# Applications of Psychology and Economics – Econ 219B Spring 2008 Wednesday 12-3, 639 Evans Hall

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Office Hours: Th 12-2

# **Syllabus**

# Features of this course

This course is the continuation of the 219A class in *Psychology and Economics – Theory*, taught by Mathew Rabin. As in 219A, we will keep emphasizing the psychological evidence as the basis for sound economic analysis. (Not a big surprise, given the name by which the course and the field goes.) We will also insist on the importance of neoclassical theory as a very 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. This is in particular true for the first two Sections of the course, on Non-standard Preferences and on Non-standard Beliefs.

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. The emphasis on data reflects the empirical status of economics. In particular, the success of the Psychology and Economics approach will depend largely on the empirical explanatory power of its theories. Can this approach explain evidence that the neoclassical model struggles with? Can it do so using parsimonious models? In 219B I will present empirical papers drawn from a variety of fields to try to address these questions. We will study papers in the fields of asset pricing, consumption, development economics, environmental economics, industrial organization, labor economics, political economy, public economics, and corporate finance.

The second main feature of the course will be its emphasis on dissertation writing. This will be apparent in the exposition of the topics. More often than not, we will note that the available empirical evidence barely scratches the surface. This is a great opportunity for students planning to work in the area! In very few other fields there are so many important questions that are still unanswered. 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.

A new feature of the 219B course this year is a set of 8 to 10 Methodological Topics, covering 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) econometric issues such as clustering of standard errors and causality and (iii) conceptual issues such as the difference between lab and field experiments, and mis-application of present-bias models. These topics are integrated with the other research topic that we cover.

# 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 a few 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 abstract. So much of a paper is in the abstract (if the abstract 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.

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 every one that is thinking about writing the paper to come and see me by February 27. Feel free to either come during office hours or to schedule an appointment via email, since feedback from others (whether faculty or fellow students) is always the best way to improve an idea. A two-page written proposal is due by April 2. The final 10-15 page paper is due on May 20. 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 year 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

In any case, you are strongly encouraged to attend the Psychology and Economics lunch (meeting most Fridays 2-3) 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. Finally, keep in mind that we have a group advising session on the Fridays in which the Lunch meets for  $2^{nd}/3^{rd}$  years on.

The alternative assignment is a one-time, significant empirical problem set that is meant to familiarize you with empirical research in Psychology and Economics. This year, the problem set will focus on earning announcements and the response of stock prices to the new information contained in the announcements. We may also have, in alternative, another empirical problem set

on the effect of the media. You can work on the assignment in groups of up to three people, but each one should hand in a solution. I will distribute the problem set at the beginning of March. The data will be in Stata format. I will assume that you have a working knowledge of Stata.

As for the other two requirements, the problem sets will test your knowledge of modelling and of empirical specifications in some of the papers we cover. The problem sets this year will be on Present-Biased Preferences, on Reference Dependence, on Menu Effects, and a fourth one in preparation.

Finally, the 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.

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.

After class, I invite you to join me to chat about any favorite topic of yours in the Peixotto room during tea time.

# Grading

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

# Tentative schedule of classes

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

# Part I -- Non-Standard Preferences

January 23 – Lecture 1

Introduction

Psychology and Economics: The Methodologies

Psychology and Economics: The Fields Present-Biased Preferences, Part 1

Problem Set 1 on Present-Biased Preferences assigned

January 30 –Lecture 2

Present-Biased Preferences, Part 2

Status-Quo in Financial Decisions

**Consumption Choices** 

Problem Set 1 on Present-Biased Preferences due

February 6 – Lecture 3

Present-Biased Preferences, Part 3

**Consumption Choices** 

Life-Cycle Savings I

February 13 – Lecture 4

Present-Biased Preferences, Part 4

Life-Cycle Savings II

Summary of the Applications

Methodological Topic: Common Errors in Applying Present-Biased Preferences

Reference Dependence, Part 1

**Endowment Effect** 

Effect of Experience

Problem Set 2 on Reference Dependence assigned

February 20 – Lecture 5

Reference Dependence, Part 2

Daily Labor Supply

**Insurance Choices** 

Methodological Topic: Effect of Experience

Problem Set 2 on Reference Dependence due

February 27 – Lecture 6

Reference Dependence, Part 3

Financial Decisions
Effort on the Job
Housing Market
Deadline to Discuss Paper Topic

