



## MGT 3090 Course Outline

Models & Methods in Strategic Management (*Spring 2010*)

Course Meets: Thursdays 9AM-12PM, Rotman School of Management, Room 448 (#570 in April)

---

Instructor: Avi Goldfarb, Room 513  
E-Mail: [agoldfarb@rotman.utoronto.ca](mailto:agoldfarb@rotman.utoronto.ca)  
Homepage: <http://www.rotman.utoronto.ca/agoldfarb>  
Phone: 416-946-8604  
Office Hours: By Appointment, or just knock on my door

**Objectives:** Once the research question is established, there are three core steps to effective empirical work:

- (1) Establish what relationships are in the data
- (2) Interpret those relationships in light of your research objectives
- (3) Communicate those relationships as clearly, completely, and convincingly as possible

The main focus of the course will be on methods for establishing causal relationships in field data. This means we will discuss how to establish what relationships exist in the data, when you can interpret these relationships as causal, and how you can convince your audience of your results (without overselling).

**Preparation and Prerequisites:** This course is designed to complement a graduate sequence in econometrics. We will focus on intuition and on understanding how statistical models relate to the underlying data. Still, there will be technical material throughout the semester, both in readings and discussion.

**Class Structure:** A typical week will start by establishing the basic econometric framework on the whiteboard. Then we might move to Powerpoint slides on the current etiquette in communicating the method to an audience (as well as some Stata code references). Finally, we'll move back to the whiteboard for discussion accompanied by many examples.

## Assignments & Grading

*Class participation: 10%*

*Three “hyper-referee reports”: 30% each*

*Due Weeks 5, 9, and 13 (i.e. February 4, March 11, and April 8)*

For each “hyper-referee report”, you will replicate the main results of an existing empirical paper and discuss (or critique) the robustness of the results. These should be written as referee reports that focus only on the empirical implementation.

While there is no page limit, my guess is that the reports will contain 1-4 pages of text, 2-5 tables and/or figures, and a Stata .log output file. One to three tables would likely replicate results from the existing paper and one or two more would perhaps show results with the data that are not shown in the paper. If you can communicate the core ideas in less space, no problem. If you need more space, that’s fine too. The key is to show that you could replicate the main results and that you tried some other specifications to check robustness (and that these other specifications are informed by what we do in class!)

In selecting your papers to review, you have several options:

- 1) I have marked the replicable papers on the reading list with a + sign.
- 2) The *American Economic Review* and the four new *American Economic Journals* require authors to post their data and code. Picking papers from recent issues would work.
- 3) Similarly, the *Quarterly Journal of Economics* and the *Review of Economics and Statistics* often require authors to post their data and code.
- 4) A handful of academics make a habit of posting data and code for many published projects. Examples include Justin Wolfers of Wharton and our own Dan Trefler.

Please see me before starting any replication effort. I want to confirm that (a) replication will be feasible and (b) that the different replication exercises you conduct require (some) different empirical tools.

And please don’t hesitate to ask questions at any point in the process!

## Readings

A number of papers have been assigned each week.

\*Means that everyone in the class (including those auditing) should have read the paper before coming to class. For a methods paper, this means that you should know what the method is, when and why is it used, and how it works. For an empirical paper, this means you should know the unit of observation, the core estimating equation, the empirical strategy, and the core findings.

Readings that are not marked with \* should still be read by some of you. My expectation is that at least two people will be able to discuss each paper each week. You can divide the readings amongst yourselves however you wish.

(An aside: I have included many of my own papers in the reading list. This is simply because I know them very well!)

### **Books every applied econometrician should read (cover-to-cover!):**

*None of these books will be required reading in this class, but they are all things that you should read cover-to-cover (and ideally you'll have finished the first two before you start data collection for your job market papers).*

Wooldridge, J. (2001), *Econometric Analysis of Cross Section and Panel Data*, MIT Press.

Angrist, Joshua D. and Jörn-Steffen Pischke (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press: Princeton NJ.

Greene, William (2008). *Econometric Analysis 6<sup>th</sup> edition*. Prentice Hall.

Manski, C. (1995), *Identification Problems in the Social Sciences*, Harvard University Press.

Huff, Darrell (1954). *How to Lie with Statistics*. Illustrated by Irving Geis. W.W. Norton and Company. New York.

