

Applications of Psychology and Economics – Econ 219B  
Spring 2015  
Wednesday 12-3, 639 Evans Hall

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## Syllabus

### Features of this course

This course is the continuation of the 219A class in *Psychology and Economics – Theory*, taught by Dmitry Taubinsky. As in 219A, we will keep emphasizing the psychological evidence as the basis for sound economic analysis. We will also insist on the importance of neoclassical theory as a successful benchmark that you are required to know. Finally, several topics of this course are designed to be the empirical counterpart of the theory covered in 219A.

There are two main differences between 219A and 219B. First, this class has largely an empirical orientation, as opposed to the theoretical orientation of 219B. I will present empirical papers drawn from a variety of fields: asset pricing, corporate finance, consumption, development economics, environmental economics, health economics, industrial organization, labor economics, political economy, and public economics. As such, the class is also meant for applied students that do not intend to make Psychology and Economics one of their main fields, but want to apply some of the behavioral ideas to their field of interest.

The second main feature of the course will be its emphasis on dissertation writing. Throughout the course I will do my best to point out what seem to me like good directions for empirical research. In addition, as an incentive to get you started, one of the requirements of the course is a paper on an applied topic using field data.

The 219B course also covers a set of 11 Methodological Topics, including some of the how-to-do list for empirical behavioral research. These include (i) practical topics such as approval from Human Subjects and how to run field experiments, (ii) conceptual issues such as the difference between lab and field experiments and mis-application of present-bias models; and (iii) econometric issues such as clustering of standard errors. These topics are integrated with the other research topics.

### Rules of the game

As a general rule, you should have taken the 219A course before you take this course. If you have not, but are interested in taking this course, please come and talk to me. The prerequisites of the 219A course, that is, an understanding of the economics of uncertainty and game theory at the level of 201B, apply to this course as well. In addition, it is important that you have had exposure to econometrics and empirical research. You should be familiar with OLS estimation, panel data models, and discrete choice models. For example, you should have no uncertainty as to what fixed effects do in a regression. Although it is not a requirement for this course, I recommend taking at least one labor economics, public economics, or applied econometrics course to anyone contemplating doing empirical research.

Throughout the course, I will assign two to four required readings each week. The required readings are starred in the reading list below. The non-starred readings are optional, but I suggest that you at least read the introduction. So much of a paper is in the introduction (if the introduction is well-written).

There are four requirements for the course: problem sets, a final exam, an empirical problem set, and an empirical paper. The last two requirements are either/or, that is, you can do either the empirical problem set or the paper.

**Problem Sets.** The problem sets will test your knowledge of modeling and of empirical specifications. The problem sets will be on Present-Biased Preferences, Reference Dependence, on Social Preferences, and on Behavioral IO.

**Exam.** The in-class exam will cover the material of the whole class and will be modeled on the type of questions that I ask in the problem sets. You will have some previous exams to practice.

**Empirical Paper.** I encourage everyone to try to write an empirical paper on a Psychology and Economics topic. This will help you to get started on your research, which of course is the ultimate purpose of taking a PhD. The paper can be written with up to two other students in the class. I encourage everyone to email and see me during Matthew's part of the semester or at the beginning of my part, and no later than the week before Spring break. A two-page written proposal is due after Spring Break. The final 10-15 page paper is due on May 14.

The \*ideal\* paper contains a novel idea, the empirical strategy, and preliminary empirical results. Realistically, you can do significantly less as long as you show significant effort. Two things are key: (i) that you do at least some preliminary analysis with data, since one purpose of the requirement is to make sure that you learn to use Stata or another statistical package; (ii) that you use field data, as opposed to experimental data. (This is by no means meant as a negative on doing lab experiments. Laboratory experiments are great. However, this class focuses on field data) Replication of existing studies is perfectly fine, and encouraged. Replication, in fact, is a good way to start original research, and more and more replication data sets are available on the AER and JPE websites. Some of the papers prepared for this class in past years have turned into publishable papers and, in one case, even into a job market paper. I encourage you therefore to think of presenting the paper that comes out of this class in the Psychology and Economics non-Lunch.