March 5 – Lecture 7

Social Preferences, Part 1

Charitable Giving Overview Field Evidence of Gift Exchange

Workplace Relations

Methodological Topic: Running a Field Experiment

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

March 12 –Lecture 8

Overconfidence

Law of Small Numbers

**Projection Bias** 

Methodological Topic: Clustering Standard Errors

# Part III -- Non-Standard Decision-Making

March 19 –Lecture 9

Limited Attention, Part 1

eBay Auctions

Financial Market Evidence

Voter Behavior

Methodological Topic: Portfolio Methodology

Problem Set 3 assigned

#### March 26 – Spring Break – No Lecture

April 2 – Lecture 10

Menu Effects, Part 1

**Excess Diversification** 

Choice Avoidance

Preference for Familiar

Methodological Topic: Menu Choice and Inference

Also: 2-page Paper proposals due

Problem Set 3 due

April 9 – Lecture 11

Menu Effects, Part 2

Preference for Salient

Confusion

Persuasion

Methodological Topic: Human Subjects Approval

# Part IV - Market Response to Biases

April 16 – Lecture 12

Social Pressure
Emotions (from Non-Standard Decision-Making Section)
Market Reaction to Biases, Part 1
Behavioral IO
Methodological Topic: Lab and Field Experiments

# April 23 – Lecture 13

Market Reaction to Biases, Part 2
Behavioral Labor
Behavioral Finance
Behavioral Corporate Finance
Empirical Problem Set Handed Out

# April 30 – Lecture 14

Market Reaction to Biases, Part 3
Behavioral Political Economy
Behavioral Welfare Economics
Empirical Methodologies in Psychology and Economics
Choosing Topics for Dissertation
Conclusion

May 7 – Final (in-class) Exam

May 20 (midnight) - Due date for Paper and Empirical Problem Set

# **Readings**

\*designates required readings.

Some of the readings will be taken from the textbook used in the previous semester of 219A, that is, from *Choice, Values and Frames*:

Kahneman and Tversky Choices, values and frames, (henceforth CVF).

The following paper in preparation for the *Journal of Economic Literature* will cover, in a dense manner, the topics covered in the class:

\* Della Vigna, Stefano, "Psychology and Economics: Evidence from the Field", mimeo, 2007.

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.

A classic, emphasizes the psychology and its application to economics

Camerer, Colin. 2005. "Behavioral Economics" World Congress of the Econometric Society, London, 18-24.

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:

L. Ross and R.E. Nisbett, *The Person and the Situation*, McGraw-Hill, 1991. *A primer into a number of important social psychology findings, still a classic* 

# Part I -- Non-Standard Preferences

#### January 23 – Lecture 1

<u>Six Examples of Psychology and Economics</u> (We will read these papers later) \* Sydnor, Justin. 2006. "Sweating the Small Stuff: The Demand for Low Deductibles in Homeowner's Insurance." Working paper.

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

Iyengar, Sheena S., Gur Huberman, and Wei Jiang. 2004. "How Much Choice Is Too Much? Contributions to 401(k) Retirement Plans,"in Pension Design and Structure: New Lessons from Behavioral Finance, ed. by O. S. Mitchell, and S. P. Utkus, chap. 5. Oxford University Press.

- \* Conlin, Michael, Ted O'Donoghue, and Timothy J. Vogelsang. Forthcoming. "Projection Bias in Catalog Orders." *American Economic Review*.
- \* Della Vigna, Stefano and Ulrike Malmendier. 2004. "Contract Design and Self-Control: Theory and Evidence." *Quarterly Journal of Economics*, 119: 353-402.

#### Present-Biased Preferences: Status-Quo Bias in Financial Decisions I

- \* 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," in Ed McCaffrey and Joel Slemrod, eds., *Behavioral Public Finance: Toward a New Agenda* New York: Russell Sage Foundation, pp. 304-351.

#### January 30 – Lecture 2

#### Present-Biased Preferences: Status-Quo Bias in Financial Decisions II

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

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

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

\* Carroll, Gabriel D.; Choi, James J. and David Laibson and Brigitte Madrian and Andrew Metrick. 2007."Optimal Defaults and Active Decisions," NBER Working Paper.

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*, Vol. 94(2), pp. 424-428.

Abadie, Alberto, and Sebastien Gay. 2006. "The Impact of Presumed Consent Legislation on Cadaveric Organ Donation: A Cross-Country Study" *Journal of Health Economics*, 25(4): 599-620.

#### Present-Biased Preferences: Consumer Behavior I

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

# February 6 – Lecture 3

#### Aside: 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.

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

#### Present-Biased Preferences: Consumer Behavior II

- \* Della Vigna, Stefano and Malmendier, Ulrike. 2006. "Paying Not To Go To The Gym", *American Economic Review*, 96(3): 694-719.
- \* Ausubel, Lawrence. "Adverse Selection in the Credit Card Market", Working Paper, University of Maryland, June 1999.

Shui, Haiyan, and Ausubel, Lawrence. "Time Inconsistency in the Credit Card Market", mimeo.

#### Present-Biased Preferences: Life-Cycle Consumption and Savings Decisions I

\* David Laibson, Andrea Repetto and Jeremy Tobacman, "Estimating Discount Functions from Lifecycle Consumption Choices" January 26, 2004.

Laibson, David. 1997. "Golden eggs and hyperbolic discounting", *Quarterly Journal Of Economics*, Vol. 112(2), pp. 443-77.

Angeletos, George-Marios, David Laibson, Jeremy Tobacman, and Stephen Weinberg. 2001. "The Hyperbolic Consumption Model: Calibration, Simulation, and Empirical Evaluation." *Journal of Economic Perspectives*, 15(3).

