

Spring 2015

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## 220A- Industrial Organization

This course provides a graduate-level introduction to Industrial Organization (IO), with a focus on empirical methods and applications. It is designed to introduce Ph.D. students to a variety of methods, topics, and industries in the field with the goal of preparing them to conduct thesis research in this area. The methods and topics may be of interest to graduate students in other sub-fields of economics.

**Lectures:** Tuesday 10 AM – 12 PM, 639 Evans

There is no required textbook for the course, as most readings are academic journal articles that you should be able to access online. One textbook that might be useful as general reference on IO theory and classical work in IO is:

J. Tirole, *The Theory of Industrial Organization*, MIT, 1988. (*Tirole*).

Another valuable resource for surveys of different IO topics is the *Handbook of Industrial Organization* (HIO1, 2, 3) published by Elsevier-North Holland in 1987 (1 and 2) and 2007 (3). These books and the Tirole book are simply potential background references and don't enter into the primary course readings, so don't feel obligated to buy them.

Here are some details on the main course logistics:

**Course Requirements:** Grading for the course will be based on three problem sets (30%), two referee reports (20%), and one research proposal (40%) and class participation (10%). Students should attend the ECO 221 IO seminar series whenever possible: this is a great way to learn about current research in IO.

The problem sets will be primarily computational exercises that will require you to write code in STATA and MATLAB in order to answer empirical economic questions that follow the course material. Problem Set 1 will be due on **Friday, February 27**. Problem Set 2 will be due on **Friday, April 3**. Problem Set 3 will be due on **Friday, May 1**. These problem sets can be done in up to groups of three (working in a group is encouraged).

The referee reports will require you to critically evaluate recent research papers in IO. The first report will be due on **Friday, February 13**. The second will be due on **Friday, March 13**. Students will receive a list of five potential papers to choose from for each report. Additional papers will be allowed on request. Two classes will be set aside for students to present their reports to the class.

Your research proposal will be a clearly-defined original research project that builds on the material discussed in the course or closely related material. Each student will schedule a meeting with me in the first two weeks of April to discuss their proposal (with a short outline of what they're planning to do). After receiving comments, your final proposal will be due on **Wednesday, May 13**. This can be done in groups of up to three. Detailed instructions will be provided.

In the reading list that follows each section contains starred items which are especially important and will generally be covered in class. The week for that reading is listed next to the star, and I'll also bring up required readings in class the week before. The reading list is extensive and most of it is meant to be a reference in case you're interested in work in a particular area. You should read at least one or two starred papers per week in advance of class in order to benefit the most from the course.

The following abbreviations are used for journal titles:

AER	American Economic Review	JEP	Journal of Economic Perspectives
BJE	Bell Journal of Economics	JET	Journal of Economic Theory
EMA	Econometrica	JIE	Journal of Industrial Economics
EJ	Economic Journal	JLE	Journal of Law and Economics
IJIO	International Journal of Industrial Organization	JPE	Journal of Political Economy
JE	Journal of Econometrics	QJE	Quarterly Journal of Economics
JEH	Journal of Economic History	RJE	Rand Journal of Economics
JEL	Journal of Economic Literature	ReStat	Review of Economics and Statistics
JEMS	Journal of Economics & Management Strategy	ReStud	Review of Economic Studies

## Outline of Topics by Week

Week 1 (January 20)	<b>Introduction to Empirical Industrial Organization</b>
Week 2 (January 27)	<b>Empirical Studies of Pricing and Demand (Differentiated Products)</b>
Week 3 (February 3)	<b>Empirical Studies of Pricing and Demand (Differentiated Products)</b>
Week 4 (February 10)	<b>Vertical Market Structure</b>
Week 5 (February 17)	<b>Price Discrimination (Dynamic)</b>
Week 6 (February 24)	<b>Presentations from Referee Report # 1</b>
Week 7 (March 3)	<b>Insurance Markets</b>
Week 8 (March 10)	<b>Insurance Markets</b>
Week 9 (March 17)	<b>Insurance Markets &amp; Inertia</b>
Week 10 (April 3)	<b>Presentations from Referee Report # 2</b>
Week 11 (April 10)	<b>Entry</b>
Week 12 (April 17)	<b>Search Costs</b>
Week 13 (April 24)	<b>Behavioral IO</b>
Week 14 (May 1)	<b>Open Class: Health Care, Vertical Market Structure 2, IO and IT, Energy, IO and Development, Other</b>

## I. Introduction to Empirical Industrial Organization

- \*1 P. Reiss and F. Wolak, “Structural Econometric Modeling: Rationales and Examples from Industrial Organization,” *Handbook of Econometrics*, Volume 6A, Chapter 64.
- \*1 A. Nevo and M. Whinston, “Taking the Dogma Out of Econometrics: Structural Modeling and Credible Inference,” CSIO working paper #0104, February 2010.
- D. Akerberg, L. Benkard, S. Berry and A. Pakes, “Econometric Tools for Analyzing Market Outcomes,” *Handbook of Econometrics*, Volume 6A, Chapter 63.
- R. Chetty, “Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced Form Methods,” *Annual Review of Economics*, 2009, 451-488.
- L. Einav and J. Levin, “Empirical Industrial Organization: A Progress Report,” JEP, Spring 2010, 145-162.

