



HCMG 902
Industrial Organization of Health Care
Course Syllabus
Fall 2015

Meeting Days: Tuesday
Meeting Time: 3:00-6:00
Meeting Place: CPC Chestnut Room
Instructor: Professor Robert Town
Office Address: 305 CPC
Office Phone: 215-746-3171
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Office Hours: By appointment. Given your schedules are not conducive to a fixed office hour time, it is best to set up appointments. I am very flexible and should be able to accommodate most schedules.

Course Description

This advanced PhD seminar will explore topics in the industrial organization of health care and structural econometric approaches in health economics. The focus in this course is two fold. First, we will learn advanced econometric tools with an emphasis on estimating demand and production function parameters. These tools are a standard and important component of the applied industrial organizational toolkit and are useful for applied economic analysis in many settings. Second, we will study the application of demand and production function estimation by reading recent, important papers in the industrial organization of health care focusing on the important themes and unanswered questions. I am also open to including non-health applications in the course, if there is sufficient demand. The topics covered include health insurance, adverse selection, moral hazard, hospital demand estimation, the analysis of hospital competition, insurer competition, quality competition and the welfare of new product introductions.

Students are required to present recently research from the field, complete empirical exercises and write an empirical research paper that broadly based on the topics covered in the course. With the permission of the instructor, the seminar is open to doctoral students from departments across the University of Pennsylvania.

The benefits you gain from this course depend upon the work you put into it. I do not have a lot of assignments. I have no doubt that you could get a fine grade with marginal effort but you not add as much to your human capital as you could. My view is that this is an advanced PhD course that serves two purposes: 1) Add to your understanding the health economics/industrial organizations literature and 2) Help you develop your dissertation topic. At this stage in your careers you should be very self-motivated to learn and my job is to facilitate that learning.

Course Requirements:

1. Read the papers before class! Most of the papers are available on-line. The few that are not, I will have versions that you can copy it. The key methodological papers are denoted with a “\$”
2. Problem Sets (2 of them)
3. Presentation of a published paper (45 min).
4. End of term original research paper and presentation. The paper is to be a draft of a potentially publishable paper on the topic of your choosing. The paper should have a well-developed literature review, economic theory and methods section. Data analysis section can be excluded but it possible it would be nice to have some initial estimates.

Grading:

Paper / Presentations	50%
Presentation of published paper	15%
Problem Sets	25%
Class Participation	10%

September 1 (Week 1) -- Course Introduction/ Getting a good job

Dranove, D., and Satterthwaite, M. (2000) "The Industrial Organization of Health Care Markets," Handbook of Health Economics, Vol 1a., Culyer, A. and Newhouse, J. ed., Elsevier.

Gaynor, M., Ho, K., and Town, R. (2015) "The Industrial Organization of Health Care Markets," Journal of Economic Literature, 53(2): 235-284.

Tirole, J. (1989) The Theory of Industrial Organization, MIT Press.

Note that the above papers and book are references that you can refer to throughout the course and I am not expecting you to read them all by the first day of the class.

§Cawley, J. (2011) "A Guide and Advice for Economists on the US Junior Academic Job Market, 2011-2012," http://www.aeaweb.org/joe/articles/2011/job_market_guide.pdf

September 8 – Oct 21 (Weeks 2 - 8) -- Demand, Adverse Selection and Moral Hazard and Other Applications

September 8 – Introduction to Demand Estimation

§Berry, S. (1994) "Estimating Discrete Choice Models of Product Differentiation," RAND Journal of Economics, 25: 242-262.

Deaton, A. and Muelbauer, J. (1980) "An Almost Ideal Demand System," American Economic Review, 70(3) 312-326.

Ellison, S., Cockburn, I, Grilliches, Z. and Hausman, J. (1997) "Characteristics of Demand for Pharmaceutical Products: An Examination of Four Cephalosporins," RAND Journal of Economics, 28(3): 426-446.

Town, R. and Liu, S. (2003) "The Welfare Impact of Medicare HMOs," The RAND Journal of Economics, 34(4): 719-736.

September 15 – HCM/AEW Seminar

- 3:30 – 5:00 Matt Notowidigdo

September 22 – BLP, Individual Data & Welfare

§Berry, S., Levinsohn, J. and A. Pakes (1995) "Automobile Prices in Equilibrium, Econometrica, 63(4):841-890.