In any case, you are strongly encouraged to attend the Psychology and Economics lunch (meeting on some Fridays 11-12) if you are interested in making Psychology and Economics one of your fields. In addition, you should attend the Psychology and Economics Seminar (Tu 2-3.30) as much as you can. Spots to go for lunch with outside speakers are available for sign-up.

**Empirical Problem Set.** The alternative assignment is a one-time, significant empirical problem set that is meant to familiarize you with empirical research in Psychology and Economics. The problem set will focus on earnings announcements and the response of stock prices to the new information contained in the announcements. You can work on the assignment in groups of up to three people, but each one should hand in a solution. The data will be in Stata format. I will assume that you have a working knowledge of Stata.

The course webpage is an important instrument for this course (you can find the link from my webpage). On the website you will find updated lists of readings, the assignments, and the revised lecture notes in pdf format.

**Grading.** The final grade will be an average with weight 30% on the problem sets, 40% on the final (in-class) exam, and the remaining 30% on either the paper or empirical problem set.

**Meeting.** The best way to meet is to send me an email to schedule – in fact, you are supposed to email me so we can talk about your paper project.

## **Tentative schedule of classes**

The schedule will vary somewhat as the class unfolds. The syllabus will be updated periodically on the course webpage.

### **Part I -- Non-Standard Preferences**

January 18 – Lecture 1

Introduction

Psychology and Economics: The Methodologies

Psychology and Economics: The Fields

Present-Biased Preferences, Part 1

Status-Quo in Financial Decisions

Methodological Topic: Reading the Psychology Journals

*Problem Set 1 on Present-Biased Preferences assigned*

January 25 – Lecture 2

Present-Biased Preferences, Part 2

Present-Bias and Status Quo

Consumption Choices: Investment Goods

Homework Completion

Exercise

*Problem Set 1 on Present-Biased Preferences due*

February 1 – Lecture 3

Present-Biased Preferences, Part 3

Consumption Choices: Investment Goods

Work Effort

Consumption Choices: Leisure Goods

Credit Card Borrowing

Consumption-Savings

Laboratory Evidence

Methodological Topic: Commitment Field Experiment Designs

Methodological Topic: Common Errors in Applying Present-Biased Preferences

*Problem Set 2 on Reference Dependence assigned*

February 8 – Lecture 4

Reference Dependence, Part 1

Housing Market

Mergers

February 15 – Lecture 5  
Reference Dependence, Part 2  
The New Bunching-Based Evidence:  
Taxes  
Running  
Job Search  
Daily Labor Supply  
Financial Decisions  
*Problem Set 2 on Reference Dependence due*

February 22 – No Lecture

March 1 – Lecture 6  
Reference Dependence, Part 3  
Workplace Effort  
Insurance Choices  
*Problem Set 3 on Social Preferences assigned*

March 8 – Lecture 7  
Social Preferences, Part 1  
Wave I: Altruism and Warm Glow  
Altruism within Workplace  
Shaping Social Preferences  
Wave II: Inequity Aversion and Reciprocity  
Methodological Topic: Running a Field Experiment

March 15 – Lecture 8  
Social Preferences, Part 2  
Gift Exchange in the Lab and Field  
Wave III: Social Pressure, Social Signaling  
Social Pressure and Charitable Giving  
Social Pressure  
*Problem Set 3 on Social Preferences due*

*Week of March 15 – Meet Stefano to discuss paper topic*

**Part II -- Non-Standard Beliefs**

March 22 – Lecture 9  
Overconfidence  
Law of Small Numbers  
Projection Bias  
*Two-page proposal due*

