel](#) and Konstantinos Metaxoglou: "[Challenges in Merger Simulation Analysis](#)" *AER P&P* May 2011.

[Steve Berry](#), James Levinsohn and [Ariel Pakes](#): "[Differentiated Products Demand Systems from a Combination of Micro and Macro Data: The New Vehicle Market](#)" *Journal of Political Economy*, 2004, 112(1): 68-104.

Kyoo il Kim and [Amil Petrin](#): [Tests for Price Endogeneity in Differentiated Product Models](#), *Journal of Econometric Methods*, March 2014.

[Thomas Wollmann](#) (2018) "[Trucks without Bailouts: Equilibrium Product Characteristics for Commercial Vehicles](#)", *American Economic Review* 2018, 108(6): 1364-1406.

Nov. 2 – Nov. 7: student presentation on demand estimation

*Matthew Backus, Chris Conlon and Michael Sinkinson 2021 “[Common Ownership and Competition in the Ready-To-Eat Industry](#)” working paper.

Hendrik Dopper, Alexander MacKay, Nathan H. Miller and Joel Stiebale 2022 “[Rising Markups and the Role of Consumer Preferences](#)”, working paper.

Theme 4: Information Issues

Nov. 9 – Nov. 28: Lectures covering:

*[Ken Hendricks](#) and [Robert Porter](#): "[An Empirical Study of an Auction with Asymmetric Information](#)," American Economic Review Dec 1988, 865-883.

*[Ben Handel](#): [Adverse Selection and Inertia in Health Insurance Markets: When Nudging Hurts](#) American Economic Review, 2013, 103(7): 2643-2682.

*[Steve Tadelis](#) and Florian Zettelmeyer “[Information Disclosure as a Matching Mechanism: Theory and Evidence from a Field Experiment](#)” American Economic Review 2015, 105(2): 886-905.

*[Weijia \(Daisy\) Dai](#), [Ginger Jin](#), [Jungmin Lee](#) and [Michael Luca](#): [Aggregation of Consumer Ratings: An Application to Yelp.com](#), Quantitative Marketing and Economics, 2018.

*Luis Aguiar & [Joel Waldfogel](#), 2018. "[Quality Predictability and the Welfare Benefits from New Products: Evidence from the Digitization of Recorded Music](#)," Journal of Political Economy, vol 126(2), pages 492-524.

Useful readings:

[Liran Einav](#), [Amy Finkelstein](#), and Mark Cullen “[Estimating Welfare in Insurance Markets Using Variation in Prices](#)”, Quarterly Journal of Economics, 2010.

[Daniel Akerberg](#) (2001) “[Empirically Distinguishing Informative and Prestige Effects of Advertising](#)” RAND Journal of Economics, Summer 2001.

[Daniel Akerberg](#) (2003) "[Advertising, Learning, and Consumer Choice in Experience Good Markets: A Structural Empirical Examination](#)" International Economic Review, Aug 2003, 1007-1040.

[Kyle Bagwell](#) "The Economic Analysis of Advertising." Handbook of Industrial Organization, vol 3, 2007: 1701-1844.

[Navdeep Sahni](#) and [Harikesh Nair](#) (2020). “[Native Advertising, Sponsorship Disclosure and Consumer Deception: Evidence from Mobile Search-Ad Experiments](#)”. *Marketing Science*, Jan-Feb, 39(1), pp. 5-32.

[Navdeep Sahni](#) and [Harikesh Nair](#) (2020). “[Does Advertising Serve as a Signal? Evidence from Field Experiments in Mobile Search](#)” *Review of Economic Studies*, May, 87(3), pp. 1529-1564.

[David Dranove](#) and [Ginger Zhe Jin](#) "[Quality Disclosure and Certification: Theory and Practice](#)" *Journal of Economic Literature* 2010.

[Ginger Zhe Jin](#) and [Phillip Leslie](#) "[The Effects of Information on Product Quality: Evidence from Restaurant Hygiene Grade Cards](#)" *Quarterly Journal of Economics*, May 2003, 118(2), 409-51.

David Dranove , Dan Kessler, Mark McClellan and Mark Satterthwaite (2003) "[Is More Information Better? The Effects of 'Report Cards' on Health Care Providers](#)" *Journal of Political Economy*, June 2003, 111(3): 555-588.

[Ginger Zhe Jin](#) and [Phillip Leslie](#) "[Reputation Incentives For Restaurant Hygiene](#)", *American Economic Journal: Microeconomics*, Feb. 2009.

[Ginger Jin](#), [Michael Luca](#) and [Daniel Martin](#), [Complex Disclosure](#), 2021, *Management Science*.

Nov. 30 – Dec. 5: Student presentation on Information

*Imke Reimers and Joel Waldfogel “[Digitalization and Pre-Purchase Information: The Causal and Welfare Impacts of Reviews and Crowd Ratings](#)”, *American Economic Review*, 2021, 111(6): 1944-1971.

*Benjamin Vatter “[Quality Disclosure and Regulation: Scoring Design in Medicare Advantage](#)” working paper.

Dec. 7 – Dec. 12: Student Presentation of research proposal