§Berry, S., Levinsohn, J., & Pakes, A. (2004). Differentiated Products Demand Systems from a Combination of Micro and Macro Data: The New Car Market. Journal of Political Economy, 112

[§]Nevo, A. (2000) “A Practitioner's Guide to Estimation of Random-Coefficients Logit Models of Demand,” Journal of Economics and Management Strategy, 9(4): 513-548.

[§]Train, K. (2009) Discrete Choice Methods with Simulation, <http://books.google.com/books?hl=en&lr=&id=4yHaAgAAQBAJ&oi=fnd&pg=PR7&ots=eDWaK9g2iw&sig=FWOMV-ovaaj4cWxkSQv2xFSMbMM-v=onepage&q&f=false>

September 29 – HCM/AEW Seminar

- 3:30 – 5p Ginger Jin

October 6 – Demand and Insurance

[§]Cardon, J. and Hendel, I. (2001) “Asymmetric Information in Health Insurance: Evidence from the National Medical Expenditure Survey,” RAND Journal of Economics, 32: 408-427.

Finkelstein, A. and McGarry, K. (2006) “Multiple dimensions of private information: evidence for the long-term care insurance market,” American Economic Review, 96(4) 938-958.

Carlin C. and Town, R. (2010) “Adverse selection, welfare and the optimal pricing of employer-sponsored health plans,” Mimeo.

Bajari, P., Hong, H., Khwaja, A. and C. Marsh (2013) “Moral hazard, adverse selection and health expenditures: a semiparametric analysis,” <http://www.econ.umn.edu/~bajari/research/health.pdf>.

Cutler, D. B. Lincoln, and R. Zeckhauser (2009) “Selection Stories: Understanding Movement Across Health Plans,” NBER Working Paper 15174.

De Meza, D, and Webb. D C. 2001. “Advantageous Selection in Insurance Markets.” RAND Journal of Economics, 32(2): 249–262.

Cutler, David M., and Sarah J. Reber. 1998. “Paying for Health Insurance: The Trade-Off between Competition and Adverse Selection.” Quarterly Journal of Economics, 113(2): 433–66.

Bundorf, K., Levin, J. and Mahoney, N. (2012) “Pricing and Welfare in Health Plan Choice.” American Economic Review, 102(7): 3214-48.

Handel, B. (2013) “Adverse Selection and Switching Costs in Health Insurance Markets: When Nudging Hurts,” American Economic Review, 103(7): 2643-2682

Starc, A. (2014) “Insurer Pricing and Consumer Welfare: Evidence from Medigap.” RAND Journal of Economics, 45(1): 198-220.

Lustig, J. (2011). Measuring Welfare Losses from Adverse Selection and Imperfect Competition in Privatized Medicare. unpublished manuscript, Boston University.

- Finkelstein, A., Einav, L., Levin, J. (2010) “Beyond Testing: Empirical Models of Insurance Markets,” Annual Review of Economics, 2(1): 311-336.
- Ericson, K. and Starc, A. (2013) “How Product Standardization Affects Choice: Evidence from Massachusetts Health Insurance Exchange” Univ of Pennsylvania Working Paper.
- Handel, B. and Kolstad, J. (2015) “Health Insurance for Humans: Information Frictions, Plan Choice, and. Consumer Welfare,” American Economic Review, .
- Einav, L., Finkelstein, A., Ryan, S. and Schrimpf, P. and Cullen, M. (2013) “Selection on Moral Hazard in Health Insurance,” American Economic Review, 103(1).
- Einav, L, Finkelstein, A. and Cullen, M. 2010. “Estimating Welfare in Insurance Markets using Variation in Prices.” Quarterly Journal of Economics, 125(3): 877–921.

October 13 – Demand Applications (3 Student Presentations)

