

EC 8854: Industrial Organization II
Spring 2016 Syllabus{Last updated March 20, 2017
Tuesday/Thursday 3-4:20pm, Maloney 330
Last Updated: March 20, 2017

Instructor: Professor Michael D. Grubb

Office: 341 Maloney Hall

Office hours: By appointment. Sign up at <https://goo.gl/yDI Bci>

Seminar Attendance

- I expect you to attend the Applied Microeconomics Seminar 12:00-1:30pm on Tuesdays if it does not conflict with other classes.
- I expect you to attend all job talks given in the department that you are able to attend. These can give you an excellent sense of where you should be aiming to be in 3 years time.

Course Calendar

Table 1: Course Calendar{Part I. *Asterisk indicates class may need to be rescheduled.

Date	Topic	Reading/Assignment
T Jan 17	Nonlinear Pricing	Tirole (1988, Sections 3.3, 3.5); Lecture Notes
R Jan 19*	Nonlinear Pricing	Crawford and Shum (2007) (Con ict = Job Talk 3:30-5)
T Jan 24*	Price Discrimination & Demand Uncertainty	Lecture Notes; Dana (1999)
R Jan 26	Price Discrimination	Leslie (2004); Tirole (1988, Chapter 3); Lecture Notes
T Jan 31	Search	Lecture notes; Varian (1980); A. T. Sorensen (1999, Appendix A-B, pp32-48); Stahl (1996)
R Feb 2	Search	Allen, Clark, and Houde (2014) (tentative, mention De Los Santos, Hortacsu, and Wildenbeest (2015))
T Feb 7	IO Job Talk	J. Li (2017)
R Feb 9	Snow Day	
T Feb 14*	Switching Costs & Inertia	Farrell and Klemperer (2007) (excluding Sections 1.2 and 3); Klemperer (1995) (Sections 1-4)
R Feb 16	Searching & Switching	Wilson (2012); Honka (2014)
T Feb 21*	Consumer Confusion & Obfuscation	Chioveanu and Zhou (2013); Grubb (2015c)
R Feb 23	Mexican SS	Duarte and Hastings (2012)
T Feb 28	Insurance	Cohen and Einav (2007)

Table 2: Course Calendar{Part II. *Asterisk indicates class may need to be rescheduled.

Date	Topic	Reading/Assignment
T Mar 14	Snow Day for Blizzard Stella	
R Mar 16	Present Bias	Lecture notes; DellaVigna and Malmendier (2004)
T Mar 21	Present Bias	DellaVigna and Malmendier (2006); Oster and Scott Morton (2005)
R Mar 23	Hidden Fees	Gabaix and Laibson (2006)
T Mar 28	Dynamic Nonlinear Pricing	Lecture notes & Grubb (2009); Grubb (2015b)
R Mar 30	Dynamic Nonlinear Pricing	Grubb and Osborne (2015)
T Apr 4	Pass-through Rate	Lecture Notes; Bulow and P eiderer (1983); E. Glen Weyl and Fabinger (2013)
R Apr 6	Consumer Protection	Grubb (2015d); Lecture Notes (use quantity pass-through)
T Apr 11*	Trusted Choices	Handel and Kolstad (2015) (We will see Ketcham, Kumino , and Powers (2015) 3-28 seminar)
R Apr 13	Easter break	
T Apr 18	Collusion	Tirole (1988, Chapter 6); Harrington and Skrzypacz (2011)
R Apr 20	Collusion	Miller and Weinberg (2015)
T Apr 25*	Learning	Covert (2015)
R Apr 27	Student Presentations	
T May 2	Student Presentations	
R May 4	Student Presentations	Research Proposals Due
S May 13	IO Final Exam: Wednesday May 11 at 9:00am	

Suggested Reading List by Topic; required readings are in bold

Required Reading

Farrell, Joseph and Paul Klemperer (2007). "Coordination and Lock-in: Competition with Switching Costs and Network Effects". In: *Handbook of Industrial Organization*. Ed. by Mark Armstrong and Robert H. Porter. Vol. 3, chapter 31. Amsterdam, The Netherlands: Elsevier, pp. 1967-2072. DOI: 10.1016/S1573-448X(06)03031-7.

International Trade". *The Review of Economic Studies* 62.4, pp. 515{539. DOI:
10. 2307/2298075.

Leslie, Phillip (2004). \Price Discrimination in Broadway Theater". *RAND Journal
of Economics* 35.3, pp. 520{541.