#### February 13 – Lecture 4

#### Present-Biased Preferences: Life-Cycle Consumption and Savings Decisions II

\* 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, no. 2.

#### Present-Biased Preferences: Six More Applications

Duflo, Esther, Michael Kremer, and Jonathan Robinson. 2007. "Why don't farmers use fertilizers: Evidence from Field Experiments in Western Kenya" Working Paper.

Della Vigna, Stefano and M. Daniele Paserman. 2005. "Job Search and Impatience." *Journal of Labor Economics*, 23(3): 437-466.

# Methodology: Common Errors in Applying Present-Biased Preferences

Fang, Hanming, and Dan Silverman. 2004. "Time-inconsistency and Welfare Program Participation: Evidence from NSLY." *Cowles Foundation Discussion Papers No 1465*.

Shui, Haiyan, and Ausubel, Lawrence. "Time Inconsistency in the Credit Card Market", Working Paper.

#### Reference Dependence and the Endowment Effect

- \* Kahneman, Daniel, Jack L. Knetsch, and Richard Thaler. 1990. "Experimental Tests of the Endowment Effect and the Coase Theorem." *Journal of Political Economy*, 98: 1325-48.
- \* Plott, Charlie R., and Zeiler, Kathryn. 2005 "The Willingness to Pay/Willingness to Accept Gap, the "Endowment Effect," Subject Misconceptions and Experimental Procedures for Eliciting Valuations", *American Economic Review*, 95: 530-545.

Plott, Charlie R., and Zeiler, Kathryn. 2005 "Exchange Asymmetries Incorrectly Interpreted as Evidence of Endowment Effect Theory and Prospect Theory?" Working Paper.

\* List, John A. 2003. "Does Market Experience Eliminate Market Anomalies?" *Quarterly Journal of Economics*, 118(1): 41-71.

List, John A. "Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace," *Econometrica* (2004), 72(2): pp. 615-625.

Haigh, Michael, and John A. List. 2004. "Do Professional Traders Exhibit Myopic Loss Aversion? An Experimental Analysis," *Journal of Finance*, 60(1), 523-534.

# February 20 – Lecture 5

## Methodology: Effect of Experience

\* List, John A. 2003. "Does Market Experience Eliminate Market Anomalies?" *Quarterly Journal of Economics*, 118(1): 41-71.

List, John A. "Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace," *Econometrica* (2004), 72(2): pp. 615-625.

Palacios-Huerta, Ignacio and Oscar Volji. Forthcoming. "Experientia Docet: Professionals Play Minimax in Laboratory Experiments" *Econometrica* 

List, John, Steven Levitt, and David Lucking. "What Happens in the Lab Stays in the Lab" Working Paper.

Palacios-Huerta, Ignacio and Oscar Volji. 2007. "Field Centipedes", Working paper.

Haigh, Michael, and John A. List. 2004. "Do Professional Traders Exhibit Myopic Loss Aversion? An Experimental Analysis," *Journal of Finance*, 60(1), 523-534.

#### Reference Dependence and Labor supply

- \* Camerer, Colin, Babcock, Linda, Loewenstein, George, and Thaler, Richard. "Labor supply of New York City Cabdrivers: One day at a time", 1997, *Quarterly Journal Of Economics*, pp. 407-42. (CVF 20)
- \* Farber, Henry S. 2005. "Is Tomorrow Another Day? The Labor Supply of New York City Cab Drivers", *Journal of Political Economy*.

Farber, Henry S. "Reference-Dependent Preferences and Labor Supply: The Case of New York City Taxi Drivers" *American Economic Review*, forthcoming.

\* 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).

Meng, JuanJuan. 2008. "New York City Cabdrivers' Labor Supply Revisited: Reference-Dependent Utility with Targets for Hours and Income." Working Paper.

Oettinger, Gerald S. 1999. "An Empirical Analysis of the Daily Labor Supply of Stadium Vendors," *Journal of Political Economy*, 107(2): 360-392.

#### Reference Dependence and Insurance Choices

Cicchetti, Charles J and Jeffrey A. Dubin. 1994. "A Microeconometric Analysis of Risk Aversion and the Decision to Self-Insure." *The Journal of Political Economy*, 102(1): 169-186.

\* Justin Sydnor, "The Deductible-Premium Puzzle: Evidence on Risk Aversion from Deductible Choice in the Homeowners Insurance Market", Berkeley, mimeo, 2005.

## February 27 – Lecture 6

#### 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.

## Reference Dependence and Asset Pricing

\* Odean, Terry. 1998. "Are Investors Reluctant to Realize Their Losses?", *Journal of Finance*, pp. 1775-1798. (CVF 21)

Ivkovich, Zoran, James Poterba and Scott Weisbenner. 2005 "Tax-Motivated Trading by Individual Investors." *American Economic Review*, 95(5): 1605—1630.