March 29– Spring Break – No Lecture

*Week of April 2 – Meet Stefano again to discuss progress on paper topic*

**Part III -- Non-Standard Decision-Making**

April 5 – Lecture 10  
Limited Attention

Shipping Costs  
Taxes  
Left-Digit Inattention  
Financial Market Evidence  
Methodological Topic: Portfolio Methodology  
*Problem Set 4, Assigned*

April 12 – Lecture 11

Framing  
Menu Effects  
    Choice Avoidance  
    Preference for Familiar  
    Preference for Salient  
    Confusion  
Persuasion  
Emotions: Mood  
Emotions: Arousal

April 19 – Lecture 12

Methodological Topic: Lab and Field Experiments  
Happiness  
Market Reaction to Biases, Part 1  
    Behavioral IO  
    Behavioral Corporate Finance  
*Problem Set 4 due*  
*Empirical Problem Set Handed Out*

**Part IV – Market Response to Biases**

April 26 – Lecture 13 and last

Market Reaction to Biases, Part 2  
    Behavioral Labor  
    Behavioral Political Economy  
    Behavioral Finance  
    Behavioral Welfare Economics  
Methodological Topic: Markets and Non-Standard Behavior  
Conclusion

*In-Class Exam (during RRR period), May 3, 12-3*

*Sunday May 14 (midnight) – Due date for Paper and Empirical Problem Set*

## Readings

\*designates required readings.

The following paper will cover, in a dense manner, the topics covered in the class:

\* DellaVigna, Stefano. 2009. "Psychology and Economics: Evidence from the Field," *Journal of Economic Literature* 47(2): 315-372.

The following articles provide partial overviews of the field of Psychology and Economics:

Rabin, Matthew. 1998. "Psychology and Economics," *Journal of Economic Literature* 36(1): 11-46.

*An early classic, emphasizes the psychology and its application to economics*

Camerer, Colin. 2005. "Behavioral Economics," Chapter 7 of R. Blundell, W.K. Newey, and T. Persson (eds.), *Advances in Economics and Econometrics: Theory and Applications, Ninth World Congress of the Econometric Society*, Cambridge University Press, pp. 181-214.

*Not comprehensive, but interesting ideas on the field*

Mullainathan, Sendhil and Richard H. Thaler. 2001. "Behavioral Economics" in *International Encyclopedia of Social Sciences*, Pergamon Press, 1094-1100.

*Classifies most P&E into Bounded Self-Control, Bounded Rationality, and Bounded Self-Interest*

For those looking for a background book in social psychology to complement the content of the Psychology and Economics sequence, I highly recommend:

Ross, L. and R.E. Nisbett (1991) *The Person and the Situation*, McGraw-Hill.

*A primer into a number of important social psychology findings, a wonderful classic, just recently was re-printed.*

Kahneman, D., Paul Slovic, and Amos Tversky (1982) *Judgment Under Uncertainty: Heuristics and Biases*, Cambridge University Press.

*A classic of the cognitive psychology literature.*

## Part I -- Non-Standard Preferences

### Lecture 1

#### Status-Quo Bias in Financial Decisions

\* Madrian, Brigitte C. and Dennis F. Shea. 2001. "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior." *Quarterly Journal of Economics* 116(4): 1149-1187.

Choi, James J., David Laibson, Brigitte C. Madrian and Andrew Metrick. 2006. "Saving for Retirement on The Path of Least Resistance," Chapter 11 in Ed McCaffrey and Joel Slemrod (eds.), *Behavioral Public Finance: Toward a New Agenda*, New York: Russell Sage Foundation, pp. 304-351.

\* Carroll, Gabriel D., James J. Choi, David Laibson, Brigitte Madrian and Andrew Metrick. 2009. "Optimal Defaults and Active Decisions." *Quarterly Journal of Economics* 124(4): 1639-1674.

Cronqvist, Henrik and Richard H. Thaler. 2004. "Design Choices in Privatized Social-Security Systems: Learning from the Swedish Experience." *American Economic Review Papers and Proceedings* 94(2): 424-428.