Armstrong, Mark and Robert H. Porter, eds. (2007). *Handbook of Industrial Organization*. Vol. 3. Handbooks in Economics 10. Available at <http://www.sciencedirect.com.proxy.bc>.

Ed. by M. Dewatripont, Lars Peter Hansen, and Stephen J. Turnovsky. Vol. 36. Econometric Society Monographs. New York: Cambridge University Press.

Rochet, Jean-Charles and Lars A. Stole (2002). "Nonlinear Pricing with Random Participation". *The Review of Economic Studies* 69.1, pp. 277{311.

Seim, Katja and V. Brian Viard (2011). "The Effect of Market Structure on Cellular Technology Adoption and Pricing". *American Economic Journal: Microeconomics* 3.2, pp. 221{51. doi: 10.1257/mic.3.2.221.

Price Discrimination and Demand Uncertainty

Dana James D., Jr. (1999). "Equilibrium Price Dispersion under Demand Uncertainty: The Roles of Costly Capacity and Market Structure". *RAND Journal of Economics* 30.4, pp. 632{660.

Leslie, Phillip (2004). "Price Discrimination in Broadway Theater". *RAND Journal of Economics* 35.3, pp. 520{541.

Shiller, Benjamin Reed (2014). "First-Degree Price Discrimination Using Big Data". Available at from Ben Shiller's homepage at http://benjaminshiller.com/images/First_Degree_PD_Using_Big_Data_Apr_8,_2014.pdf.

Search

Allen, Jason, Robert Clark, and Jean-Francois Houde (2014). "Search Frictions and Market Power in Negotiated Price Markets". NBER Working Paper No. 19883. DOI: 10.3386/w19883.

Armstrong, Mark, John Vickers, and Jidong Zhou (2009). "Prominence and consumer search". *The RAND Journal of Economics* 40.2, pp. 209{233.

Burdett, Kenneth and Kenneth L. Judd (1983). "Equilibrium Price Dispersion". *Econometrica* 51.4, pp. 955{969. doi: 10.2307/1912045.

De Los Santos, Babur, Ali Hortacsu, and Matthijs R. Wildenbeest (2012). "Testing Models of Consumer Search Using Data on Web Browsing and Purchasing Behavior". *American Economic Review* 102.6, pp. 2955{80. doi: 10.1257/aer.102.6.2955.

De Los Santos, Babur, Ali Hortacsu, and Matthijs R. Wildenbeest (2015). "Search with Learning for Differentiated Products: Evidence from E-commerce". Available at <http://kelley.iu.edu/mwildenb/learning.pdf>.

Ellison, Glenn and Sara Fisher Ellison (2009). "Search, Obfuscation, and Price Elasticities on the Internet". *Econometrica* 77.2, pp. 427{452. doi: 10.3982/ECTA5708.

- Ellison, Glenn and Alexander Wolitzky (2012). "A Search Cost Model of Obfuscation". *The RAND Journal of Economics* 43.3, pp. 417{441. doi: 10.1111/j.1756-2171.2012.00180.x.
- Hong, Han and Matthew Shum (2006). "Using Price Distributions to Estimate Search Costs". *The RAND Journal of Economics* 37.2, pp. 257{275. doi: 10.1111/j.1756-2171.2006.tb00015.x.
- Hortacsu, Ali and Chad Syverson (2004). "Product Differentiation, Search Costs, and Competition in the Mutual Fund Industry: A Case Study of S&P 500 Index Funds". *The Quarterly Journal of Economics* 119.2, pp. 403{456. doi: 10.1162/0033553041382184.
- Mehta, Nitin, Surendra Rajiv, and Kannan Srinivasan (2003). "Price Uncertainty and Consumer Search: A Structural Model of Consideration Set Formation". *Marketing Science* 22.1, pp. 58{84. doi: 10.1287/mksc.22.1.58.12849.
- Sorensen, Alan T. (1999). *Empirical Studies of Oligopolistic Pricing and Heterogeneous Consumer Search*. <http://dspace-test.mit.edu/handle/1721.1/9451>. Massachusetts Institute of Technology, Department of Economics.**
- Sorensen, Alan T. (2000). "Equilibrium Price Dispersion in Retail Markets for Prescription Drugs". *Journal of Political Economy* 108.4, pp. 833{850. doi: 10.1086/316103.
- Stahl, Dale O. (1996). "Oligopolistic pricing with heterogeneous consumer search". *International Journal of Industrial Organization* 14.2, pp. 243{268. DOI: 10.1016/0167-7187(94)00474-9.**
- Varian, Hal R (1980). "A Model of Sales". *The American Economic Review* 70.4. Available at <http://www.jstor.org/stable/1803562>., pp. 651{659.**
- Zhou, Jidong (2014). "Multiproduct Search and the Joint Search Effect". *American Economic Review* 104.9, pp. 2918{39. doi: 10.1257/aer.104.9.2918.
- Zhou, Jidong (2015b). "Homepage". See Jidong's homepage for a variety of recent theory papers on search <https://sites.google.com/site/jidongzhou77/research>.