\* Barberis, Nicholas and Wei Xiong. 2006. "What Drives the Disposition Effect? An Analysis of a Long-Standing Preference-Based Explanation." Working Paper.

Karlsson, Niklas, George Loewenstein, and Duane Seppi. 2007. "The 'Ostrich' Effect: Selective Attention to Information about Investments" Working Paper.

Benartzi, Shlomo and Thaler, Richard. 1995. "Myopic loss aversion and the equity premium puzzle", *Quarterly Journal of Economics*, 110, pp.73-92. (CVF 17)

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

Barberis, Nicholas and Huang, Ming. "Mental Accounting, Los Aversion, and Individual Stock Returns" *Journal of Finance*, 56, 2001, pp.1247-92.

# Reference Dependence and Pay-Setting

\* Mas, Alexander. 2006. "Pay, Reference Points, And Police Performance", *Quarterly Journal of Economics*.

#### March 5 – Lecture 7

# Social Preferences: Charitable Giving

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

John A. List and David Lucking-Reiley, "The Effects of Seed Money and Refunds on Charitable Giving: Experimental Evidence from a University Capital Campaign." *Journal of Political Economy*, February 2002, vol. 110, no. 8, pp. 215-233.

#### Social Preferences: Evidence in The Workplace

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): 253-89.

\* 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.

## Social Preferences: Gift Exchange in The Field

\* Fehr, Kirchsteiger, and Riedl. 1993. "Does Fairness Prevent Market Clearing? An Experimental Investigation" *Quarterly Journal of Economics*, 108, pp. 437-459.

Falk, Armin. "Gift Exchange in the Field", Econometrica, forthcoming.

- \* Gneezy, Uri, and John List. 2006. "Putting Behavioral Economics To Work: Testing For Gift Exchange In Labor Markets Using Field Experiments", *Econometrica*, Vol. 74(5), pp. 1365-1384.
- \* List, John. 2006. "The Behavioralist Meets the Market: Measuring Social Preferences and Reputation Effects in Actual Transactions", *Journal of Political Economy*, Vol. 114(1): 1-37.

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

#### March 12 – Lecture 8

## Overconfidence

Camerer, Colin, and D. Lovallo (1999) "Overconfidence and Excess Entry: An Experimental Approach," *American Economic Review*, 89:1 (March), 306-318. CVF 23

\* Malmendier, Ulrike, and Geoffrey Tate. Forthcoming. "Who Makes Acquisitions? CEO Overconfidence and the Market's Reaction," *Journal of Financial Economics*.

Malmendier, Ulrike, and Geoffrey Tate. 2005. "CEO Overconfidence and Corporate Investment." *Journal of Finance*, 60 (6): 2661-2700.

\* Odean, Terrance. 1999. "Do investors trade too much?" *American Economic Review*, 89: 1279—1298.

Odean, T. "Boys will be Boys: Gender, Overconfidence, and Common Stock Investment" with Brad Barber, *Quarterly Journal of Economics*, February 2001, Vol. 116, No. 1, 261-292.

Daniel, Kent D., David Hirshleifer, and Avanidhar Subrahmanyam. 1998. "Investor psychology and security market under- and over-reactions", *Journal of Finance*, 53: 1839--1886.

#### Projection Bias

\* Conlin, Michael, Ted O'Donoghue, and Timothy J. Vogelsang. Forthcoming. "Projection Bias in Catalog Orders." *American Economic Review*.

#### Law of Small Numbers

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

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

Barberis, Nicholas, Andrei Shleifer and Robert Vishny. 1998. "A model of investor sentiment", *Journal of Financial Economics*, 49: 307-345.

# Part III -- Non-Standard Decision-Making

#### March 19 – Lecture 9

## Limited Attention: eBay Auctions

- \* Lee, Hanh and Ulrike Malmendier. 2006 "The Bidder's Curse", Working Paper.
- \* Hossain, Tanjim and John Morgan. 2006. "...Plus Shipping and Handling: Revenue (Non) Equivalence in Field Experiments on eBay," *Advances in Economic Analysis & Policy*, 6(2): 1429-1429.

Hossain, Tanjim and John Morgan. 2007. "Shrouded Attributes and Information Suppression: Evidence from Field Experiments" Working Paper.

## Limited Attention: Financial Market Evidence

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.

\* Cohen, Lauren, and Andrea Frazzini. Forthcoming. "Economic Links and Predictable Returns", *Journal of Finance*.

Della Vigna, Stefano and Joshua Pollet. 2007. "Demographics and Industry Returns" *American Economic Review*, 97: 1167-1702.

Della Vigna, Stefano and Joshua Pollet. Forthcoming. "Investor Inattention and Friday Earnings Announcements" *Journal of Finance*.

Hirshleifer, David A., Sonya S. Lim, and Siew Hong Teoh. 2007. "Driven to Distraction: Extraneous Events and Underreaction to Earnings News" Mimeo.

#### Limited Attention: Consumption Behavior

\* Chetty, Raj, Looney, Adam, and Kroft, Kory. 2007. "Salience and Taxation: Theory and Evidence from a Field Experiment".

