Industrial Organization I – GR6253

Fall Semester 2025

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Lectures
Tuesday, 10.10am-12pm
URIS 333
Office Hours
Wednesday, 4-5.45pm, IAB 1125

Overview. The course will cover methods and applications in empirical industrial organization, and it is designed for all students interested in research in the field, or related areas. These include education, healthcare, finance, environmental, and international trade. The first part of the course will provide the foundational tools to analyze consumer demand, welfare, and supply-responses to regulations combining game-theoretic models and empirical analyses. The second part of the course will cover modern applications to policy-relevant topics including healthcare, market design, education, and consumer finance.

Assignments and grading. Students are expected to attend lectures after covering the required readings and actively participate in class discussions. To reinforce incentives, **students will be required to upload a short document prior to class to share their main takeaways on the mandatory readings.** This will count for 20% of the grade.

Three problem sets will count for 60% of the grade, these are possibly long, and computationally intensive problem sets; do not wait until 2 days before the due date! We will explore (at times together) the potential of AI-assisted coding in Python (Jax).

Finally, you will develop a brief research memo, and present this work for 15-20 minutes at the end of the semester. This will count for the remaining 20% of the grade.

THIS SYLLABUS IS SUBJECT TO CHANGE

THE FOLLOWING READING LIST IS MUCH LONGER THAN WHAT WE WILL COVER IN DETAILS, WHICH I WILL COMMUNICATE BEFORE EACH CLASS.

MANDATORY READINGS ARE MARKED WITH ***

Part 0: **Structural Econometrics and Economic Modelling**

- Newey, Whitney K., and James L. Powell. "Instrumental variable estimation of nonparametric models." *Econometrica* 71.5 (2003): 1565-1578.
- Reiss, Peter C., and Frank A. Wolak. "Structural econometric modeling: Rationales and examples from industrial organization." *Handbook of econometrics* 6 (2007): 4277-4415.
- Ackerberg, Daniel, et al. "Econometric tools for analyzing market outcomes." *Handbook of econometrics* 6 (2007): 4171-4276.
- Matzkin, Rosa L. "Identification in nonparametric simultaneous equations models." *Econometrica* 76.5 (2008): 945-978.
- Imbens, Guido W., and Whitney K. Newey. "Identification and estimation of triangular simultaneous equations models without additivity." *Econometrica* 77.5 (2009): 1481-1512.
- Berry, Steven T., and Philip A. Haile. "Identification of nonparametric simultaneous equations models with a residual index structure." *Econometrica* 86.1 (2018): 289-315.

Part 1: **Empirical Analyses of Static Equilibrium**

Oligopoly

- Bresnahan, Timothy F. "The oligopoly solution concept is identified." *Economics letters* 10.1-2 (1982): 87-92.
- Bresnahan, Timothy F. "Empirical studies of industries with market power." *Handbook of industrial organization 2* (1989): 1011-1057.
- Caplin, Andrew, and Barry Nalebuff. "Aggregation and imperfect competition: On the existence of equilibrium." *Econometrica: Journal of the Econometric Society* (1991): 25-59.

Discrete choice demand models and utilitarian welfare

- Anderson, Simon P., and André de Palma. "Product diversity in asymmetric oligopoly: is the quality of consumer goods too low?." *The Journal of Industrial Economics* 49.2 (2001): 113-135.
- *** Hausman, Jerry, "Valuation of New Goods Under Perfect and Imperfect Competition," in Bresnahan and Gordon (eds.), The Economics of New Goods, NBER

Studies in Income and Wealth vol. 58: 209-237 (see also a comment by Bresnahan in the same volume) (1997).

- Hausman, Jerry, Gregory Leonard, and J. Douglas Zona. "Competitive analysis with differenciated products." *Annales d'Economie et de Statistique* (1994): 159-180.

- *** Berry, Steven T. "Estimating discrete-choice models of product differentiation." The RAND Journal of Economics (1994): 242-262.

- *** Goldberg, Pinelopi Koujianou. "Product differentiation and oligopoly in international markets: The case of the US automobile industry." Econometrica: Journal of the Econometric Society (1995): 891-951.