## II. Empirical Studies of Pricing and Demand

### Static Models

- T. Bresnahan, “Empirical Studies of Industries with Market Power,” HIO, Vol. 2, Chapter 17.
- O. Ashenfelter and D. Sullivan, “Nonparametric Tests of Market Structure: An Application to the Cigarette Industry,” JIE, June 1987, 483-98.
- J. Baker and T. Bresnahan, “Estimating the Residual Demand Curve Facing a Single Firm,” IJIO, September 1988, 283-300.
- S. Borenstein, J. Bushnell and F. Wolak, “Measuring Market Inefficiencies in California’s Restructured Wholesale Electricity Market,” AER, December 2002, 1396-405.
- T. Bresnahan, “The Oligopoly Solution is Identified,” Economics Letters, 1980, 10, 87-92.
- K. Cortis, “Conduct Parameters and the Measurement of Market Power,” Journal of Econometrics, November 1998, 227-50.
- D. Genesove and W. Mullin, “Testing Static Oligopoly Models: Conduct and Cost in the Sugar Industry, 1890-1914,” RJE, Summer 1998, 355-77.
- J. Panzar and J. Rosse, “Testing for ‘Monopoly’ Equilibrium,” JIE, June 1987, 443-56.
- C. Shapiro, “Theories of Oligopoly Behavior,” HIO, Vol. I, chap. 6.
- Tirole, chap. 5, Section 2.1 (pp. 96–100); Sections 7.1, 7.2, 7.5 (pp. 279–88, 296–300).
- C. Wolfram, “Measuring Duopoly Power in the British Electricity Spot Market,” AER September 1999, 805-26.

- \*R2 M. Kalouptsi, "Detection and Impact of Industrial Subsidies," Princeton University working paper, 2014.

### Repeated Interaction

Borenstein, S. and A. Shepard, "Dynamic Pricing in Retail Gasoline Markets," RJE, Autumn 1996, 429-51.

Porter, R., "A Study of Cartel Stability: The Joint Executive Committee, 1880-1886," BJE, Autumn 1983, 301-14.

Ellison, G., "Theories of Cartel Stability and the Joint Executive Committee," RJE, Spring 1994, 37-57.

Wang, Z. "(Mixed) Strategy in Oligopoly Pricing: Evidence from Gasoline Price Cycles Before and Under a Timing Regulation," JPE, December 2009, 987-1030.

### Differentiated Products

- \*2-3 S. Berry, J. Levinsohn and A. Pakes, "Automobile Prices in Market Equilibrium," EMA, July 1995, 841-90.

- \*2 T. Bresnahan, "Competition and Collusion in the American Automobile Market: The 1955 Price War," JIE, June 1982, 457-482.

- \*3 A. Nevo, "A Practitioner's Guide to Estimation of Random Coefficients Logit Models of Demand," JEMS, Winter 2000, 513-48.

- \*3 A. Nevo, "Measuring Market Power in the Ready-to-Eat Cereal Industry," EMA, March 2001, 307-42.

M. Gentzkow, J. Shapiro, and M. Sinkinson, "Competition and Ideological Diversity: Historical Evidence from U.S. Newspapers," University of Chicago working paper.

A. Nevo, "Empirical Models of Consumer Behavior," Annual Reviews, 2011.

S. Anderson, A. dePalma and J. Thisse. Discrete Choice Theory of Product Differentiation, 1992, MIT Press.

P. Bajari and L. Benkard, "Demand Estimation With Heterogeneous Consumers and Unobserved Product Characteristics: A Hedonic Approach," JPE, 2005, 1239-76.

J. Baker and T. Bresnahan, "Estimating the Residual Demand Curve Facing a Single Firm," IJIO, 1988, 283-300.

S. Berry, 1994, "Estimating Discrete-Choice Models of Product Differentiation," RJE, Summer 1994, 242-62.

S. Berry and P. Haile, "Identification in Differentiated Products Markets Using Market Level Data", mimeo, Yale, 2010.

S. Berry, J. Levinsohn and A. Pakes, "Differentiated Products Demand Systems from a Combination of Micro and Macro Data: The New Car Market," JPE, February 2004, 68-105.

- S. Berry and A. Pakes, "The Pure Characteristics Demand Model," IER 48(4), 1193-1225.
- F. Gasmi, J. Laffont and Q. Vuong, "Econometric Analysis of Collusive Behavior in a Soft-Drink Market," JEMS, Summer 1992, 277-311. 450-1, Fall 2011 Page 11
- P. Goldberg, "Product Differentiation and Oligopoly in International Markets: The Case of the U.S. Automobile Industry," EMA, July 1995, 891-951.
- J. Hausman, G. Leonard and J. Zona, "Competitive Analysis with Differentiated Products," Annales D'Economie et de Statistique, April/June 1994, 159-80.
- I. Hendel, "Estimating Multiple Discrete Choice Models: An Application to Computerization Returns," ReStud, April 1999, 423-46.
- D. McFadden, "Econometric Analysis of Qualitative Response Models," Handbook of Econometrics, Volume 2, 1984, Chapter 24.