\* Chetty, Raj, John N. Friedman, Soren Leth-Peterson, Torben Heien Nielsen, and Tore Olsen. 2014. "Active vs. Passive Decisions and Crowd-out in Retirement Savings Accounts: Evidence from Denmark." *Quarterly Journal of Economics* 129(3): 1141-1219.

#### Comparison to Effect of Financial Education

Duflo, Esther and Emmanuel Saez. 2003. "The Role of Information and Social Interactions in Retirement Plan Decisions: Evidence from a Randomized Experiment." *Quarterly Journal of Economics* 118(3): 815-842.

### **Lecture 2**

#### Status-Quo Bias in Financial Decisions, Explained with Present Bias

\* O'Donoghue, Ted and Matthew Rabin. 2001. "Choice and Procrastination," *Quarterly Journal of Economics* 116(1): 121-160.

O'Donoghue, Ted and Matthew Rabin. 1999. "Doing It Now or Later." *American Economic Review* 89(1): 103-124.

O'Donoghue, Ted and Matthew Rabin. 1999. "Procrastination in Preparing for Retirement," Chapter 4 of Henry Aaron (ed.), *Behavioral Dimensions of Retirement Economics*, The Brookings Institution.

#### Other Default Effects

\* Handel, Ben. 2013. "Adverse Selection and Inertia in Health Insurance Markets: When Nudging Hurts." *American Economic Review* 103(7): 2643-2682.

#### Present-Biased Preferences: Investment Goods

Ariely, Dan and Klaus Wertenbroch. 2002. "Procrastination, Deadlines, and Performance: Self-Control by Precommitment." *Psychological Science* 13(3): 219-224.

\* DellaVigna, Stefano and Ulrike Malmendier. 2006. "Paying Not To Go To the Gym." *American Economic Review* 96(3): 694-719.

Acland, Dan and Matthew Levy. 2015. "Naiveté, Projection Bias, and Habit Formation in Gym Attendance." *Management Science* 61(1): 146-160.

### **Lecture 3**

#### Present-Biased Preferences: Investment Goods II

\* Kaur, Supreet, Michael Kremer and Sendhil Mullainathan. Forthcoming. "Self-Control at Work." *Journal of Political Economy*.

*Present-Biased Preferences: Leisure Goods*

\* Ausubel, Lawrence. 1999. "Adverse Selection in the Credit Card Market." Working Paper, University of Maryland, June.

Shui, Haiyan and Lawrence Ausubel. 2005. "Time Inconsistency in the Credit Card Market." Mimeo, University of Maryland.

\* David Laibson, Andrea Repetto and Jeremy Tobacman. 2007. "Estimating Discount Functions from Lifecycle Consumption Choices." Mimeo.

Laibson, David. 1997. "Golden Eggs and Hyperbolic Discounting." *Quarterly Journal of Economics* 112(2): 443-477.

Ashraf, Nava, Dean Karlan, and Wesley Yin. 2006. "Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines." *Quarterly Journal of Economics* 121(2): 635-672.

Schilbach, Frank. 2015. "Alcohol and Self-Control: A Field Experiment in India." Mimeo, Massachusetts Institute of Technology.

*Methodology: Design of Commitment Field Experiments*

Giné, Xavier, Dean Karlan, and Jonathan Zinman. 2010. "Put Your Money Where Your Butt Is: A Commitment Contract for Smoking Cessation." *American Economic Journal: Applied Economics* 2(4): 213-235.

Royer, Heather, Mark Stehr, and Justin Sydnor. 2015. "Incentives, Commitments, and Habit Formation in Exercise: Evidence from a Field Experiment with Workers at a Fortune-500 Company." *American Economic Journal: Applied Economics* 7(3): 51-84.

Chow, Vinci. 2011. "Demand for a Commitment Device in Online Gaming." Working paper, Chinese University of Hong Kong.