# March 26 - Spring Break - No Lecture

### April 2 – Lecture 10

# Menu Effects: Excess Diversification

- \* Benartzi, Shlomo and Richard H. Thaler. 2001. "Naive Diversification Strategies in Defined Contribution Saving Plans." *American Economic Review*, 91(1): 79-98.
- \* Huberman, Gur, and Wei Jiang. 2006. "Choices in 401(k) Plans: Equity Exposure and Number of Funds." *Journal of Finance*, 61(2): 763-801.

#### Menu Effects: Choice Avoidance

Iyengar, Sheena and Mark Lepper. 2000. "When Choice is Demotivating: Can One Desire Too Much of a Good Thing?" *Journal of Personality and Social Psychology*, 79(6): 995-1006.

\* Choi, James J., David Laibson, and Brigitte C. Madrian. 2006. "Reducing The Complexity Costs of 401(k) Participation Through Quick Enrollment" NBER Working Paper No. 11979.

Iyengar, Sheena S., Gur Huberman, and Wei Jiang. 2004. "How Much Choice Is Too Much? Contributions to 401(k) Retirement Plans,"in Pension Design and Structure: New Lessons from Behavioral Finance, ed. by O. S. Mitchell, and S. P. Utkus, chap. 5. Oxford University Press.

\* Bertrand, Marianne, Dean Karlan, Sendhil Mullainathan, Eldar Shafir, and Jonathan Zinman. 2006. "What's Psychology Worth? A Field Experiment in the Consumer Credit Market." Working paper.

Simonson, Itamar and Tversky, Amos. Choice in Context: Tradeoff Contrast and Extremeness Aversion, *Journal of Marketing Research*, Vol. XXIX, 1992

#### Menu Effects: Preference for Familiar

French, Kenneth R. and Poterba, James M. 1991. "Investor Diversification and International Equity Markets" *American Economic Review*, 81: 222-226.

Huberman, Gur. 2001. "Familiarity Breeds Investment," *Review of Financial Studies*, 14(3): 659-680.

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

## April 9 – Lecture 11

# Menu Effects: Preference for Salient

- \*Ho, Daniel E., and Kosuke Imai. ``The Impact of Partisan Electoral Regulation: Ballot Effects from the California Alphabet Lottery, 1978-2002.", 2004.
- \* Barber, Brad and Odean, Terry. "All that Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors", April 2002.

#### Menu Effects: Confusion

\* Shue, Kelly and Erzo Luttmer. 2007. "Who Misvotes? The Effect of Differential Cognition Costs on Election Outcomes," NBER Working Paper No. 12709.

Michael S. Rashes. 2001. "Massively Confused Investors Making Conspicuously Ignorant Choices (MCI--MCIC)." *Journal of Finance*, 56(5): 1911-1927.

# **Persuasion**

Cain, Daylain, George Loewenstein, and Don Moore. 2005. "The Dirt on Coming Clean: Perverse Effects of Disclosing Conflicts of Interest," *Journal of Legal Studies*, 34, 1-25.

\* Della Vigna, Stefano and Kaplan, Ethan. 2007. "The Fox News Effect: Media Bias and Voting", *Quarterly Journal of Economics*.

Malmendier, Ulrike, and Devin Shanthikumar. 2007. "Are Small Investors Naive about Incentives?", *Journal of Financial Economics*, 85(2), 457-489.

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.

### **April 16 – Lecture 12**

#### Social Pressure

Asch, "Opinions and social pressure," Scientific American, 193, 1955.

Milgram, Stanley. 1963. "Behavioral study of obedience." *Journal of Abnormal and Social Psychology*, 67: 371-378.

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

Armin Falk, Andrea Ichino, "Clean Evidence on Peer Pressure", *Journal of Labor Economics*, 2006.

\* Mas, Alexander and Moretti, Enrico. "Peers at Work", mimeo, 2006.

#### Emotions: Mood

Loewenstein, George and Jennifer Lerner. 2003. "The Role of Affect in Decision Making," in Handbook of Affective Science, eds. Richard J. Dawson, Klaus R. Scherer and H. Hill Goldsmith, Oxford: Oxford University Press, 619-42.

Saunders, E. M. J., 1993. "Stock Prices and Wall Street Weather", *American Economic Review*, 83, 1337-1345.

\* Hirshleifer, David A. and Tyler Shumway. 2003. "Good Day Sunshine: Stock Returns and the Weather", Journal of Finance, 58(3), 1009-1032.

Edmans, Alex, Diego Garcia, and Oyvind Norli. 2007. "Sports Sentiment and Stock Returns" *Journal of Finance*, 62(4).

Simonsohn, Uri. 2007. "Weather to Go To College", Working Paper.

#### Emotions: Arousal

Ariely, Dan and George Loewenstein. 2005. "The Heat of the Moment: The Effect of Sexual Arousal on Sexual Decision Making", *Journal of Behavioral Decision Making*, 18(1), 1--12.