### **Welfare Measures Computed From Estimated Demand Systems**

- M. Gentzkow, "Valuing New Goods in a Model with Complementarity: Online Newspapers," AER, June 2007, 713-44.
- D. Akerberg and M. Rysman, "Unobservable Product Differentiation in Discrete Choice Models: Estimating Price Elasticities and Welfare Effects," RJE, Winter 2005, 771-88.
- T. Bresnahan, S. Stern and M. Trajtenberg, "Market Segmentation and the Sources of Rents from Innovation," RJE, 1997, S17-S44.
- J. Hausman, "Valuation of New Goods Under Perfect and Imperfect Competition," in Bresnahan and Gordon (eds) The Economics of New Goods, Studies in Income and Wealth, 1996, Vol. 58, Chicago: NBER.
- J. Hausman, "Cellular Telephone, New Products and the CPI," Journal of Business and Economic Statistics, 1999, 188-94.
- A. Nevo, "New Products, Quality Changes and Welfare Measures Computed from Estimated Demand Systems," ReStat, 2003, 266-75.
- A. Petrin, "Quantifying the Benefits of New Products: The Case of the Minivan," JPE, August 2002, 705-29.
- M. Trajtenberg, "The Welfare Analysis of Product Innovations, with an Application to Computed Tomography Scanners," JPE, April 1989, 444-79.

### **Price Discrimination – Static**

- \*R1 Sarah Moshary, "Price Discrimination Across PACs and the Consequences of Political Advertising Regulation," MIT University working paper, 2014.
- Ricardo Cossa and Mariano Tappata, "Price Discrimination 2.0: Opaque Bookings in the Hotel Industry," University of British Columbia Working Paper, 2013.

- Larsen, B., "The Efficiency of Dynamic, Post-Auction Bargaining: Evidence from Wholesale Used-Auto Auction," M.I.T. working paper, 2012.
- Elisa Celis, L. G. Lewis, M. Mobius, and H. Nazerzadeh, "Buy-it-now or Take-a-chance: Price Discrimination Through Randomized Auctions," Harvard working paper.
- Armstrong, M. and J. Vickers, "Competitive Price Discrimination," RJE, 2006, 579-605.
- Armstrong, M. and J. Vickers, "Competitive Nonlinear Pricing and Bundling," ReStud, 2010, 30-60.
- E. Blackstone, "Restrictive Practices in the Marketing of Electrofax Copying Machines: The SCM Corporation Case," JIE, March 1975, 189-202.
- S. Borenstein, "Selling Costs and Switching Costs: Explaining Retail Gasoline Markets," RJE, Autumn 1991, 354-69.
- S. Borenstein and N. Rose, "Competition and Price Dispersion in the U.S. Airline Industry," JPE, August 1994, 653-83.
- M. Busse and M. Rysman, "Competition and Price Discrimination in Yellow Pages Advertising," RJE, Summer 2005, 378-90.
- M. Gentzkow, B. Bronnenberg, and J. Dube, "The Evolution of Brand Preferences: Evidence from Consumer Migration," NBER working paper no. 16267, 2011.
- P. Goldberg, "Dealer Price Discrimination in New Car Purchases: Evidence from the Consumer Expenditure Survey," JPE, June 1996, 622-54.
- M. Ivaldi and D. Martimort, "Competition under Nonlinear Pricing," Annales d'Economie et de Statistique, 1994, 71-114.
- P. Leslie, "Price Discrimination in Broadway Theater," RJE, Autumn 2004, 520-41.
- B. McManus, "Nonlinear Pricing in an Oligopoly Market: The Case of Specialty Coffee," RJE, Summer 2007, 512-32.
- J. Mortimer, "Price Discrimination, Copyright Law and Technological Innovation: Evidence from the Introduction of DVDs," QJE, August 2007, 1307-50.
- A. Nevo and C. Wolfram, "Why Do Manufacturers Issue Coupons? An Empirical Analysis of Breakfast Cereals," RJE, Summer 2002, 319-39.
- A. Shepard, "Price Discrimination and Retail Configuration," JPE, February 1991, 30-53.
- L. Stole, "Price Discrimination and Competition," HIO3, Chapter 34.
- H. Varian, "Price Discrimination," HIO1, Chapter 10.

### **Price Discrimination – Dynamic**

- \*5 I. Hendel and A. Nevo, "Measuring the Implications of Sales and Consumer Inventory Behavior," EMA, November 2006, 1637-73.

Martin Pesendorfer. 2002. "Retail Sales. A Study of Pricing Behavior in Supermarkets," *Journal of Business*, 75, 33-66450-1.

\*5 I. Hendel and A. Nevo, "Intertemporal Price Discrimination in Storable Goods Markets," mimeo, Northwestern, 2011.

A. Sweeting, "Equilibrium Price Dynamics in Perishable Goods Markets: The Case of Secondary Markets for Major League Baseball Tickets". Duke mimeo

P. Leslie and A. Sorenson "The Welfare Effects of Ticket Resale," Stanford GSB mimeo.

S. Puller, A. Sengupta and S. Wiggins, "Testing Theories of Price Dispersion and Scarcity Pricing in the Airline Industry," Texas A&M, mimeo.