- Berry, S. and Jia, P. (2010) “Tracing the Woes: An Empirical Analysis of the Airline Industry,” American Economic Journal: Microeconomics, 2(3), 1-43.
- Lucarelli, C., Prince, J. and Simon, K. (2012), “The Welfare Impact of Reducing Choice in Medicare Part D: A Comparison of Two Regulation Strategies,” International Economic Review,.
- Miller, D. and Yeo, J. (2012) “The Consequences of a Public Health Insurance Option: Evidence from Medicare Part D Prescription Drug Markets,” Mimeo. <http://people.clemson.edu/~dmille7/Publicoptionmay2012.pdf>
- DeCarolis, F. (2015) “Pricing and Incentives in Publicly Subsidized Health Care Markets: The Case of Medicare Part D,” American Economic Review.
- Berry, S., Levinsohn, J. and A. Pakes (1995) “Voluntary Export Restraints on Automobiles: Evaluating a Strategic Trade Policy , American Economic Review, 89(3):400-430.
- Bokhan, F. and Fournier, G. (2011) “Entry in the ADHD Drugs Market: Welfare Impact of Generics and Me-Too’s” Journal of Industrial Economics, 61(2) 339-392.
- Polyakova, M. (2013) “Regulation of Insurance with Adverse Selection and Switching Costs: Evidence from Medicare Part D,” Working paper: <http://economics.mit.edu/files/9376>.
- Chernew, M., Gowrisankaran, G. and Scanlon, D. (2008) “Learning and the value of information: Evidence from health plan report cards,” Journal of Econometrics, 144(1):156-174.
- Mahoney, N., and Weyl, G. (2014) “Imperfect Competition in Selection Markets,” NBER Working Paper # 20411.
- Bresnahan, T. (1987) “Competition and Collusion in the American Automobile Industry: The 1955 Price War,” Journal of Industrial Economics, 35(4) 457-482.

Decarolis, F., Polyakova, M. and Ryan, S. (2015) “The Welfare Effects of Supply-Side Regulations in Medicare Part D,” NBER Working Paper #21298.

Curto, V., Einav, L., Finkelstien, A., Levin, J. and Bhattacharya, J. “Can Health Insurance Competitive Work: Evidence from Medicare Advantage,” NBER Working Paper w20818.

October 21 – Welfare of New Products / Advanced Topics

§Petrin, A. (2002) “Quantifying the Benefits of New Products: The Case of the Minivan,” Journal of Political Economy, 110(4): 705-729.

§Trajtenberg, M., (1989) “The welfare analysis of product innovations, with an application to computer tomography scanners,” Journal of Political Economy 97, 444–479.

Ackerberg, D. and Rysman, M. (2005) “Unobserved Product Differentiation in Discrete Choice Models,” RAND Journal of Economics, 36(4): 771-788.

Bresnahan, T. (1998?) “The Apple-Cinnamon Cheerios War: Valuing New Goods, Identifying Market Power, and Economic Measurement,” Mimeograph.

§Goolsbee, A. and A. Petrin (2004). “The Consumer Gains from Direct Broadcast Satellites and the Competition with Cable TV,” Econometrica 72 (2), 351.

§Bajari, P., Fox, J., Kim, K.I., Ryan, S. (2011) “A Simple Estimators for the Distribution of Random Coefficients,” Quantitative Economics. 381-418.

§Ho, K. and Pakes, A. (2014) “Hospital Choices, Hospital Prices and Financial Incentives to Physicians,” American Economic Review, 104(12): 3841-3884

Pakes, A. and Porter, J. (2014) “Moment Inequalities for Multinomial Choice with Fixed Effects,” Mimeo: http://scholar.harvard.edu/files/pakes/files/rmc_2014_05_12.pdf

§Rossi, P., Allenby, G. and R. McCulloch, (2006) Bayesian Statistics and Marketing, J. Wiley and Sons.

§Berry, S. and Haile, P. (2014) “Identification in Differentiated Products Markets using Market Level Data,” Econometrica, 82(5), 1749-1797

Gandhi, A., Z. Lu and X. Shi (2013) “Estimating Demand for Differentiated Products with Error in Market Shares” http://www.ssc.wisc.edu/~agandhi/homepage/Amit_Gandhi.html.

Nevo, A. Turner, J. and Williams, J. (2014) “Usage-based Pricing and Demand for Residential Broadband,” http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2330426.

Pakes, A. (2010) “Alternative Models of Moment Inequalities,” Econometrica, 78(6): 1783–1822.

Berry, S. and Pakes, A. (2007) “Pure Characteristics Demand Model,” International Economic Review, 48(4): 1193-1225.

Bajari, P., Nekipelov, D., Ryan, S., and Yang, M. (2015) “Demand Estimation with Machine Learning and Model Combination,” NBER Working Paper w20955.