\* Dahl, Gordon and Stefano Della Vigna. 2007. "Does Movie Violence Increase Violent Crime?", Working Paper.

#### Market Response to Bias: Pricing

- \* Ellison, Glenn. 2006. "Bounded Rationality in Industrial Organization" in Blundell, Newey and Persson (eds.), *Advances in Economics and Econometrics: Theory and Applications*, Ninth World Congress, Cambridge University Press.
- \* Della Vigna, Stefano and Ulrike Malmendier. 2004. "Contract Design and Self-Control: Theory and Evidence." *Quarterly Journal of Economics*, 119: 353-402.

Eliaz, Kfir and Spiegler, Ran. "Contracting with Diversely Naive Agents," *Review of Economic Studies*, 2006.

Gabaix, Xavier and David Laibson. "Competition and Consumer Confusion", March 2004.

Gabaix, Xavier, and David Laibson. 2006. "Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets." *Quarterly Journal of Economics*, 121(2): 505-540.

Heidhues, Paul, and Botond Köszegi. 2005. "The Impact of Consumer Loss Aversion on Pricing." Working Paper.

# **Part IV -- Market Response to Biases**

#### April 23 – Lecture 13

#### Market Response to Biases: Employers

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

Bewley, Truman F. 1999. Why Wages Don't Fall During a Recession, Harvard University Press.

Card, David, and Hyslop, D. "Does inflation grease the wheels of the labor market?" in C. D. Romer and D. H. Romer (eds.), Reducing Inflation: Motivation and Strategy. NBER, Studies in Business Cycles, 30. Chicago: University of Chicago Press.

# Market Response to Biases: Behavioral Finance

- \* Barberis, Nicholas and Richard Thaler. 2003. "A Survey of Behavioral Finance." *Handbook of the Economics of Finance*.
- \* DeLong, B. Shleifer, A., Summers, L., and Waldman, R., "Noise trader risk in financial markets", JPE, v98 n4, Aug 1990, p.703-38. Reprinted in Richard H. Thaler, ed., *Advances in Behavioral Finance*, Russell Sage Foundation, 1993.

Shleifer, Andrei, Summers, Lawrence. "The Noise Trader Approach to Finance". *Journal of Economic Perspectives*, Spring, 1990.

Shleifer, Andrei. Clarendon Lectures: Inefficient Markets, Oxford University Press, 2000.

# Market Response to Biases: Corporate Decisions

\* Baker, Malcolm, Richard Ruback, and Jeffrey Wurgler. 2006. "Behavioral Corporate Finance: A Survey." In *The Handbook of Corporate Finance: Empirical Corporate Finance*, edited by Espen Eckbo. New York: Elsevier/North Holland.

Baker, Malcolm, and Jeffrey Wurgler (2000), "Market Timing and Capital Structure," *Journal of Finance* 57, 1-32

Degeorge, Francois, Patel, Jay, and Zeckhauser, Richard. "Earnings Management to Exceed Thresholds," *Journal of Business*, 1999.

#### April 30 – Lecture 14

#### Market Response to Biases: Politicians

\* Eisensee, Thomas and David Strömberg. 2007. "News Floods, News Droughts, and U.S. Disaster Relief" *Quarterly Journal of Economics*.

Glaeser, Edward "The Political Economy of Hatred", *Quarterly Journal of Economics*, 2005, 120, pp. 45-86.

#### Market Response to Biases: Welfare Maximization

\* Benartzi, Shlomo and Richard Thaler. 2004. "Save More Tomorrow (TM): Using Behavioral

Economics to Increase Employee Saving." *Journal of Political Economy*, 112(S1): S164-S187.

Glaeser, Edward. 2006. "Paternalism and Psychology" *The University of Chicago Law Review*, 73(1): 133-156.

# Empirical Methodologies in Psychology and Economics

\* DellaVigna, Stefano, "Psychology and Economics: Evidence from the Field", mimeo, 2007.

May7 – Final Exam (in Class)

# **Additional Readings**

# **Additional Readings on Present-Biased Preferences**

#### Models

Gul, Faruk and Wolfgang Pesendorfer. 2001. "Temptation and Self-Control," *Econometrica*, 69(6): 1403-1435.

Brocas, Isabelle and Juan D. Carrillo. 2006. "The Brain as a Hierarchical Organization" IEPR Working Paper No. 06.48.

Loewenstein, George and Ted O'Donoghue. 2005. "Animal Spirits: Affective and Deliberative Processes in Economic Behavior," Working paper.

#### Experimental and Neural Evidence

Frederick, Shane, George Loewenstein, and Ted O'Donoghue. 2002. "Time discounting and time preference: a critical review." *Journal of Economic Literature*, 40: 351-401.

Loewenstein, George and David Prelec. 1992. "Anomalies in Intertemporal Choice: Evidence and an Interpretation." *Quarterly Journal of Economics*, 107(2): 573-597.

