

Spring 2012

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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 12 PM – 2 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. A recommended reference that discusses many theoretical underpinnings of these empirical papers is:

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

Another valuable resource that there will be readings from is the *Handbook of Industrial Organization* (HIO1, 2, 3) published by Elsevier-North Holland in 1987 (1 and 2) and 2007 (3).

Course Requirements: Grading for the course will be based on three problem sets (30%), one referee report (20%), and one research proposal (50%). Students should attend the ECO 221 IO seminar series.

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 **Thursday, February 16**. Problem Set 2 will be due on **Thursday, March 8**. Problem Set 3 will be due on **Thursday, April 19**. These problem sets can be done in up to groups of three.

The referee report will require you to critically evaluate recent research papers in IO. It will be due on **Thursday, March 22**. Students will receive a list of potential papers to choose from in the first few weeks of class. Additional papers will be allowed on request. Reports will be distributed to the class, and I will select several for in class presentations in April.

Your research proposal will be a clearly-defined original research project that builds on the material discussed in the course or closely related material. The first draft of this proposal will be due on **Thursday, April 5**. After receiving comments, your final proposal will be due on **Thursday, May 3**. This can be done in groups of up to three. Students will present their ongoing proposals in class in April. Detailed instructions will be provided in early February.

In the reading list that follows starred items are especially important. The reading list is extensive and is meant to be a reference; you do not have to read all of the paper on this list. However, **you are expected to read all of the papers we discuss in detail in class**. Starred items should be read *in advance* of the week they are to be discussed in class.

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

I. Introduction to Empirical Industrial Organization

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.

- * A. Nevo and M. Whinston, "Taking the Dogma Out of Econometrics: Structural Modeling and Credible Inference," CSIO working paper #0104, February 2010.
- * P. Reiss and F. Wolak, "Structural Econometric Modeling: Rationales and Examples from Industrial Organization," *Handbook of Econometrics*, Volume 6A, Chapter 64.

II. Empirical Studies of Pricing and Demand

Static Models

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.

- * T. Bresnahan, "Empirical Studies of Industries with Market Power," HIO, Vol. 2, Chapter 17.

K. Corts, "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.

Repeated Interaction

- * Borenstein, S. and A. Shepard, "Dynamic Pricing in Retail Gasoline Markets," RJE, Autumn 1996, 429-51.
- Ellison, G., "Theories of Cartel Stability and the Joint Executive Committee," RJE, Spring 1994, 37-57.
- * Porter, R., "A Study of Cartel Stability: The Joint Executive Committee, 1880-1886," BJE, Autumn 1983, 301-14.
- 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

- 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, "Automobile Prices in Market Equilibrium," EMA, July 1995, 841-90.
- 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.
- * T. Bresnahan, "Competition and Collusion in the American Automobile Market: The 1955 Price War," JIE, June 1982, 457-482.
- F. Gasmı, 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.

- * A. Nevo, "A Practitioner's Guide to Estimation of Random Coefficients Logit Models of Demand," JEMS, Winter 2000, 513-48.
- * A. Nevo, "Measuring Market Power in the Ready-to-Eat Cereal Industry," EMA, March 2001, 307-42.
- A. Nevo, "Empirical Models of Consumer Behavior," Annual Reviews, 2011.

Welfare Measures Computed From Estimated Demand Systems

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.

M. Gentzkow, "Valuing New Goods in a Model with Complementarity: Online Newspapers," AER, June 2007, 713-44.

- * 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

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

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

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

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 & Antitrust

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.

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

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

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.

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

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.
- 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. Choice Frictions: Search Costs and Switching Costs

Search Costs

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

- 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.

* B. Handel, "Adverse Selection and Switching Costs in Health Insurance Markets: When Nudging Hurts," UC-Berkeley working paper, 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.

V. Asymmetric Information and Product Quality

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

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

VI. Insurance Markets

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.

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, 8th Ed. Vol. 1*, Cambridge, 2001.

J. Cochrane, "Time-consistent Health Insurance," *JPE*, 1995, 445-473.

* A. Cohen and L. Einav, "Estimating Risk Preferences from Deductible Choice," *AER*, 2007, 745-788.

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, and J. Levin, "Beyond Testing: Empirical Models of Insurance Markets," *Annual Review of Economics*, 2010, 311-336.
- * L. Einav, A. Finkelstein, and M. Cullen, "Estimating Welfare in Insurance Markets using Variation in Prices," *QJE*, 2010, 877-921.
- 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.
- * B. Handel, "Adverse Selection and Switching Costs in Health Insurance Markets: When Nudging Hurts," UC-Berkeley working paper, 2011.
- * I. Hendel and A. Lizzeri, "The Role of Commitment in Dynamic Contracts: Evidence from Life Insurance," *QJE*, 2003, 299-327.
- N. Hendren, "Private Information and Insurance Rejections," M.I.T. 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.

VII. IO and Non-Traditional Foundations

Consumers

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.

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