- Chaudhuri, Shubham, Pinelopi K. Goldberg, and Panle Jia. "Estimating the effects of global patent protection in pharmaceuticals: a case study of quinolones in India." *American Economic Review* 96.5 (2006): 1477-1514.

- *** Berry, Steven, James Levinsohn, and Ariel Pakes. "Automobile prices in market equilibrium." Econometrica: Journal of the Econometric Society (1995): 841-890.

- *** Nevo, Aviv. "Measuring market power in the ready-to-eat cereal industry." Econometrica 69.2 (2001): 307-342.

- *** Nevo, Aviv. "A practitioner's guide to estimation of random-coefficients logit models of demand." *Journal of economics & management strategy* 9.4 (2000): 513-548.

- *** Petrin, Amil. "Quantifying the benefits of new products: The case of the minivan." Journal of political Economy 110.4 (2002): 705-729.

- *** Berry, Steven, James Levinsohn, and Ariel Pakes. "Differentiated products demand systems from a combination of micro and macro data: The new car market." Journal of political Economy 112.1 (2004): 68-105.

- Berry, Steven, and Ariel Pakes. "The pure characteristics demand model." International Economic Review 48.4 (2007): 1193-1225.

- Berry, Steven, Amit Gandhi, and Philip Haile. "Connected substitutes and invertibility of demand." Econometrica 81.5 (2013): 2087-2111.

- *** Berry, Steven T., and Philip A. Haile. "Identification in differentiated products markets using market level data." Econometrica 82.5 (2014): 1749-1797.
- *** Berry, Steven, and Philip Haile. "Identification in differentiated products markets." Annual review of Economics 8 (2016): 27-52.
- *** Bresnahan, Timothy F. "Competition and collusion in the American automobile industry: The 1955 price war." *The Journal of Industrial Economics* (1987): 457-482.
- *** Compiani, Giovanni. "Market counterfactuals and the specification of multiproduct demand: A nonparametric approach." *Quantitative Economics* 13.2 (2022): 545-591.
- *** Hendel, Igal. "Estimating multiple-discrete choice models: An application to computerization returns." *The Review of Economic Studies* 66.2 (1999): 423-446.
- *** Tebaldi, Pietro, Alexander Torgovitsky, and Hanbin Yang. Nonparametric estimates of demand in the california health insurance exchange. *Econometrica* (2023)
- Salanié, B., & Wolak, F. A. (2022). Fast, detail-free, and approximately correct: Estimating mixed demand systems. Working paper.
- *** Grieco, Paul LE, et al. *Optimal Estimation of Discrete Choice Demand Models with Consumer and Product Data*. No. w33397. National Bureau of Economic Research, 2025.

Mergers and conduct

- *** Genesove, David, and Wallace P. Mullin. "Testing static oligopoly models: conduct and cost in the sugar industry, 1890-1914." *The RAND Journal of Economics* (1998): 355-377.
- Nevo, Aviv. "Mergers with differentiated products: The case of the ready-to-eat cereal industry." *The Rand journal of economics* (2000): 395-421.
- Fan, Ying. "Ownership consolidation and product characteristics: A study of the US daily newspaper market." *American Economic Review* 103.5 (2013): 1598-1628.
- *** Miller, Nathan H., and Matthew C. Weinberg. "Understanding the price effects of the MillerCoors joint venture." *Econometrica* 85.6 (2017): 1763-1791.
- Wollmann, Thomas G. "Trucks without bailouts: Equilibrium product characteristics for commercial vehicles." *American Economic Review* 108.6 (2018): 1364-1406.

- *** Grieco, Paul LE, Charles Murry, and Ali Yurukoglu. "The evolution of market power in the us automobile industry." *The Quarterly Journal of Economics* 139.2 (2024): 1201-1253.

- *** Abaluck, Jason, and Abi Adams-Prassl. "What do consumers consider before they choose? Identification from asymmetric demand responses." *The Quarterly Journal of Economics* 136.3 (2021): 1611-1663.

- Agarwal, Nikhil, and Paulo J. Somaini. *Demand analysis under latent choice constraints*. No. w29993. National Bureau of Economic Research, 2022.