### III. Market Structure and Competition

#### Horizontal Market Structure & Antitrust

Department of Justice and Federal Trade Commission *Merger Guidelines*. Available at: 450-1, <http://www.justice.gov/atr/public/guidelines/hmg-2010.html>

J. Farrell and C. Shapiro, "Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition," B.E. Journal of Theoretical Economics: Policies and Perspectives, 2010, Article 9.

J. Farrell and C. Shapiro, "Horizontal Mergers: An Equilibrium Analysis," AER, March 1990, 107-26.

L. Kaplow and C. Shapiro, "Antitrust," in M. Polinsky and S. Shavell, eds., *Handbook of Law and Economics*, Vol. 2, Elsevier, 2007, Chapter 16.

M. Motta, "Competition Policy: Theory and Practice," Cambridge University Press, 2004.

V. Nocke and M. D. Whinston, "Dynamic Merger Review," JPE, December 2010, 1200-51.

M. Whinston, *Lectures on Antitrust Economics*, Chapters 1-3, Cambridge: MIT Press, 2006.

#### Vertical Market Structure

\*4 G. Crawford and A. Yurokogu, "The Welfare Effects of Bundling in Multichannel Television Markets," Stanford University working paper, 2011.

K. Lavetti, C. Simon, and W. White, "Buying Loyalty: Theory and Evidence from Physicians," UC Berkeley working paper.

D. Acemoglu, S. Johnson and T. Mitton, "Determinants of Vertical Integration: Finance, Contracts and Regulation," MIT Working Paper, 2005.

E. Anderson and D. Schmittlein, "Integration of the Sales Force: An Empirical Examination," *RJE*, Autumn 1984, pp. 385-395.

J. Asker and A. Ljungqvist, "Competition and the Structure of Vertical Relationships in Capital Markets," *JPE*, 2010, 599-647

- G. Baker and T. Hubbard, "Make vs. Buy in Trucking: Asset Ownership, Job Design and Information", *AER*, 2003, 551-572.
- D. Bernheim and M. Whinston, "Exclusive Dealing," *JPE*, 1998.
- T. Bresnahan and J. Levin "Vertical Integration and Market Structure," in preparation for the *Handbook of Organizational Economics*.
- T. Chipty, "Vertical Integration, Market Foreclosure, and Consumer Welfare in the Cable Television Industry," *AER*, 2001, 428-453.
- F. Ciliberto, "Does Organizational Form Affect Investment Decisions?" *JIE*, 2006, 63-93.
- S. Forbes and M. Lederman, "Control Rights, Network Structure and Vertical Integration: Evidence from Regional Airlines," UCSD Working Paper, 2006.
- Grossman, S. and O. Hart, "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration," *Journal of Political Economy* 94(4), 1986, 691-719
- O. Hart, and J. Tirole, "Vertical Integration and Market Foreclosure," *Brookings Papers on Economic Activity*, 1990, 205-276.
- J. Hastings, "Vertical Relationships and Competition in Retail Gasoline Markets: Empirical Evidence from Contract Changes in Southern California," *AER*, January 2004, 317-328.
- J. Ho, K. Ho, and J. Mortimer, "The Use of Full-Line Forcing Contracts in the Video Rental Industry," NBER working paper no. 14588, 2010.
- B. Holmstrom, and P. Milgrom, "The Firm as an Incentive System," *AER*, 1994, 972-991.
- A. Hortacsu and C. Syverson "Cementing Relationships: Vertical Integration, Foreclosure, Productivity and Prices," *JPE*, 2007.
- P. Joskow "Contract Duration and Relationship-Specific Investments: Empirical Evidence from Coal Markets," *AER*, 1987, 168-185
- P. Joskow, "Vertical Integration," *Handbook of New Institutional Economics*, Kluwer, 2004.
- S. Masten, "The Organization of Production: Evidence from the Aerospace Industry," *JLE*, 1984, 403-417.
- K. Monteverde and D. Teece "Supplier Switching Costs and Vertical Integration in the Automobile Industry," *BJE*, 1982, 206-213.
- J. Mortimer, "Vertical Contracts in the Video Rental Industry" *ReStud*, 2008, 165-199
- S. Tadelis, "Complexity, Flexibility, and the Make-or-Buy Decision" *AER*, 2002, 433-437
- M. Whinston, *Lectures on Antitrust Economics*, Chapter 4, Cambridge: MIT Press, 2006.
- M. Whinston, "On the Transaction Cost Determinants of Vertical Integration," *JLEO*, 2003.



O. Williamson “The Vertical Integration of Production: Market Failure Considerations,” *AER*, May 1971, pp. 112-123.

O. Williamson, *Markets and Hierarchies*, Free Press, 1975.

**Entry**

\*11 S. Berry, and J. Waldfogel, “Free Entry and Social Inefficiency in Radio Broadcasting,” *RJE*, 1999, 397-420.

James Roberts and Andrew Sweeting, “Airline Mergers and the Potential Entry Defense,” Duke University working paper, 2013.

\*R1 Joseph Kuehn, “Spillovers from Entry: The Impact of Bank Branch Network Expansion,” UCLA working paper, 2014.

Chicu, M, “Dynamic Investment and Deterrence in the U.S. Cement Industry,” Northwestern working paper.