October 28 – November 3 (Weeks 9-10) Static Oligopoly / Hospital Price Competition / Mergers / Provider Networks

October 28 – Static Oligopoly & Merger Simulation

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

[§]Gaynor, M. and Town, R. (2012) “Provider Competition,” in Handbook of Health Economics, Vol. 2.

[§]Nevo, A. (2000) “Mergers with Differentiated Products: The Case of the Ready-to-Eat Cereal Industry,” RAND Journal of Economics, 31(3): 395-421.

[§]Berry, S., and A. Pakes (1995) “Some Applications and Limitations of Recent Advances in Empirical Industrial Organization: Merger Analysis,” American Economic Review, 89(3):400-430.

[§]Town, R., and Vistnes, G. “Hospital Competition in HMO Networks,” Journal of Health Economics, 20:5 (September 2001), pp. 733-753.

Gaynor, M. and Vogt, W. (2003) “Competition Among Hospitals,” RAND Journal of Economics, 25:764-785.

[§]Capps, C., Dranove, D., and M. Satterthwaite (2003) “Competition and Market Power in Option Demand Markets,” RAND Journal of Economics, 25: 737-763.

Miller, N., C. Ryan, M. Remer, and G. Shu (2012) “Approximating the Price Effects of Mergers: Numerical Evidence and Empirical Application,” USDOJ, EAG Discussion Paper 12-8. Available at: <http://www.justice.gov/atr/public/eag/288255.pdf>.

Farrell, J. and C. Shapiro (2008) “Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition,” <http://escholarship.org/uc/item/8z51b1q8>.

Peters, C. (2006) “Evaluating the Performance of Merger Simulation: Evidence from the US Airline Industry,” Journal of Law and Economics, 49(2):627-649.

Bjornerstedt, J. and F. Verboven (2013) “Does Merger Simulation Work? Evidence from Swedish Analgesics Market,” Working Paper.

Thomadsen, R. (2005) “The Effect of Ownership Structure on Prices in Geographically Differentiated Industries,” RAND Journal of Economics, 36(4): 908-929.

Allen, J., R. Clark and J.F. Houde. (2014) “The Effect of Mergers in Search Markets: Evidence from Mortgage Markets”, American Economic Review. 104(10):,3365-96.

November 3 – Bargaining and Mergers & Mergers Impact on Quality

- Lee, R. and Fong, K. (2012) “Markov-Perfect Network Formation: An Applied Framework for Bilateral Oligopoly and Bargaining in Buyer-Seller Networks,” <http://pages.stern.nyu.edu/~rslee/papers/MPNENetworkFormation.pdf>.
- §Horn, H. and Wolinsky, A. (1988). Bilateral Monopolies and Incentives for Merger. RAND Journal of Economics, 19:408-419.
- §Kessler, Daniel and Mark McClellan (2000) “Is Hospital Competition Socially Wasteful?” Quarterly Journal of Economics, 115:2 pp. 577-615.
- Gowrisankaran, G., and Town, R. (2003) “Competition, Payers, and Hospital Quality,” Health Services Research, December.
- §Gowrisankaran, G., Nevo, A. and Town, R. (2015) “Mergers When Prices Are Negotiated: Evidence from the Hospital Industry” American Economic Review, Forthcoming. http://www.u.arizona.edu/~gowrisan/pdf_papers/hospital_merger_negotiated_prices.pdf.
- Matsa, D. (2011) “Competition and Product Quality in the Supermarket Industry,” Quarterly Journal of Economics, 126(3): 1539-1591.
- Lin, H. (2014) “Quality Choice and Market Structure: A Dynamic Analysis of Nursing Homes,” International Review of Economics, forthcoming.
- Berry, S. and Waldfogel, J. (2001) “Do Mergers Increase Product Variety? Evidence from Radio Broadcasting,” Quarterly Journal of Economics, 116(3) 1990-1025.
- Fan, Y. (2013) “Ownership Consolidation and Product Characteristics: A Study of the US Daily Newspaper Market,” American Economic Review, 103(3):1598-1628.
- Jeziorski, P. (2014) “Effects of Mergers in Two-Sided Markets: The US Radio Industry,” American Economic Journal: Microeconomics, 6(4): 35-73.
- Grennan, M. (2013) “Price Discrimination and Bargaining: Empirical Evidence from Medical Devices,” American Economic Review, 103(1):145-177.
- Draganska, M. Mazzeo, K. Seim (2009), Beyond Plain Vanilla: Modeling Joint Product Assortment and Pricing Decisions, Quantitative Marketing and Economics, 7(2): 105-146.