	<b>Date</b>	<b>Topic</b>
<b>1</b>	<b>January 7</b>	Introduction to applied econometrics (2 hours)
<b>2</b>	<b>January 14</b>	Field experiments vs. Describing interesting data (3 hours)
<b>3</b>	<b>January 21</b>	Difference-in-differences (3 hours)
<b>4</b>	<b>January 28</b>	Instrumental variables (2 hours)
<b>5</b>	<b>February 4</b>	REPORT #1 DUE ; Regression discontinuity; falsification tests (2 hours)
<b>6</b>	<b>February 11</b>	Selection on observables, matching, propensity score, and control functions (3 hours)
<b>READING WEEK</b>		
<b>7</b>	<b>February 25</b>	The language of treatment effects (3 hours)
<b>8</b>	<b>March 4</b>	Discrete variables (2 hours)
<b>9</b>	<b>March 11</b>	REPORT #2 DUE; Testing (2 hours)
<b>10</b>	<b>March 18</b>	Data (2 hours)
<b>11</b>	<b>March 25</b>	Classic identification challenges (3 hours)
<b>12</b>	<b>April 1</b>	Reading structural papers with a reduced-form perspective (2 hours)
<b>13</b>	<b>April 8</b>	REPORT #3 DUE; Summary (3 hours)

## **Week 1 (January 7): Introduction to applied econometrics**

### ***Review the syllabus***

#### ***What is identification?***

Moffitt, Robert. 2005. Remarks on the Analysis of Causal Relationships in Population Research. *Demography* 42(1): 91-108.

Heckman, J. (2000), "Causal Parameters and Policy Analysis in Economics: A Twentieth Century Retrospective" *Quarterly Journal of Economics*, 115, 45-97.

#### ***What makes a good descriptive empirical research paper?***

—*Questions to ask of every paper: Research question, data structure/unit of observation (in data and in "experiment"), estimating equation(s), "Table 1 and Table 2"*

—*Data, interpretation, and communication*

\*Blum, Bernardo, and Avi Goldfarb. 2006. Does the internet defy the law of gravity? *Journal of International Economics* 70(2), 384-405.

\*Jones, Benjamin F., and Benjamin A. Olken. 2005. "Do Leaders Matter? National Leadership and Growth Since World War II." *Quarterly Journal of Economics* 120(3): 835-864.

## **Week 2 (January 14): Field experiments vs. Describing interesting data**

### ***Field experiments***

\*Anderson, Eric T., and Duncan I. Simester. 2003. Effects of \$9 Price Endings on Retail Sales: Evidence from Field Experiments. *Quantitative Marketing and Economics* 1, 93-110.

\*+Bertrand, Marianne, and Sendhil Mullainathan. 2004. "Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination." *American Economic Review*, 94(4): 991–1013.

\*Goldfarb, Avi, Sampsa Samila, and Brian Silverman. 2009. Retail Format as a Barrier to Entry. Working paper, University of Toronto.

Blank, R. (1991), "The Effects of Double-Blind versus Single-Blind Reviewing: Experimental Evidence from the American Economic Review," *American Economic Review*, 81, 1041-67.

### ***Describing interesting data***

\*Jones, Benjamin F., Stefan Wuchty, and Brian Uzzi. 2008. Multi-University Research Teams: Shifting Impact, Geography, and Stratification in Science. *Science* 322, 1259-1262.

\*Bloom, Nicholas, and John Van Reenen. 2007. Measuring and explaining management practices across firms and countries. *Quarterly Journal of Economics* 122(4), 1351-1408.

### **Week 3 (January 21): Difference-in-differences**

\*Meyer, B. (1995), "Natural and Quasi-Experiments in Economics," *Journal of Business and Economic Statistics*, 12, 151-162.

\*Bertrand, M., E. Duflo and S. Mullainathan (2004), "How Much Should We Trust Differences-in Differences Estimates?" *Quarterly Journal of Economics*, 119, 249-76.

- Only the introduction is required for everyone to read

\*Donald, S. and K. Lang (2007), "Inference with Difference in Differences and Other Panel Data" *Review of Economics and Statistics*, 2, 221-233.

Lancaster T. (2000) "The incidental parameter problem since 1948" *Journal of Econometrics*, 95: 391-413.

\*Stern, Scott. 2004. "Do Scientists Pay to Be Scientists?" *Management Science* 50(6), 835-853.

\*George, L., and J. Waldfogel (2006) "The New York Times and the Market for Local Newspapers." *American Economic Review*, 96(1), 435-447.