**Lecture 4**

*Present-Biased Preferences: Evidence from the Laboratory*

Benhabib, Jess, Alberto Bisin, and Andrew Schotter. 2010. "Present-bias, Quasi-hyperbolic Discounting, and Fixed Costs." *Games and Economic Behavior* 69(2): 205-223.

Andreoni, James and Charles Sprenger. 2012. "Estimating Time Preferences from Convex Budgets." *American Economic Review* 102(7): 3333-3356.

\* Augenblick, Ned, Muriel Niederle, and Charles Sprenger. Forthcoming. "Working Over Time: Dynamic Inconsistency in Real Effort Tasks." *Quarterly Journal of Economics*.

Dean, Mark and Anja Sautmann. 2015. "Credit Constraints and the Measurement of Time Preferences." Working paper, Brown University.



Carvalho, Leandro, Stephan Meier, and Stephanie W. Wang. 2014. "Poverty and Economic Decision-Making: Evidence from Changes in Financial Resources at Payday." Mimeo, Columbia University School of Business.

Reference Dependence and Housing Markets

\* Genesove, David and Christopher Mayer. 2001. "Loss Aversion and Seller Behavior: Evidence from the Housing Market," *Quarterly Journal of Economics* 116(4): 1233-1260.

Methodology: Bunching-Based Evidence of Reference Dependence

\* Rees-Jones, Alex. 2014. "Loss Aversion Motivates Tax Sheltering: Evidence from US Tax Returns." Working paper.

Allen, Eric, Patricia Dechow, Devin Pope, and George Wu. 2014. "Reference-Dependent Preferences: Evidence from Marathon Runners." Working paper.

\* Baker, Malcolm, Xin Pan, and Jeffrey Wurgler. 2012. "The Effect of Reference Point Prices on Mergers and Acquisitions." *Journal of Financial Economics* 106(1): 49-71.

Reference Dependence and Labor supply

\* Camerer, Colin, Linda Babcock, George Loewenstein, and Richard Thaler. 1997. "Labor Supply of New York City Cabdrivers: One Day at a Time." *Quarterly Journal of Economics* 407-42.

**Lecture 5**

Farber, Henry S. 2005. "Is Tomorrow Another Day? The Labor Supply of New York City Cabdrivers," *Journal of Political Economy* 113(1): 46-82.

Farber, Henry S. 2008. "Reference-Dependent Preferences and Labor Supply: The Case of New York City Taxi Drivers." *American Economic Review* 98(3): 1069-1082.

\* Fehr, Ernst and Lorenz Goette. 2007. "Do Workers Work More if Wages are High? Evidence from a Randomized Field Experiment." *American Economic Review* 97(1): 298-317.

Crawford, Vincent and Meng, JuanJuan. 2011. "New York City Cab Drivers' Labor Supply Revisited: Reference-Dependent Preferences with Rational Expectations Targets for Hours and Income." *American Economic Review* 101(5): 1912-1932.

Reference Dependence and Equity Premium

Benartzi, Shlomo and Richard Thaler. 1995. "Myopic Loss Aversion and the Equity Premium Puzzle." *Quarterly Journal of Economics* 110: 73-92.

Barberis, Nicholas, Ming Huang and Tano Santos. 2001. "Prospect Theory and Asset Prices." *Quarterly Journal of Economics* 116(1): 1-53.

Barberis, Nicholas and Ming Huang. 2001. "Mental Accounting, Loss Aversion, and Individual Stock Returns." *Journal of Finance* 56(4): 1247-1292.

Reference Dependence and Job Search

DellaVigna, Stefano, Attila Lindner, Balazs Reizer, and Johannes Schmieider. 2014. "Reference Dependent Job Search: Evidence from Hungary." Working paper, Brookings Institution.

Reference Dependence and Endowment Effect

Kahneman, Daniel, Jack Knetsch, and Richard Thaler. 1990. "Experimental Tests of the Endowment Effect and the Coase Theorem." *Journal of Political Economy* 98(6): 1325-1348.