Switching Costs and Inertia

- Arie, Guy and Paul L. E. Grieco (2014). "Who Pays for Switching Costs?" *Quantitative Marketing and Economics* 12.4, pp. 379{419. doi: 10.1007/s11129-014-9151-9.
- Dube, Jean-Pierre, G nter J. Hitsch, and Peter E. Rossi (2009). "Do Switching Costs Make Markets Less Competitive?" *Journal of Marketing Research* 46.4, pp. 435{445. doi: 10.1509/jmkr.46.4.435.
- Farrell, Joseph and Paul Klemperer (2007). "Coordination and Lock-in: Competition with Switching Costs and Network Effects". In: *Handbook of Industrial Orga-*

nization. Ed. by Mark Armstrong and Robert H. Porter. Vol. 3, chapter 31.

Searching and Switching

Honka, Elisabeth (2014). "Quantifying search and switching costs in the US auto insurance industry". *The RAND Journal of Economics* 45.4, pp. 847-884. DOI: 10.1111/1756-2171.12073.

No. 14538. Accessed at <http://www.nber.org/papers/w14538> on April 30, 2015. doi: 10.3386/w14538.

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Matejka, Filip and Alisdair McKay (2012). "Simple Market Equilibria with Rationally Inattentive Consumers". *American Economic Review* 102.3, pp. 24{29. doi: 10.1257/aer.102.3.24.

Piccione, Michele and Ran Spiegler (2012). "Price Competition Under Limited Comparability". *The Quarterly Journal of Economics* 127.1, pp. 97{135. doi: 10.1093/qje/qj r053.

Spiegler, Ran (2006). "Competition Over Agents with Boundedly Rational Expectations". *Theoretical Economics* 1.2, pp. 207{231.

Spiegler, Ran (forthcoming). "Choice Complexity and Market Competition". *Annual Review of Economics*.

Thaler, Richard H. and Cass R. Sunstein (2008). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New Haven: Yale University Press.

Adverse Selection in Insurance Markets

Ceccarini, Olivia, Przemyslaw Jeziorski, and Elena Krasnokutskaya (2015). "Adverse Selection and Moral Hazard in a Dynamic Model of Auto Insurance".

Chiappori, Pierre-Andre and Bernard Salanie (2000). "Testing for Asymmetric Information in Insurance Markets". *Journal of Political Economy* 108.1, pp. 56{78. doi: 10.1086/262111.

Cohen, Alma and Liran Einav (2007). "Estimating Risk Preferences from Deductible Choice". *American Economic Review* 97.3, pp. 745{788. DOI: 10.1257/aer.97.3.745.

Einav, Liran, Amy Finkelstein, and Mark R. Cullen (2010). "Estimating Welfare in Insurance Markets Using Variation in Prices". *The Quarterly Journal of Economics* 125.3, pp. 877{921. DOI: 10.1162/qjec.2010.125.3.877.

Einav, Liran, Amy Finkelstein, and Jonathan Levin (2010). "Beyond Testing: Empirical Models of Insurance Markets". *Annual Review of Economics* 2.1, pp. 311{336. doi: 10.1146/annurev.economi cs.050708.143254.

Einav, Liran, Amy Finkelstein, Stephen P. Ryan, et al. (2013). "Selection on Moral Hazard in Health Insurance". *American Economic Review* 103.1, pp. 178{219. doi: 10.1257/aer.103.1.178.

Rothschild, Michael and Joseph E. Stiglitz (1976). "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information". *The Quarterly Journal of Economics* 90.4, pp. 629{649.

Veiga, Andre and E Glen Weyl (forthcoming). "Product Design in Selection Markets". *Quarterly Journal of Economics*. Available at <http://ssrn.com/abstract=1935912>.