+Trefler, Daniel. 2004. "The Long and Short of the Canada-U. S. Free Trade Agreement," *American Economic Review*, 94(4), 870-895. (Challenging to replicate as requires some data work and programs are in SAS)

Jin, Ginger Zhe, and Philip Leslie. 2003. The Effect of Information on Product Quality: Evidence from Restaurant Hygiene Grade Cards. *Quarterly Journal of Economics* 118(2), 409-451.

### **Week 4 (January 28): Instrumental variables**

\*Angrist and Kruger (2001) "Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments," *Journal of Economic Perspectives*, 15, 69-85.

\*REVIEW: Any textbook discussion of instrumental variables (Wooldridge, Greene, Davidson/Mackinnon, etc.)

\*Miller, Amalia, and Catherine Tucker. 2009. Privacy Protection and Technology Diffusion: the Case of Electronic Medical Records *Management Science*, 55(7): 1077-109.

Furman, Jeffrey L. and Megan J. MacGarvie. 2007. Academic science and the birth of industrial research laboratories in the U.S. pharmaceutical industry. *Journal of Economic Behavior and Organization*. 63(4): 756-776.

Qian, Yi. 2008. Impacts of Entry by Counterfeiters. *Quarterly Journal of Economics*.: 1577–1609.

+Nunn, Nathan. 2008. "The Long Term Effects of Africa's Slave Trades," *Quarterly Journal of Economics*, 123(1), 139-176.

+Angrist, Joshua D. 1990. "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records." *American Economic Review* 80(3), 313-336.

### ***Arellano Bond Instruments***

Bulan, Laarni, Paroma Sanyal, and Zhipeng Yan. "Directors, Outsiders and Efficiency: An Analysis of How Board Characteristics Influence Firm Productivity", working paper, Brandeis.

Arellano, Manuel & Bond, Stephen, 1991. "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations," *Review of Economic Studies*, 58(2), 277-97.

Blundell, Richard & Bond, Stephen, 1998. "Initial conditions and moment restrictions in dynamic panel data models," *Journal of Econometrics*, 87(1), 115-143.

## **Week 5 (February 4): Regression Discontinuity; Falsification Tests**

### **REPORT #1 DUE**

#### ***Regression discontinuity***

\*Imbens, Guido W., and Thomas Lemieux. 2008. Regression discontinuity designs: A guide to practice. *Journal of Econometrics* 142, 615-635.

\*Wolfers, Justin. 2006. "Point Shaving: Corruption in NCAA Basketball." *American Economic Review Papers and Proceedings* 96(2): 279-283.

Brown, Jennifer. 2009. Quitters Never Win: The (Adverse) Incentive Effects of Competing with Superstars. Working paper, Northwestern University.

Yin, Wesley. 2008. Market incentives and pharmaceutical innovation. *Journal of Health Economics* 27, 1060-1077.

Busse, Meghan, Jorge Silva-Risso, and Florian Zettelmeyer. 2006. "\$1,000 Cash Back: The Pass-Through of Auto Manufacturer Promotions." *American Economic Review*, 96(4): 1253-1270.

#### ***Falsification tests***

\*+Agrawal, Ajay, and Avi Goldfarb. 2008. "Restructuring Research: Communication Costs and the Democratization of University Innovation." *American Economic Review* 98(4), 1578-1590.

Conlin, Mike, Ted O'Donoghue, and Timothy Vogelsang, 2007. "Projection Bias in Catalog Orders,". *American Economic Review*, 97(4), 1217-1249.

Goldfarb, Avi, and Catherine Tucker. 2009. Advertising Bans and the Internet. Working paper, University of Toronto.

## **Week 6 (Feb. 11): Selection on observables, matching, propensity score, and control functions**

### **Selection on observables**

\*Kruger, A. (1993), "How Computers Have Changed the Wage Structure: Evidence from Micro Data." *Quarterly Journal of Economics*, 108, 33-60.

\*DiNardo, J, and Pischke J. (1997), "The Returns to Computer Use Revisited: Have Pencils changed the Wage Structure Too?" *Quarterly Journal of Economics*, 112, 291-303.

### **Matching**

\*Todd, Petra. 2006. "Matching Estimators." *New Palgrave Dictionary of Economics*.

Moser, Petra. 2005. "How Do Patent Laws Influence Innovation? Evidence From Nineteenth-Century World's Fair," *American Economic Review*, 95(4), 1214-1236.

Williams, Heidi. 2009. "Intellectual Property Rights and Innovation: Evidence from the Human Genome" Working paper, Harvard University

Chandra, Ambarish, and Allan Collard-Wexler. 2009. "Mergers in Two-Sided Markets: An Application to the Canadian Newspaper Industry." *Journal of Economics and Management Strategy* 18(4): 1045-1070.