November 10 (Week 11) -- Insurer Competition/Vertical Issues (3 Student Presentation)

- Ho, K. (2005) “The Welfare Effects of Restricted Hospital Choice in the US Medical Care Market,” Journal of Applied Econometrics, 21(7): 1039-1079.

- [§]Ho, K. (2009) “Insurer-Provider Networks in the Medical Care Market,” American Economic Review, 99(1): 393-430.
- Crawford, G. and Yurukoglu, A. (2012) "The Welfare Effects of Bundling in Multichannel Television Markets." The American Economic Review 102.2: 643-685
- La Fontaine, N. and M. Slade (2007) “Vertical Integration and Firm Boundaries: The Evidence,” Journal of Economic Literature, 45: 629-685.
- Hortacsu, A. and Syverson, C. (2007) “Cementing Relationships: Vertical Integration, Foreclosure, Productivity, and Prices,” Journal of Political Economy, 115: 250-301
- Ciliberto, F., Dranove, D., 2005. “The effect of physician–hospital affiliations on hospital prices in California,” Journal of Health Economics. 25(1): 29-38.
- Dafny, L. (2010) “Are Health Insurance Markets Competitive?” American Economic Review, 100(4): 1399-1431.
- Dafny, L., Duggan, M., and Ramanarayanan, S. (2009) Paying a Premium on your Premium? Consolidation in the US Health Insurance Industry. NBER working paper.
- Cuellar, A.E., Gertler, P.J., 2005. “Strategic integration of hospitals and physicians,” Journal of Health Economics, 25(1):1-28.
- Town, R. (2001) “The Welfare Impacts of HMO Mergers,” Journal of Health Economics, 20(6) 967-990.
- Cebul, R. Rebitzer, J. Taylor, L. and Votruba, M. (2011) “Unhealthy Insurance Markets: Search Frictions and the Cost and Quality of Health Insurance” American Economic Review, 101(5): 1842-1871.
- Dunn, Abe (2011) “The Effect of Health Insurance Competition when Private Insurance Competes with a Public Option,” Mimeo. http://www.bea.gov/papers/pdf/HealthInsuranceCompetition10_11.pdf.
- Ho, K. and Lee, R. (2013) “Insurer Competition and Negotiated Hospital Prices,” NBER Working Paper 19401.
- Ho, K. and Lee, R. (2015) “Insurer Competition in Health Care Markets,” mimeo.

November 17 (Weeks 12) -- Productivity / Quality Measurement

- [§]Olley, G.S. and A. Pakes (1996) “The Dynamics of Productivity in the Telecommunications Industry,” Econometrica, 64(6): 1263-1297.
- [§]Akerberg, D., Caves, K., and Frazer, G. (2006) “Structural Identification of Production Functions,” Mimeo. <http://www.econ.ucla.edu/akerber/ACF20withtables.pdf>.

Gandhi, A., Navarro, S., and Rivers, D. (2015) "On the Identification of Production Functions: How Heterogeneous is Productivity?" mimeo http://www.ssc.wisc.edu/~agandhi/homepage/Amit_Gandhi_files/production_9_25_13_FULL.pdf

[§]Geweke, J., Gowrisankaran, G., and Town, R. (2003) "Bayesian Inference for Hospital Quality in a Selection Model," *Econometrica*, 71(4) 1215-1238.

*Miller, A. R. and Tucker, Catherine, "Can Healthcare IT Save Babies?" *Journal of Political Economy*, 119(2): 289-324.

Cutler, David M. (1995). "The Incidence of Adverse Medical Outcomes Under Prospective Payment," *Econometrica*, 63(1): 29-50.

McCullough, J., Lee, J., and Town, R. (2013) "The Impact of Health Information Technology on Hospital Productivity," *RAND Journal of Economics*, 44(3): 545-568.

[§]Chandra, A. and D. Staiger (2007) "Productivity Spillovers in Health Care: Evidence from the Treatment of Heart Attacks," *Journal of Political Economy*, 115(1): 103-140.

Chandra A. and J. Skinner (2009) "Productivity and Expenditure Growth in Health Care," *Journal of Economic Literature*,

November 24 – No Class – Thanksgiving (Week 13)

- Individual Meetings on Papers

December 1, 8 (Weeks 14 & 15) – Student Presentations