Reference Dependence: Forward vs. Backward Looking

Koszegi, Botond and Matthew Rabin. 2006. "A Model of Reference-Dependent Preferences." *Quarterly Journal of Economics* 121(4): 1133-1165.

**Lecture 6**

Reference Dependence and Effort

Mas, Alexander. 2006. "Pay, Reference Points, and Police Performance." *Quarterly Journal of Economics* 121(3): 783-821.

Reference Dependence and Domestic Violence

Card, David and Gordon Dahl. 2011. "Family Violence and Football: The Effect of Unexpected Emotional Cues on Violent Behavior." *Quarterly Journal of Economics* 126(1): 103-143.

Reference Dependence and Insurance Choices

\* Sydnor, Justin. 2010. "(Over)insuring Modest Risks." *American Economic Journal: Applied Economics* 2(4): 177-199.

Barseghyan, Levon, Francesca Molinari, Ted O'Donoghue and Joshua C. Teitelbaum. 2013. "The Nature of Risk Preferences: Evidence from Insurance Choices." *American Economic Review* 103(6): 2499-2529.

**Lecture 7**

Social Preferences Wave I: Altruism

Workplace Effort: Altruism

\* Bandiera, Oriana, Iwan Barankay and Imran Rasul. 2005. "Social Preferences and the Response to Incentives: Evidence from Personnel Data." *Quarterly Journal of Economics* 120(3): 917-962.

Hjort, Jonas. "Ethnic Divisions and Production in Firms." *Quarterly Journal of Economics*, forthcoming.

Shaping Social Preferences

\* Rao, Gautam. 2014. "Familiarity Does Not Breed Contempt: Diversity, Discrimination and Generosity in Delhi Schools." Working paper, Harvard University.

Social Preferences Wave I: Warm Glow and Charitable Giving

Andreoni, James. 2001. "The Economics of Philanthropy," in N. Smeltser and P. Baltes (eds.), *International Encyclopedia of Social and Behavioral Sciences*, Elsevier: Oxford, pp. 11369-11376.

List, John A. and David Lucking-Reiley. 2002. "The Effects of Seed Money and Refunds on Charitable Giving: Experimental Evidence from a University Capital Campaign." *Journal of Political Economy* 110(8): 215-233.

Social Preferences Wave II: Inequity Aversion and Reciprocity

Fehr, Ernst and Klaus Schmidt. 1999. "A Theory of Fairness, Competition and Cooperation." *Quarterly Journal of Economics* 114(3): 817-868.

Charness, Gary and Matthew Rabin. 2002. "Understanding Social Preferences with Simple Tests." *Quarterly Journal of Economics* 117(3): 817-869.

Workplace Effort: Inequity Aversion

Kahneman, Daniel, Jack L. Knetsch and Richard H. Thaler. 1986. "Fairness and the Assumptions of Economics." *Journal of Business* 59(4), Part 2: S285-S300.

Card, David, Alexandre Mas, Enrico Moretti and Emmanuel Saez. 2012. "Inequality at Work: The Effect of Peer Salaries on Job Satisfaction." *American Economic Review* 102(6): 2981-3003.

Methodology: Field Experiments

Duflo, Esther, Rachel Glennerster, and Michael Kremer. 2008. "Using Randomization in Development Economics Research: A Toolkit," in: T. Paul Schultz and John A. Strauss (eds.), *Handbook of Development Economics, Volume 4*, Elsevier, pp. 3895-3962.

**Lecture 8**

Social Preferences in the Workplace: Gift Exchange and Vertical Preferences

\* Fehr, Ernst, Georg Kirchsteiger, and Arno Riedl. 1993. "Does Fairness Prevent Market Clearing? An Experimental Investigation." *Quarterly Journal of Economics* 108(2): 437-459.