### **Propensity score**

\*Dehejia, R. and S. Wahba (2002), "Propensity Score Matching Methods for Non-experimental Causal Studies" *Review of Economics and Statistics*, 84, 151-161.

LaLonde, R. (1986), "Evaluating the econometric evaluations of training programs with experimental data." *American Economic Review*, 76, 604-620.

### **Control Functions**

\*Navarro (2007) "Control Functions" in *The New Palgrave Dictionary of Economics*.

Hamilton, B. and J. Nickerson (2003) "Correcting for Endogeneity in Strategic Management Research" *Strategic Organization*, 1, 51-78.

Heckman (1979) "Sample Selection Bias as a Specification Error," *Econometrica*, 47, 153-161.

Shaver, J. M. (1998), "Accounting for Endogeneity When Assessing Strategy Performance: Does Entry Mode Choice Affect FDI Survival?" *Management Science*, 44(4): 571-585.



## **READING WEEK (February 18)—NO CLASS**

### **Week 7 (February 25): *The language of treatment effects***

\*Imbens, Guido W., and Jeffrey M. Wooldridge. 2009. "Recent Developments in the Econometrics of Program Evaluation." *Journal of Economic Literature*, 47(1): 5–86.

- Pay closer attention to sections 2.1, 2.2, 3.1, 5.1, 5.3, 5.4, 5.5, 6.3, 6.4, and 6.5

Oreopoulos, Philip 2006. "Estimating Average and Local Average Treatment Effects of Education when Compulsory Schooling Laws Really Matter." *American Economic Review*, 96(1): 152–175.

Heckman, J., S. Urzua and E. Vytlacil (2006) "Understanding Instrumental Variables in Models with Essential Heterogeneity," *Review of Economics and Statistics*, 88, 389-432.

Athey, Susan, and Guido W. Imbens. 2006. "Identification and Inference in Nonlinear Difference-in-Differences Models." *Econometrica* 74(2), 431-497.

Abadie, Alberto. 2005. "Semiparametric Difference-in-Differences Estimators." *Review of Economic Studies* 72, 1-19.

## **Week 8 (March 4): Discrete variables**

### ***Splines and dummy variables***

\*Lederman, Mara, "Do Enhancements to Loyalty Programs Affect Demand? The Impact of International Frequent Flyer Partnerships on Domestic Airline Demand," *Rand Journal of Economics*, 38(4), 1134-1158.

Goldfarb, Avi. 2006. "The Medium-Term Effects of Unavailability." *Quantitative Marketing and Economics* 4(2), 143-171.

### ***Ai-Norton***

\*Ai, Chunrong, and Edward C. Norton. 2003. "Interaction Terms in Logit and Probit." *Economics Letters* 80, 123-129.

\*Puhani, Patrick A. 2008. "The Treatment Effect, the Cross Difference, and the Interaction Term in Nonlinear "Difference-in-Differences" Models." IZA Discussion Paper # 3478.

Forman, Chris, Avi Goldfarb, and Shane Greenstein. 2008. Understanding the Inputs into Innovation: Do Cities Substitute for Internal Firm Resources? *Journal of Economics and Management Strategy*, 17(2), 295-317.

### ***Binary Dependent Variables (Probit, Logit, and Linear Probability)***

Angrist, Joshua D. 2001. "Estimation of Limited Dependent Variable Models with Dummy Endogenous Regressors: Simple Strategies for Empirical Practice" *Journal of Business and Economic Statistics* 19(1), 2-16.

\*+Agrawal, Ajay, and Avi Goldfarb. 2008. "Restructuring Research: Communication Costs and the Democratization of University Innovation." *American Economic Review* 98(4), 1578-1590.

Forbes, Silke Januszewski, and Mara Lederman. 2009. "Adaptation and Vertical Integration in the Airline Industry." *American Economic Review*, 99(5): 1831-49.

### ***Count data***

\*Santos Silva, J. M. C. and Silvana Tenreyro. 2006. "The Log of Gravity." *Review of Economics and Statistics* 88(4): 641-658.

Hausman, Jerry, Hall, Bronwyn H & Griliches, Zvi, 1984. "Econometric Models for Count Data with an Application to the Patents-R&D Relationship," *Econometrica*, 52(4): 909-38.

Azoulay, Pierre, Joshua S. Graff Zivin, and Jialan Wang. Forthcoming. "Superstar Extinction". *Quarterly Journal of Economics*. Distributed version is NBER working paper # 14577.