S. Berry, “Estimation of a Model of Entry in the Airline Industry,” *EMA*, 1992, 889-918.

S. Berry, and E. Tamer, “Identification in Models of Oligopoly Entry,” in *Advances in Economics and Econometrics: Theory and Applications*, Ninth World Congress, Volume 2, edited by R. Blundell, W. Newey, and T. Persson, Cambridge, 2006, Chapter 2.

T. Bresnahan, “Sutton's Sunk Costs and Market Structure: Price Competition, Advertising, and the Evolution of Concentration: Review Article,” *RJE*, 1992, 137-52.

T. Bresnahan and P. Reiss, “Entry in Monopoly Markets,” *ReStud*, 1990, 531-53.

T. Bresnahan and P. Reiss, “Entry and Competition in Concentrated Markets,” *JPE*, 1991, 977-1009.

F. Ciliberto and E. Tamer, “Market Structure and Multiple Equilibria in Airline Markets,” *EMA*, forthcoming.

P. Ellickson, “Does Sutton Apply to Supermarkets?” *RJE*, 2007.

T. Holmes, “The Diffusion of Wal-Mart and Economies of Density,” University of Minnesota working paper, 2009.

\*11 G. Mankiw, and M. D. Whinston, “Free Entry and Social Inefficiency,” *RJE*, 1986, 48-58.

M. Mazzeo, “Product Choice and Oligopoly Market Structure,” *RJE*, 2002, 221-42.

K. Seim, “An Empirical Model of Firm Entry with Endogenous Product-Type Choices,” *RJE*, 2006.

J. Sutton, *Sunk Costs and Market Structure*, MIT Press, 1991, Chapters 1-2.

O. Toivanen and M. Waterson, “Market Structure and Entry: Where's the Beef?” *RJE*, 2005, 680-699.

## IV. Insurance Markets

- \*7 A. Cohen and L. Einav, "Estimating Risk Preferences from Deductible Choice," *AER*, 2007, 745-788.
- \*7 L. Einav, A. Finkelstein, and J. Levin, "Beyond Testing: Empirical Models of Insurance Markets," *Annual Review of Economics*, 2010, 311-336.
- \*7 L. Einav, A. Finkelstein, and M. Cullen, "Estimating Welfare in Insurance Markets using Variation in Prices," *QJE*, 2010, 877-921.
- \*9 B. Handel, "Adverse Selection and Inertia in Health Insurance Markets: When Nudging Hurts," *AER*, Dec. 2013, 2643-2682.  
  
B. Handel and J. Kolstad, "Health Insurance for Humans: Information Frictions, Plan Choice, and Consumer Welfare," UC-Berkeley working paper, 2013.
- \*8 I. Hendel and A. Lizzeri, "The Role of Commitment in Dynamic Contracts: Evidence from Life Insurance," *QJE*, 2003, 299-327.
- \*R2 C. Dalton, G. Gowrisankaran, and R. Town, "Myopia and Complex Dynamic Incentives: Evidence from Medicare Part D," University of Arizona working paper, 2014.  
  
N. Hendren, "Private Information and Insurance Rejections," M.I.T. working paper, 2011.  
  
J. Abaluck and J. Gruber, "Choice Inconsistencies among the Elderly: Evidence from Plan Choice in the Medicare Part D Program," *AER*, 2011, 1180-1210.  
  
G. Akerlof, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *QJE*, 1970, 488-500.  
  
L. Barseghyan, F. Molinari, T. O'Donoghue, and J. Teitelbaum, "The Nature of Risk Preferences: Evidence from Insurance Choices," Cornell University working paper, 2010.  
  
K. Bundorf, J. Levin and N. Mahoney, "Pricing and Welfare in Health Plan Choice," *AER* forthcoming, 2012.  
  
M. Cabral, "Claim Timing and Ex Post Insurance Selection: Evidence from Dental Insurance," UT-Austin working paper, 2011.
- \*R1 Mark Shepard, "Hospital Network competition and Adverse Selection: Evidence from the Massachusetts Health Insurance Exchange," Harvard University working paper, 2014.
- \*8 J. Cardon and I. Hendel, "Asymmetric Information in Health Insurance: Evidence from the National Medical Expenditure Survey," *RJE*, 2001, 408-427.  
  
C. Carlin and R. Town, "Adverse Selection, Welfare, and Optimal Pricing of Employer Sponsored Health Plans," University of Minnesota working paper, 2009.  
  
R. Cebul, J. Rebitzer, L. Taylor, and M. Votruba, "Unhealthy Insurance Markets: Search Frictions and the Cost and Quality of Health Insurance," *AER*, 2011, 1842-1871.  
  