List, John. 2006. "The Behaviorist Meets the Market: Measuring Social Preferences and Reputation Effects in Actual Transactions." *Journal of Political Economy* 114(1): 1-37.

\* Gneezy, Uri and John List. 2006. "Putting Behavioral Economics To Work: Testing for Gift Exchange in Labor Markets Using Field Experiments." *Econometrica* 74(5): 1365-1384.

Kube, Sebastian, Michel André Maréchal and Clemens Puppe. 2013. "Do Wage Cuts Damage Work Morale: Evidence from a Natural Field Experiment." *Journal of the European Economic Association* 11(4): 853-870.

Kube, Sebastian, Michel André Maréchal and Clemens Puppe. 2012. "The Currency of Reciprocity: Gift Exchange in the Workplace." *American Economic Review* 102(4): 1644-1662.

\* Krueger, Alan and Alexandre Mas. 2004. "Strikes, Scabs and Tire Separations: Labor Strife and the Production of Defective Bridgestone/Firestone Tires." *Journal of Political Economy* 112(2): 253-289.

Gift Exchange in Charitable Giving

Falk, Armin. 2007. "Gift Exchange in the Field." *Econometrica* 75(5): 1501-1511.

Social Preferences Wave III: Moral Wriggle-Room, Social Pressure, and Signaling Social Pressure

Asch, Solomon E. 1955. "Opinions and Social Pressure," *Scientific American*, 193(5): 31-35.

Milgram, Stanley. 1963. "Behavioral Study of Obedience." *Journal of Abnormal and Social Psychology* 67(4): 371-378.

Garicano, Luis, Ignacio Palacios-Huerta, and Canice Prendergast. 2005. "Favoritism under Social Pressure." *Review of Economics and Statistics* 87(2): 208-216.

Falk, Armin and Andrea Ichino. 2006. "Clean Evidence on Peer Pressure." *Journal of Labor Economics* 24(1): 39-57.

Mas, Alexandre and Enrico Moretti. 2009. "Peers at Work." *American Economic Review* 99(1): 112-145.

\* Gerber, Alan, Donald Green, and Christopher Larimer. 2008. "Social Pressure and Voter Turnout: Evidence from a Large-Scale Field Experiment." *American Political Science Review* 102(1): 33-48.

\* DellaVigna, Stefano, John A. List and Ulrike Malmendier. 2012. "Testing for Altruism and Social Pressure in Charitable Giving." *Quarterly Journal of Economics* 127(1): 1-56.

## **Part II -- Non-Standard Beliefs**

### **Lecture 9**

#### Overconfidence

Cowgill, Bo, Justin Wolfers, and Eric Zitzewitz. 2013. "Using Prediction Markets to Track Information Flows: Evidence from Google." Mimeo, Dartmouth College.

\* Malmendier, Ulrike and Geoffrey Tate. 2008. "Who Makes Acquisitions? CEO Overconfidence and the Market's Reaction." *Journal of Financial Economics* 89(1): 20-43.

\* Odean, Terrance. 1999. "Do Investors Trade Too Much?" *American Economic Review* 89(5): 1279-1298.

Odean, Terrance and Brad Barber. 2001. "Boys will be Boys: Gender, Overconfidence, and Common Stock Investment." *Quarterly Journal of Economics* 116(1): 261-292.

D'Acunto, Francesco. 2014. "Identity, Overconfidence, and Investment Decisions." Mimeo, UC Berkeley.

Daniel, Kent D., David Hirshleifer, and Avanidhar Subrahmanyam. 1998. "Investor Psychology and Security Market Under- and Over-reactions." *Journal of Finance* 53(6): 1839-1886.

#### Law of Small Numbers

Rabin, Matthew. 2002. "Inference by Believers in the Law of Small Numbers." *Quarterly Journal of Economics* 117(3): 775-816.

Clotfelter, Charles T. and Philip J. Cook. 1993. "The 'Gambler's Fallacy' in Lottery Play." *Management Science* 39(12): 1521-1525.