Mischel, W., Y. Shoda, and M.L. Rodriguez (1992). "Delay of gratification in children" in "Choice over Time", Elster and Loewenstein ed., Russell Sage Foundation.

Samuel M. McClure, David Laibson, George Loewenstein and Jonathan D. Cohen. "Separate Neural Systems Value Immediate and Delayed Monetary Rewards." *Science* 306, October 15 2004

#### Consumer Behavior

Wertenbroch, Klaus, "Consumption Self-Control by Rationing Purchase Quantities of Virtue and Vice," *Marketing Science*, 17 (4), 317-337

Miravete, Eugenio 2003. "Choosing the Wrong Calling Plan? Ignorance and Learning" *American Economic Review*, 93, pp. 297-310.

Edward L. Glaeser, David M. Cutler and Jesse M. Shapiro "Why Have Americans Become More Obese?", *Journal of Economic Perspectives*, Summer 2003.

Samuelson, William and Zeckhauser, Richard, "Status-Quo Bias". *Journal of Risk and Uncertainty*, 1988.

Ameriks, John, Andrew Caplin, John Leahy, and Tom Tyler. Forthcoming. "Measuring Self-Control" *American Economic Review*.

#### Payday effect

Shapiro, Jesse. 2005. "Is there a daily discount rate? Evidence from the food stamp nutrition cycle" *Journal of Public Economics*, 89(2-3), 303-325.

Melvin Stephens Jr. ""3rd of tha month": Do social security recipients smooth consumption between checks?" *American Economic Review*, 93(1):406—422, March 2003.

Huffman, David and Matias Barenstein. "Riches to Rags Every Month? The Fall in Consumption Expenditures Between Paydays", Working paper.

#### Labor Economics

Paserman, M. Daniele. Forthcoming. "Job Search and Hyperbolic Discounting: Structural Estimation and Policy Evaluation", *Economic Journal*.

#### Public Economics

Fang, Hanming and Dan Silverman. "On the Compassion of Time-limited Welfare Programs" July 2002, *Journal of Public Economics*.

Gruber, Jonathan and Koszegi, Botond. "Is Addiction `Rational?' Theory and Evidence" *Quarterly Journal of Economics*, 2001, 116(4), pp. 1261-1305

Becker, Gary S., and Kevin Murphy (1988). "A Theory of Rational Addiction," *Journal of Political Economy*, 96, 675-700.

Gruber, Jonathan and Sendhil Mullainathan. 2005. "Do Cigarette Taxes Make Smokers Happier," *Advances in Economic Analysis & Policy*, Berkeley Electronic Press, 5(1): 1412-1412.

#### Corporate Finance

Baker, Malcolm, Joshua Coval, and Jeremy Stein. "Corporate Financing Decision When Investors Take the Path of Least Resistance." NBER Working Paper Series, No. w10998, 2004.

#### **Additional Readings on Reference Dependence**

#### Models

Köszegi, Botond, and Matthew Rabin. 2006. "A Model of Reference-Dependent Preferences" *Quarterly Journal of Economics*, 121(4): 1133-1166.

Köszegi, Botond, and Rabin, Matthew. Forthcoming. "Reference-Dependent Risk Attitudes" *American Economic Review*.

#### Markets

Heath, C., Huddart, S., and Lang, M., "Psychological factors and stock option exercises", *Quarterly Journal of Economics*, 1999.

Camerer, Colin. "Prospect theory in the wild: Evidence from the field" (CVF 16)

Barsky, Robert B., F. T. Juster and M. Kimball, "Preference Parameters and Behavioral Heterogeneity: An Experimental Approach in the Health and Retirement Study," *Quarterly Journal of Economics*, 112(2), May 1997, 537-579.

#### Time preferences

Loewenstein, G. and N. Sicherman (1991). "Do Workers Prefer Increasing Wage Profiles?" *Journal of Labor Economics* 9(1): 67-84.

Neural evidence

Knutson, B. & Peterson, R. (In Press). Neurally reconstructing expected utility. *Games and Economic Behavior*.

#### **Additional Readings on Social Preferences**

Models

Rabin, Matthew. 1993. "Incorporating Fairness into Game Theory and Economics." *American Economic Review*, Vol. 83, 1281-1302.

Akerlof, George A. 1982. "Labor Contracts as Partial Gift Exchange," *Quarterly Journal of Economics*, 97(4): 543-569.

Andreoni, Jim. "Why Free-Ride?", Journal of Public Economics 37, 1988, 291-304.

#### Experiments

Charness, Gary and Kuhn, Peter. "Do Co-Workers' Wages Matter? Theory and Evidence on Wage Secrecy, Wage Compression and Effort", mimeo, 2004.

Daniel Kahneman and Jack Knetsch, and Richard Thaler, "Fairness as a Constraint on Profit-Seeking: Entitlements in the Market," *American Economic Review*, 1986.

#### Field Evidence

B. Kingma, "An Accurate Measurement of the Crowd-Out Effect, Income Effect, and Price Effect for Charitable Contributions," *Journal of Political Economy* 97 (1989), 1197-1207.