P. Chiappori and B. Salanie, "Testing for Asymmetric Information in Insurance Markets," *JPE*, 2000, 56-78.

- P. Chiappori and B. Salanie, "Testing Contract Theory: A Survey of Some Recent Work," in *Advances in Economics and Econometrics: Theory and Applications, 8<sup>th</sup> Ed. Vol. 1*, Cambridge, 2001.
- J. Cochrane, "Time-consistent Health Insurance," *JPE*, 1995, 445-473.
- D. Cutler, A. Finkelstein, and K. McGarry, "Preference Heterogeneity and Insurance Markets: Explaining a Puzzle," *AER P and P*, 2008, 157-162.
- D. Cutler and S. Reber, "Paying for Health Insurance: The Tradeoff Between Competition and Adverse Selection," *QJE*, 1998, 433-466.
- D. Cutler, B. Lincoln, and R. Zeckhauser, "Selection Stories: Understanding Movement Across Health Plans," NBER working paper no. 15164, 2009.
- G. Dionne, and C. Rothschild, "Risk Classification and Health Insurance," Montreal HEC working paper, 2011.
- M. Duggan and F. Scott Morton, "The Effect of Medicare Part D on Pharmaceutical Prices and Utilization," NBER working paper no. 13917, 2008.
- L. Einav, A. Finkelstein, I. Pascu, and M. Cullen, "How General are Risk Preferences? Choices Under Uncertainty in Different Domains," *AER*, forthcoming.
- L. Einav, A. Finkelstein, and P. Schrimpf, "Optimal Mandates and the Welfare Cost of Asymmetric Information," *EMA*, 2010, 1031-1092.
- L. Einav, A. Finkelstein, P. Schrimpf, S. Ryan, and M. Cullen, "Selection on Moral Hazard in Health Insurance," Stanford University Working Paper, April 2011.
- A., Enthoven, A. Garber, and S. Singer, "Near Universal Coverage Through Health Plan Competition: An Insurance Exchange Approach," in *Covering America: Real Remedies for the Uninsured*, eds. J. Meyer and E. Wicks, 2001, Washington DC.
- H. Fang, M. Keane, and D. Silverman, "Sources of Advantageous Selection: Evidence from the Medigap Insurance Market," *JPE*, 2008, 303-350.
- A., Finkelstein, S. Taubman, B. Wright, M. Bernstein, J. Gruber, J. Newhouse, H. Allen, K. Baicker, and The Oregon Health Study Group, "The Oregon Health Insurance Experiment: Evidence from the First Year," NBER working paper no. 17190, 2011.
- M. Geruso, "Community Rating in Employer Health Insurance: Inefficiencies Beyond Adverse Selection," Princeton University working paper, 2011.
- J. Kling, S. Mullainathan, E. Shafir, L. Vermeulen, and M. Wrobel, "Comparison Friction: Experimental Evidence from Medicare Drug Plans," NBER working paper no. 17410, 2011.
- A. Kowalski, Censored Quantile Instrumental Variable Estimates of the Price Elasticity of Expenditure on Medical Care, Yale University working paper, 2010.
- A. Kowalski, "Estimating the Tradeoff Between Risk Protection and Moral Hazard with a Non-linear Budget Set Model of Health Insurance," Yale working paper, 2011.

J. Lustig, "Measuring Welfare Losses from Adverse Selection and Imperfect Competition in Privatized Medicare," Boston University working paper, 2010.

J. Newhouse, *Lessons from the RAND Health Insurance Experiment*, Harvard University Press, 1993.

M. Rothschild and J. Stiglitz, "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information," *QJE*, 1976, 630-649 .

A. Starc, "Insurer Pricing and Consumer Welfare: Evidence from Medigap," Wharton working paper, 2011.

J. Sydnor, "Over(insuring) Modest Risks," *AEJ: Applied Economics*, 2010, 177-199.

## V. Choice Frictions: Search Costs and Switching Costs

### Search Costs

\*12 A. Hortacsu and C. Syverson, "Product Differentiation, Search Costs and Competition in the Mutual Fund Industry", *QJE*, 2004, 403-456.

M. Armstrong, J. Vickers, and J. Zhou, "Prominence and Consumer Search," *RJE*, 2009, 209-233

J. Chevalier, A. Kashyap and P. Rossi. "Why Don't Prices Rise During Periods of Peak Demand? Evidence from Scanner Data," *AER*, 2003, 15-37.

G. Ellison and S. Ellison, "Search, Obfuscation, and Price Elasticities on the Internet," MIT mimeo. Forthcoming *EMA*.

H. Hong and M. Shum, "Using Price Distributions to Estimate Search Costs", *RJE*, 2006, 257-275.

J. MacDonald. "Demand, Information, and Competition: Why Do Food Prices Fall at Seasonal Demand Peaks?" *JIE*, 2000, 27-45.

S. Seiler, "The Impact of Search Costs on Consumer Behavior: A Dynamic Approach," Stanford University working paper, 2011.

A. Sorensen., "Equilibrium Price Dispersion in Retail Markets for Prescription Drugs," *JPE*, 833-850.

J. Zhou, "Multiproduct Search," NYU Stern working paper, 2011.

### Switching Costs

B. Handel, "Adverse Selection and Inertia in Health Insurance Markets: When Nudging Hurts," *AER*, Dec. 2013, 2643-2682.

Fernando Luco, "Switching Costs and Competition in Retirement Investment," Northwestern University working paper, 2013.

A. Beggs and P. Klemperer, "Multi-Period Competition with Switching Costs," *EMA*, 1992, 651-666.

G. Crawford, N. Tosini, and K. Waehrer, "The Impact of Rollover Contracts on Switching Costs in the UK Voice Market: Evidence from Disaggregate Customer Billing Data," University of Warwick, Working Paper, 2011.