Simcoe, Tim, and D. Waguespack. 2009. "What's in a (Missing) Name? Status and Signaling in Open Standards Development." Working paper, Boston University.

## **Week 9 (March 11): Testing**

### **REPORT #2 DUE**

#### ***Economic v statistical significance***

\*McCloskey D, Ziliak S T. (1996). "The Standard Error of Regressions." *Journal of Economic Literature* 34(1): 97-114.

Milyo, J., and J. Waldfogel. 1999. "The Effect of Price Advertising on Prices: Evidence in the Wake of 44 Liquormart," *American Economic Review* 89: 1081-96

+Kuhn, P., Skuterud, M. (2004), "Internet job search and unemployment durations", *American Economic Review*, 94(1), 218-32.

Kyle, Margaret, and Anita McGahan. 2009. Investments in Pharmaceuticals Before and After TRIPS. Working paper, University of Toronto.

#### ***Random effects and Hausman tests***

Hausman, Jerry A., and William E. Taylor. 1981. Panel Data and Unobservable Individual Effects. *Econometrica* 49(6), 1377-1398.

Evans, William N., and Ioannis N. Kessides. 1993. "Localized Market Power in the U.S. Airline Industry." *Review of Economics and Statistics* 75(1), 66-75.

#### ***Fit, R-squared, and explanation v. prediction***

\*Athey, Susan and Scott Stern. 2002. "The Impact of Information Technology on Emergency Health Care Outcomes," *RAND Journal of Economics*, 33(3): 399-432.

\*Simonsohn, Uri. Forthcoming. Weather to go to college. *Economic Journal*.

Donohue, John J. III, and Stephen D. Levitt. 2001. "The Impact of Legalized Abortion on Crime." *Quarterly Journal of Economics* 116(2): 379-420.

#### ***Event studies (here for lack of a better place to put it)***

MacKinlay, A. C. (1997) "Event Studies in Economics and Finance" *Journal of Economic Literature*, 35, 13-39.

Oxley, Joanne, Rachelle C. Sampson and Brian Silverman. (2009) "Arms Race or Détente? How Inter-firm Alliance Announcements Change the Stock Market Valuation of Rivals." *Management Science* 55(8): 1321-37.

## **Week 10 (March 18): Data**

### ***Missing data***

Griliches, Zvi. 1984. Data Problems in Econometrics. NBER Technical Working Paper #39. (Another version of the same paper is in the *Handbook of Econometrics*).

Royston, Patrick. 2004. Multiple imputation of missing values. *Stata Journal* 4(3), 227-241.

### ***Patent data***

\*Jaffe, A., M. Trajtenberg and R. Henderson (1993), "Geographic Knowledge Spillovers as Evidenced by Patent Citations" *Quarterly Journal of Economics*, 108(3):577-98.

\*Thompson, P., and M. Fox-Kean (2005): "Patent citations and the geography of knowledge spillovers: a reassessment" *American Economic Review*, 95(1): 450-460.

Agrawal, Ajay, Devesh Kapur, and John McHale. 2007. "Birds of a Feather-Better Together? Exploring the Optimal Spatial Distribution of Ethnic Inventors". NBER Working Paper #12823.

### ***Geographic data***

\*Goolsbee, Austan. 2000. "In a World Without Borders: The Impact of Taxes on Internet Commerce" *Quarterly Journal of Economics* 115(2), 561-576.

Forman, C., A. Ghose, A. Goldfarb. 2009. "Competition between Local and Electronic Markets: How the Benefit of Buying Online Depends on Where You Live", *Management Science*, 55(1), 47-57.

+Oberholzer-Gee, Felix, and Joel Waldfogel. 2009. "Media Markets and Localism: Does Local News en Español Boost Hispanic Voter Turnout?" *American Economic Review*, 99(5): 2120-28.

Busse, Meghan and Marc Rysman, 2005. "Competition and Price Discrimination in Yellow Pages Advertising," *RAND Journal of Economics*, 36(2), 378-390.

### ***Text data***

Gentzkow, Matthew, and Jesse M. Shapiro. Forthcoming. What Drives Media Slant? Evidence from U.S. Daily Newspapers. *Econometrica*

Ghose, A., and P. Ipeirotis. 2009. Estimating the Socio-Economic Impact of Product Reviews: Mining Text and Reviewer Characteristics, Working paper, New York University.

## **Week 11 (March 25): Classic identification challenges**

### ***The Reflection problem***

\*Manski, Charles. 1993. "Identification of Endogenous Social Effects: The Reflection Problem," *Review of Economic Studies*, 60(3), 531-542.