Terrell, Dek. 1994. "A Test of the Gambler's Fallacy -- Evidence from Pari-mutuel Games." *Journal of Risk and Uncertainty* 8(3): 309-317.

Fuster, Andreas, David Laibson, and Brock Mendel. 2010. "Natural Expectations and Macroeconomic Fluctuations." *Journal of Economic Perspectives* 24(4): 67-84.

\* Benartzi, Shlomo. 2001. "Excessive Extrapolation and the Allocation of 401(k) Accounts to Company Stock." *Journal of Finance* 56(5): 1747-1764.

De Bondt, Werner and Richard Thaler. 1985. "Does the Stock Market Overreact?" *Journal of Finance* 40(3): 793-805.

Barberis, Nicholas, Andrei Shleifer and Robert Vishny. 1998. "A Model of Investor Sentiment." *Journal of Financial Economics* 49(3): 307-343.

Gallagher, Justin. 2014. "Learning about an Infrequent Event: Evidence from Flood Insurance Take-up in the US." *American Economic Journal: Applied Economics* 6(3): 206-233.

### Projection Bias

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

Acland, Dan and Matthew Levy. 2013. "Naïveté, Projection Bias, and Habit Formation in Gym Attendance." Working paper, Goldman School of Public Policy, UC Berkeley.

\* Busse, Meghan R., Devin G. Pope, Jaren C. Pope and Jorge Silva-Risso. 2013. "Projection Bias in the Car and Housing Markets." NBER Working paper 18212.

### Limited Attention: Introduction

Huberman, Gur and Tomer Regev. 2001. "Contagious Speculation and a Cure for Cancer: A Nonevent that Made Stock Prices Soar." *Journal of Finance* 56(1): 387-396.

\* DellaVigna, Stefano. 2009. "Psychology and Economics: Evidence from the Field." *Journal of Economic Literature* 47(2): 315-372.

## **Part III -- Non-Standard Decision-Making**

### **Lecture 10**

### Limited Attention: Consumption Behavior

Hossain, Tanjim and John Morgan. 2006. "...Plus Shipping and Handling: Revenue (Non) Equivalence in Field Experiments on eBay." *Advances in Economic Analysis and Policy* 6(2): 1429-1429.

Brown, Jennifer, Hossain, Tanjim and John Morgan. 2009. "Shrouded Attributes and Information Suppression: Evidence from the Field." *Quarterly Journal of Economics* 125(2): 859-876.

\* Chetty, Raj, Adam Looney and Kory Kroft. 2009. "Salience and Taxation: Theory and Evidence." *American Economic Review* 99(4): 1145-1177.

\* Lacetera, Nicola, Devin Pope and Justin Sydnor. 2012. "Heuristic Thinking and Limited Attention in the Car Market." *American Economic Review* 102(5): 2206-2236.

Busse, Meghan, Nicola Lacetera, Devin Pope, Jorge Silva-Risso, and Justin Sydnor. 2013. "Estimating the Effect of Salience in Wholesale and Retail Car Markets." *American Economic Review Papers and Proceedings* 103(3): 570-574.

Limited Attention: Financial Market Evidence

\* DellaVigna, Stefano and Joshua Pollet. 2009. "Investor Inattention and Friday Earnings Announcements." *Journal of Finance* 64(2): 709-749.

Hirshleifer, David A., Sonya S. Lim, and Siew Hong Teoh. 2009. "Driven to Distraction: Extraneous Events and Underreaction to Earnings News." *Journal of Finance* 64(5): 2289-2325.

\* Cohen, Lauren and Andrea Frazzini. 2008. "Economic Links and Predictable Returns." *Journal of Finance* 63(4): 1977-2011.

DellaVigna, Stefano and Joshua Pollet. 2007. "Demographics and Industry Returns." *American Economic Review* 97(5): 1667-1702.

**Lecture 11**

Framing

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