J. Dube, G. Hitsch, and P. Rossi, "Do Switching Costs Make Markets More Competitive?" *Journal of Marketing Research*, 2009, 435-445.

J. Dube, G. Hitsch, and P. Rossi, "State Dependence and Alternative Explanations for Consumer Inertia," *RJE*, 2010, 417-445.

J. Dube, G. Hitsch, P. Rossi, and M. Vitorino, "Category Pricing with State Dependent Utility," *Marketing Science*, 2008, 417-429.

K. Ericson, "Market Design when Firms Interact with Inertial Consumers: Evidence from Medicare Part D," Harvard University working paper, 2010.

J. Farrell and P. Klemperer, "Coordination and Lock-In: Competition with Switching Costs and Network Effects," *HIO* Vol. 3, pp. 1967-2072.

R. Goettler and K. Clay, "Tariff Choice with Consumer Learning and Switching Costs," *Journal of Marketing Research*, 2011.

J. Heckman, "Heterogeneity and State Dependence," chapter in *Studies in Labor Markets* edited by S. Rosen, 1981.

M. Israel, "Tenure Dependence in Consumer-Firm Relationships: An Empirical Analysis of Consumer Departures from Automobile Insurance Firms," *RJE*, 2005, 165-192.

B. Madrian, and D. Shea, "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior," *QJE*, 2001, 1149-1187.

M. Shum, "Does Advertising Overcome Brand Loyalty? Evidence From Breakfast Cereals," *JEMS*, 2004, 241-272.

## VI. Asymmetric Information and Product Quality

\*14? G. Jin and P. Leslie, "The Effect of Information on Product Quality: Evidence from Restaurant Hygiene Grade Cards," *QJE*, 2003, 409-451.

\*14? Sumit Agarwal, Souphala Chomsisengphet, Neale Mahoney, Johannes Stroebel. "Regulating Consumer Financial Products: Evidence From Credit Cards," University of Chicago working paper, 2013.

\*14? Bart Bronnenberg, J.P. Dube, Matt Gentzkow, Jesse Shapiro. "Do Pharmacists Buy Bayer? Sophisticated Shoppers and the Brand Premium," University of Chicago working paper, 2013.

L. Ausubel, "Adverse Selection in the Credit Card Market," Maryland Department of Economics working paper, 1999.

L. Cabral and A. Hortacsu, "Dynamics of Seller Reputation: Theory and Evidence from eBay," *JIE*, 2010, 54-78.

L. Dafny and D. Dranove, "Do Report Cards Tell Consumers Anything They Don't Already Know? The Case of Medicare HMOs." *RJE*, 2008, 790-821.

S. Freedman and G. Jin, "Learning by Doing with Asymmetric Information: Evidence from Prosper.com," NBER working paper no. 16855, 2011

T. Gilligan, "Lemons and Leases in the Used Business Aircraft Market," *JPE*, 2004, 1157-1180.

I. Hendel and A. Lizzeri, "Adverse Selection in Durable Goods Markets," *AER*, 1999, 1097-1115.

K. Hendricks and R. Porter, "An Empirical Study of an Auction with Asymmetric Information," *AER*, 1988, 865-883.

K. Hendricks and A. Sorenson, "Information and the Skewness of Music Sales," *JPE*, 2009, 324-369.

G. Lewis, "Asymmetric Information, Adverse Selection, and Online Disclosure: The Case of eBay Motors," Harvard University Working Paper, 2011.

## VII. Behavioral IO

### Consumers

\*14? L. Barseghyan, F. Molinari, T. O'Donoghue, and J. Teitelbaum, "Bracketing and Risk Preferences: Identification and Estimation in Field Data," Cornell University, working paper.

F. Duarte and J. Hastings, "Fettered Consumers and Sophisticated Firms: Evidence from Mexico's Privatized Social Security Market," Brown University working paper.

\*13 M. Grubb and M. Osborne, "Cellular Service Demand: Biased Beliefs, Learning, and Bill Shock," M.I.T. working paper, 2011.

L. Ausubel, "The Failure of Competition in the Credit Card Market," *AER*, 1991, 50-81.

L. Ausubel and H. Shui, "Time Inconsistency in the Credit Card Market," University of Maryland working paper, 2004.

S. DellaVigna and U. Malmendier, "Contract Design and Self-Control: Theory and Evidence," *QJE*, 2004, 353-402.

S. DellaVigna and U. Malmendier, "Paying Not to Go to the Gym," *AER*, 2006, 694-719.

G. Ellison, "Bounded Rationality in Industrial Organization," M.I.T. working paper, 2005.

H. Fang and Y. Wang, "Estimating Dynamic Discrete Choice Models with Hyperbolic Discounting with an Application to Mammography Decisions," NBER working paper 16438, 2010.

X. Gabaix and D. Laibson, "Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets," M.I.T. working paper, 2005.

M. Gentzkow and E. Kamenica, "Competition in Persuasion," University of Chicago working paper, 2011.

M. Grubb, "Selling to Overconfident Consumers," *AER*, 2009, 1770-1807.

N. Lacetera, D. Pope, and J. Sydnor, "Heuristic Thinking and Limited Attention in the Used Car Market," NBER working paper no. 17030, 2011.