Boundedly Rational Managers

Camerer, Colin and Dan Lovallo (1999). "Overconfidence and Excess Entry: An Experimental Approach". *The American Economic Review* 89.1, pp. 306-318. doi: 10.2307/116990.

Goldfarb, Avi, Teck-Hua Ho, et al. (2012). "Behavioral Models of Managerial Decision-Making". *Marketing Letters* 23.2, pp. 405-421. doi: 10.1007/s11002-012-9183-4.

Goldfarb, Avi and Mo Xiao (2011). "Who Thinks about the Competition? Managerial Ability and Strategic Entry in US Local Telephone Markets". *American Economic Review* 101.7, pp. 3130-3161. DOI: 10.1257/aer.101.7.3130.

Goldfarb, Avi and Botao Yang (2009). "Are All Managers Created Equal?" *Journal of Marketing Research* 46.5, pp. 612-622. doi: 10.1509/jmkr.46.5.612.

Ho, Teck H., Noah Lim, and Colin F. Camerer (2006). "Modeling the Psychology of Consumer and Firm Behavior with Behavioral Economics". *Journal of Marketing Research* 43.3, pp. 307-331. doi: 10.1509/jmkr.43.3.307.

Malmendier, Ulrike and Geoffrey Tate (2015). "Behavioral CEOs: The Role of Managerial Overconfidence". *Journal of Economic Perspectives* 29.4, pp. 37-60. doi: 10.1257/jep.29.4.37.

Hidden Fees

Bubb, Ryan and Alex Kaufman (2013). "Consumer Biases and Mutual Ownership". *Journal of Public Economics* 105, pp. 39-57. doi: 10.1016/j.jpubeco.2013.06.002.

Ellison, Glenn (2005). "A Model of Add-on Pricing". *The Quarterly Journal of Economics* 120.2, pp. 585-637. doi: 10.1093/qje/120.2.585.

Gabaix, Xavier and David Laibson (2006). "Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets". *The Quarterly Journal of Economics* 121.2, pp. 505-540. DOI: 10.1162/qjec.2006.121.2.505.

Heidhues, Paul, Botond Köszegi, and Takeshi Murooka (2016). "Exploitative Innovation". *American Economic Journal: Microeconomics* 8.1, pp. 1-23. doi: 10.1257/mic.20140138.

Miao, Chun-Hui (2010). "Consumer myopia, standardization and aftermarket monopolization". *European Economic Review* 54.7, pp. 931-946. doi: 10.1016/j.euroecorev.2010.02.004.

Present Biased Preferences

Augenblick, Ned, Muriel Niederle, and Charles Sprenger (2015). \Working over Time: Dynamic

Consumer Protection and the Pass-Through Rate

Agarwal, Sumit et al. (2014). "A Simple Framework for Estimating Consumer Benefits from Regulating Hidden Fees". *The Journal of Legal Studies* 43.S2, S239{S252. doi: 10.1086/677856.

Agarwal, Sumit et al. (2015). "Regulating Consumer Financial Products: Evidence from Credit Cards". *The Quarterly Journal of Economics* 130.1, pp. 111{164. doi: 10.1093/qje/qju037.

Bulow, Jeremy I. and Paul P. Klevorick (1983). "A Note on the Effect of Cost Changes on Prices".

Ketcham, Jonathan D., Nicolai V. Kumino, and Christopher A. Powers (2015). "Estimating the Heterogeneous Welfare Effects of Choice Architecture: An Application to the Medicare Prescription Drug Insurance Market". Draft not public yet. Do not cite.

Collusion

Asker, John (2010). "A Study of the Internal Organization of a Bidding Cartel". *American Economic Review* 100.3, pp. 724-762. doi: 10.1257/aer.100.3.724.

Azar, Jose, Martin C Schmalz, and Isabel Tecu (2015). "Anti-Competitive Effects Of Common Ownership". Available from SSRN at <http://ssrn.com/abstract=2427345>. doi: 10.2139/ssrn.2427345.

Clark, Robert and Jean-Francois Houde (2013). "Collusion with Asymmetric Retailers: Evidence from a Gasoline Price-Fixing Case". *American Economic Journal: Microeconomics* 5.3, pp. 97-123. doi: 10.1257/mic.5.3.97.

Clark, Robert and Jean-Francois Houde (2014). "The Effect of Explicit Communication on pricing: Evidence from the Collapse of a Gasoline Cartel". *The Journal of Industrial Economics* 62.2, pp. 191-228. doi: 10.1111/joi.12042.