### ***Reflection and Spillovers***

\*Waldinger, Fabian. 2009. Peer Effects in Science: Evidence from the Dismissal of Scientists in Nazi Germany. Working Paper, University of Warwick.

Durlauf, Steven N. 2004. Neighborhood Effects. In *Handbook of Regional and Urban Economics*. V. 4. Eds. J.V. Henderson and J.F. Thisse. P. 2173-2242.

Sacerdote, Bruce. 2001. Peer Effects with Random Assignment: Results for Dartmouth Roommates. *Quarterly Journal of Economics* 116(2), 681-704.

### ***Reflection and Network effects***

\*Tucker, Catherine. 2008. "Identifying Formal and Informal Influence in Technology Adoption with Network Externalities", *Management Science* 55(12): 2024-2039.

### ***Identifying clusters (also related to the reflection problem)***

\*Rysman, Marc, and Shane Greenstein. 2005. "Testing for agglomeration and dispersion." *Economics Letters* 86: 405-411. (stata code at <http://www.rotman.utoronto.ca/timothy.simcoe/mtad.txt> )

\*Ellison, Glenn D., Edward L. Glaeser, and William R. Kerr. Forthcoming. What Causes Industry Agglomeration? Evidence from Coagglomeration Patterns. *American Economic Review*.

Duranton, Gilles, and Henry G. Overman. 2005. "Testing for Localization Using Micro-Geographic Data." *Review of Economic Studies* 72(4): 1077-1106.

### ***State dependence v heterogeneity***

\*Heckman, J. (1991), "Identifying the Hand of Past: Distinguishing State Dependence from Heterogeneity" *American Economic Review*, 81(2), 75-99.

Goldfarb, Avi. 2006. State Dependence at Internet Portals. *Journal of Economics and Management Strategy* 15(2), 317-352.

### ***Bounds***

SECTION 6.1 ONLY of

Imbens, Guido W., and Jeffrey M. Wooldridge. 2009. "Recent Developments in the Econometrics of Program Evaluation." *Journal of Economic Literature*, 47(1): 5-86.

## **Week 12 (April 1-ROOM 570): Reading structural papers with a reduced-form perspective**

\*Reiss, Peter C., and Frank A. Wolak. 2007. "Structural Econometric Modeling: Rationales and Examples from Industrial Organization." in *Handbook of Econometrics*, Vol. 6A. Eds. James Heckman and Edward Leamer. Chapter 64, pp. 4277-4415.

### ***Matching***

Fox, Jeremy. 2009. "Identification in Matching Games." Working Paper, University of Chicago.

Fox, Jeremy. 2009. "Estimating Matching Games with Transfers." Working Paper, U Chicago.

Yang, Yupin, Mengze Shi, and Avi Goldfarb. 2009. Estimating the Value of Brand Alliances in Professional Team Sports. *Marketing Science* 28(6), 1095-1111.

### ***Production functions***

Griliches, Zvi, and Jacques Mairesse. 1995. "Production Functions: The Search for Identification." NBER Working Paper #5067.

Ackerberg, Daniel A., Kevin Caves, and Garth Frazer. 2006. "Structural Identification of Production Functions." Working paper, University of Toronto.

### ***Other***

Berry, Steven, James Levinsohn and Ariel Pakes. 1995. "Automobile Prices in Market Equilibrium", *Econometrica*, 63(4): 841-890.

Bresnahan, Timothy F., and Peter C. Reiss. 1991. "Entry and Competition in Concentrated Markets." *Journal of Political Economy* 99(5), 977-1009.

Goettler, Ronald, and Brett Gordon. 2009. Does AMD spur Intel to innovate more? Working paper, Columbia University.

Goldfarb, Avi, and Botao Yang. 2009. Are All Managers Created Equal? *Journal of Marketing Research* 46(5), 612-622.

## **Week 13 (April 8-ROOM 570): Summary**

### **REPORT #3 DUE**

\*Heckman, J., and S. Urzua., (2009), "Comparing IV With Structural Models: What Simple IV Can and Cannot Identify," NBER Working Paper, # 14706.

\*Imbens, Guido M. 2009. "Better LATE than Nothing: Some Comments on Deaton (2009) and Heckman and Urzua (2009)." Working paper, Harvard University.

Deaton, A., (2009), "Instruments of Development: Randomization in the Tropics, and the Search for the Elusive Keys to Economic Development," NBER Working Paper #14690.