E. Miravete, "Choosing the wrong calling plan? Ignorance and Learning," *AER*, 2003, 297-310.

### Firms

A. Goldfarb, and M. Xiao, "Who Thinks About Competition? Managerial Ability and Strategic Entry in US Local Telephone Markets," University of Toronto working paper, 2010.

N. Bloom and J. van Reenan, "Measuring and Explaining Management Practices Across Firms and Nations," *QJE*, 2007, 1351-1408.

A. Goldfarb et al., "Behavioral Models of Managerial Decision Making," working paper, 2011.

B. Handel, K. Misra, and J. Roberts, "Robust Firm Pricing," *Journal of Econometrics*, 2013. .

U. Malmendier and G. Tate, "CEO Overconfidence and Corporate Investment," *Journal of Finance*, 2005, 20-43.

## VIII. Special Topics

### Health Care Markets

\*14? M. Dicksterin, "Efficient Provision of Experience Goods: Evidence from Antidepressant Choice," Stanford University working paper, 2011.

M. Gaynor and R. Town, "Competition in Health Care Markets," NBER working paper no. 17208, 2011.

K. Ho, "Insurer-Provider Networks in the Medical Care Market," *AER*, 2009, 393-430.

\*14? J. Kolstad, "Information and Quality when Motivation is Intrinsic: Evidence from Surgeon Report Cards," Wharton working paper, 2010.

K. Ho and Robin Lee, "Insurer Competition and Negotiated Hospital Prices," Columbia University working paper, 2013.

J. Asker, K. Ho, and C. Thomas, "An Analysis of Hospital Responses to the Introduction of Bilateral Price Bargaining," NYU working paper, 2008.

E. Berndt, T. McGuire, and J. Newhouse, "A Primer on the Economics of Prescription Pharmaceutical Pricing in Health Insurance Markets," NBER working paper no. 16879, 2011.

L. Dafny, "Games Hospitals Play: Entry Deterrence in Hospital Procedure Markets," *JEMS*, 2005, 513-542.

L. Dafny, "How do Hospitals Respond to Price Changes?" *AER*, 2005, 1525-1547.

D. Dranove, D. Kessler, M. McClellan, and M. Satterthwaite, "Is More Information Better? The Effects of Report Cards on Health Care Providers," *JPE*, 2003, 555-588.

M. Gaynor, M. Laudicella, and C. Propper, "Can Governments do it Better? Merger Mania and Hospital Outcomes in the English NHS," NBER working paper no. 17608, 2011.

M. Gaynor R. Moreno-Serra, and C. Propper, "Death by Market Power: Reform, Competition, and Patient Outcomes in the National Health Service," Carnegie Mellon working paper, 2011.

M. Gaynor and W. Vogt, "Competition Among Hospitals," *RJE*, 2003, 764-785.

M. Gaynor and P. Gertler, "Moral Hazard and Risk Spreading in Partnerships," *RJE*, 1995, 591-613.

G. Gowrisankaran and R. Town, "Competition, Payers, and Hospital Quality," *Health Services Research*, 2003, 1403-1422.

G. Gowrisankaran, V. Ho, and R. Town, "Causality, Learning, and Forgetting in Survey," University of Arizona working paper, 2006.

J. Ketchum, C. Lucarelli, "Group Incentives under Hospital-Physician Gainsharing," Cornell University working paper, 2011.

### **Auctions**

\*14? K. Hendricks and R. Porter, "An Empirical Perspective on Auctions," *HIO Chapter 32*, Vol. 3, 2007, 2073-2413.

\*R2 Kei Kawai, "Detecting Large-Scale Collusion in Procurement Auctions," NYU working paper.

### **Development and IO**

Daniel Bjorkegren, "The Adoption of Network Goods: Evidence from the Spread of Mobile Phones in Rwanda," Harvard University working paper.

Daniel Keniston, "Bargaining and Welfare: A Dynamic Structural Analysis of the Autorickshaw Market," Yale University working paper, 2011.

Nicholas Ryan, "The Competitive Effects of Transmission Infrastructure in the Indian Electricity Market," 2013.

### **Internet Markets**

L. Einav, D. Knoepfle, J. Levin, and N. Sundaresan, "Sales Taxes and Internet Commerce," Stanford University working paper.

M. Dinerstein, L. Einav, J. Levin, and N. Sundaresan. "Consumer Price Search and Platform Design in Internet Commerce," Stanford University working paper, 2013.

\*R1 James Wang, "Why Hire Loan Officers? Examining Delegated Expertise," University of Michigan working paper, 2014.

\*R2 C. Nosko and S. Tadelis, "The Limits of Reputation in Platform Markets: An Empirical Analysis and Field Experiment," Berkeley working paper, 2014.



**Education and Industrial Organization**

Christopher Nielsen, "Targeted Vouchers, Competition Among Schools, and the Academic Achievement of Poor Students," Yale University working paper, 2013.

- \*R1 Adam Kapor, "Distributional Effects of Race-Blind Affirmative Action," Yale University working paper, 2015.
- \*R2 N. Agarwal and P. Somaini, "Demand Analysis Using Strategic Reports: An Application to a School Choice Mechanism," MIT working paper, 2014.