Conlon, Christopher T and Nirupama S Rao (2015). "The Price of Liquor is Too Damn High: Alcohol Taxation and Market Structure". Available from Chris Conlon's homepage at <http://www.columbia.edu/~cc3264/Liquor.pdf>.

Green, Edward J. and Robert H. Porter (1984). "Noncooperative Collusion under Imperfect Price Information". *Econometrica* 52.1, pp. 87-100. doi: 10.2307/1911462.

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Luco, Fernando (2015). "Who Benefits from Price Disclosure? The Case of Retail Gasoline". Available from Fernando's homepage at https://sites.google.com/site/flucoe/home/Luco_Information_Disclosure.pdf.

Miller, Nathan H. and Matthew C. Weinberg (2015). "Mergers Facilitate Tacit Collusion: Empirical Evidence from the US Brewing Industry". Available at <http://www.nathanmiller.org/miller-weinberg-2015.03.25.pdf>.

Porter, Robert H. (1983). "A Study of Cartel Stability: The Joint Executive Committee, 1880-1886". *The Bell Journal of Economics* 14.2, pp. 301-314. doi: 10.2307/3003634.

Posner, Eric and E. Glen Weyl (2015). "Mutual Funds' Dark Side". *Slate*. Accessed from Slate on November 2, 2015 at http://www.slate.com/articles/news_and_politics/view_from_

chi cago/2015/04/mutual_funds_make_air_travel_more_expensive_institutional_investors_reduce.html.

Learning

Akerberg, Daniel A. (2003). "Advertising, Learning, and Consumer Choice in Experience Good Markets: An Empirical Examination". *International Economic Review* 44.3, pp. 1007{1040.

Benkard, C. Lanier (2000). "Learning and Forgetting: The Dynamics of Aircraft Production". *American Economic Review* 90.4, pp. 1034{1054. doi: 10.1257/aer.90.4.1034.

Covert, Thomas (2015). "Experiential and Social Learning in Firms: The Case of Hydraulic Fracturing in the Bakken Shale". Available from Tom Covert's homepage at <http://home.uchicago.edu/~tcovert/webfiles/fracking.pdf>.

Doraszelski, Ulrich, Gregory Lewis, and Ariel Pakes (2016). "Just Starting Out: Learning and Price Competition in a New Market".

Hendricks, Kenneth and Robert H. Porter (1996). "The Timing and Incidence of Exploratory Drilling on Offshore Wildcat Tracts". *The American Economic Review* 86.3, pp. 388{407.

Kellogg, Ryan (2011). "Learning by Drilling: Inter-firm Learning and Relationship Persistence in the Texas Oilpatch". *The Quarterly Journal of Economics* 126.4, pp. 1961{2004. doi: 10.1093/qje/qj r039.

Levitt, Steven D., John A. List, and Chad Syverson (2013). "Toward an Understanding of Learning by Doing: Evidence from an Automobile Assembly Plant". *Journal of Political Economy* 121.4, pp. 643{681. doi: 10.1086/671137.

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Other Behavioral IO References

Armstrong, Mark (2015). "Search and Ripoff Externalities". *Review of Industrial Organization* 47.3, pp. 273{302. doi: 10.1007/s11151-015-9480-1.

Ellison, Glenn (2006). "Bounded Rationality in Industrial Organization". In: *Advances in Economics and Econometrics: Theory and Applications, Ninth World Congress*. Ed. by Richard Blundell, Whitney K. Newey, and Torsten Persson. Vol. 2, Chapter 5. New York: Cambridge University Press, pp. 142{174.

Grubb, Michael D. (2015a). "Behavioral Consumers in Industrial Organization: An Overview". *Review of Industrial Organization* 47.3, pp. 247{258. doi: 10.1007/s11151-015-9477-9.

Thaler, Richard H. and Cass R. Sunstein (2008). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New Haven: Yale University Press.

Bundling

Armstrong, Mark and John Vickers (2010). "Competitive Non-linear Pricing and Bundling". *The Review of Economic Studies* 77.1, pp. 30{60. doi: 10.1111/j.1467-937X.2009.00562.x.

Chu, Chenghuan Sean, Phillip Leslie, and Alan Sorensen (2011). "Bundle-Size Pricing as an Approximation to Mixed Bundling". *American Economic Review* 101.1, pp. 263{303. doi: 10.1257/aer.101.1.263.

Zhou, Jidong (2015a). "Competitive Bundling".