Part 2: **IO+ and IO^2: using what we have learned**

- *** Gentzkow, Matthew. "Valuing new goods in a model with complementarity: Online newspapers." American Economic Review 97.3 (2007): 713-744.

- 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.

- *** Einav, Liran, Amy Finkelstein, and Jonathan Levin. "Beyond testing: Empirical models of insurance markets." *Annu. Rev. Econ.* 2.1 (2010): 311-336.

- *** Bundorf, M. Kate, Jonathan Levin, and Neale Mahoney. "Pricing and welfare in health plan choice." American Economic Review 102.7 (2012): 3214-3248.

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

- Agarwal, Nikhil, and Paulo Somaini. "Demand analysis using strategic reports: An application to a school choice mechanism." *Econometrica* 86.2 (2018): 391-444.

- *** Kapor, Adam, Christopher Neilson, and Seth Zimmerman. "Heterogeneous beliefs and school choice." *American Economic Review* (2016).

- *** Agarwal, Nikhil, and Paulo Somaini. "Revealed preference analysis of school choice models." *Annual Review of Economics* 12 (2020): 471-501.

- Agarwal, Nikhil, and Paulo Somaini. "Empirical models of non-transferable utility matching." *Online and Matching-Based Market Design* (2021).

- Dinerstein, Michael, and Troy D. Smith. "Quantifying the supply response of private schools to public policies." *American Economic Review* 111.10 (2021): 3376-3417.

- *** Bergquist, Lauren Falcao, and Michael Dinerstein. "Competition and entry in agricultural markets: Experimental evidence from Kenya." *American Economic Review* 110.12 (2020): 3705-3747.

- Curto, Vilsa, et al. "Can health insurance competition work? evidence from medicare advantage." Journal of Political Economy 129.2 (2021): 570-606.

- *** Brown, Zach Y., and Jihye Jeon. "Endogenous information and simplifying insurance choice." *Econometrica* 92.3 (2024): 881-911.

- *** Cuesta, José Ignacio, and Alberto Sepúlveda. "Price regulation in credit markets: A trade-off between consumer protection and credit access." *Available at SSRN 3282910* (2021).

- Benetton, Matteo. "Leverage regulation and market structure: A structural model of the UK mortgage market." *The Journal of Finance* 76.6 (2021): 2997-3053.

- Barahona, Nano, Cristóbal Otero, and Sebastián Otero. "Equilibrium effects of food labeling policies." *Econometrica* 91.3 (2023): 839-868.

- *** Tebaldi, Pietro. "Estimating equilibrium in health insurance exchanges: Price competition and subsidy design under the aca." Review of Economic Studies 92.1 (2025): 586-620.

- Vatter, Benjamin. "Quality disclosure and regulation: Scoring design in medicare advantage." Econometrica 93.3 (2025): 959-1001.

- Roussille, Nina, and Benjamin Scuderi. *Bidding for talent: A test of conduct in a high-wage labor market*. No. w33848. National Bureau of Economic Research, 2025.

- Benetton, Matteo, Alessandro Gavazza, and Paolo Surico. "Mortgage pricing and monetary policy." *American Economic Review* 115.3 (2025): 823-863.

- *** Athey, Susan, and Philip A. Haile. "Nonparametric approaches to auctions." Handbook of econometrics 6 (2007): 3847-3965. [**must read pages 3860-3867**]

- *** Salz, Tobias. "Intermediation and competition in search markets: An empirical case study." *Journal of Political Economy* 130.2 (2022): 310-345.

- *** Crawford, Gregory S., Nicola Pavanini, and Fabiano Schivardi. "Asymmetric information and imperfect competition in lending markets." *American Economic Review* 108.7 (2018): 1659-1701.

- Allen, Jason, Robert Clark, and Jean-François Houde. "Search frictions and market power in negotiated-price markets." *Journal of Political Economy* 127.4 (2019): 1550-1598.

- Ho, Katherine. "The welfare effects of restricted hospital choice in the US medical care market." *Journal of Applied Econometrics* 21.7 (2006): 1039-1079.

- Ho, Katherine. "Insurer-provider networks in the medical care market." *American Economic Review* 99.1 (2009): 393-430.