#### Other

Bewley, T. Why wages don't fall during a recession, 1999, Harvard UP, 2000, Chap. 8, 21.

# **Additional Readings on Limited Attention**

Theory and Experiments

Mullainathan, Sendhil. "Thinking Through Categories", April 2002.

Gabaix, Xavier and David Laibson "Bounded rationality and directed cognition", Mimeo.

Gabaix, Xavier, David Laibson, Guillermo Moloche and Stephen Weinberg. 2006. "Costly Information Acquisition: Experimental Analysis of a Boundedly Rational Model", *American Economic Review*, Vol. 96(4), pp. 1043--1068.

Rubinstein, A. Modeling bounded rationality, MIT Press, 1998.

#### Financial Markets

Michael Rashes. "Massively Confused Investors Making Conspicuously Ignorant Choices (MCI-MCIC)", *Journal of Finance*, October 2001.

Hirshleifer, David and Siew Hong Teoh, 2003. "Limited Attention, Information Disclosure, and Financial Reporting," *Journal of Accounting and Economics*, 36(1-3): 337-386.

Pollet, "Predicting Asset Returns with Expected Oil Price Changes", November 2003.

Barberis, Nick and Shleifer, Andrei. "Style Investing", Journal of Financial Economics, 2002.

Voters

Justin Wolfers, "Are Voters Rational? Evidence from Gubernatorial Elections", Stanford GSB.

# **Additional Readings on Social Pressure and Persuasion**

Model

Akerlof, George A. 1991. "Procrastination and Obedience", *American Economic Review*, 81(2): 1-19.

DeMarzo, Peter, Vayanos, Dimitry, and Zwiebel, Jeff. "Persuasion Bias, Social Influence, and Uni-Dimensional Opinions", July 2002

Evidence

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.

Hong, Harrison, Stein, Jeremy C. and Jeffrey D. Kubik. "Thy Neighbor's Portfolio: Word-of-Mouth Effects in the Holdings and Trades of Money Managers", August 2002.

Bernardo A. Huberman, Christoph H. Loch, and Ayse Önçüler "Status as a Valued Resource", mimeo.

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.

Green, Donald P. and Alan S. Gerber, 2004. Get Out The Vote!, Washington, D.C.: Brookings Institution Press.

#### **Additional Readings on Market Response to Biases**

Market Response to Bias: Pricing

Oster, Sharon and Scott-Morton, Fiona. "Behavioral Issues in Subscription Pricing"

Do biases matter?

Becker, 1962

Akerlof, G. A. and J. L. Yellen (1985). "Can Small Deviations from Rationality Make Significant Differences to Economic Equilibria?" *American Economic Review* 75(4): 708-720.

Betting

Steven D. Levitt "How Do Markets Function? An Empirical Analysis of Gambling on the National Football League", *Economic Journal*, 2005.

Corporate Decisions

Lee, Inmoo, 1997, "Do Firms knowingly sell overvalued equity?" *Journal of Finance 52*, 1439-1466.

Loughran, Tim, and Jay Ritter, 1995, "The New Issues Puzzle", Journal of Finance 50, 23-51.

Baker, Malcolm and Jeffrey Wurgler. 2000. "The Equity Share in New Issues and Aggregate Stock Returns." *Journal of Finance*, 55(5): 2219-2257.

Empirical and Behavioral Corporate Finance: CEOs Jensen and Murphy (1990): "Are CEOs paid like Bureaucrats?"

Bertrand, Marianne and Sendhil Mullainathan. 2003. "Enjoying the Quiet Life? Corporate Governance and Managerial Preferences." *Journal of Political Economy*, 111(5): 1043-1075.

Bertrand, Marianne and Mullainathan, Sendhil, "Are CEOs Rewarded for Luck? The Ones Without Principals Are," with Marianne Bertrand, *Quarterly Journal of Economics*, 116(3), August 2001: 901-32.

Bertrand, Marianne and Schoar, Antoinette, "Managing with Style: The Effect of Managers on Corporate Policy", November 2003, *Quarterly Journal of Economics*.

Behavioral Finance and Event Studies

MacKinley AC. 1997. Event studies in economics and finance. *Journal of Economic.Literature*, 35(1): 13-39.

Binder, John J. "The Event Study Methodology since 1969", *Review of Quantitative Finance and Accounting*, 1998.

Wolfers, Justin and Zitzewitz, Eric. "Using Markets to Evaluate Policy: The Case of the Iraq War", mimeo, 2004.

Chan, Louis, Narasimhan Jegadeesh, Josef Lakonishok,"Momentum Strategies", *The Journal of Finance*, Vol. 51, No. 5, Dec. 1996, 1681-1713.

# **Additional Topics**

# Framing and Narrow Framing

#### Constructed Preferences

Ariely, Dan, Loewenstein, George, & Prelec, Drazen. Coherent arbitrariness: Stable demand curves without stable preferences. *Quarterly Journal of Economics* 118 (1) February 2003

Loewenstein, George and Simonsohn, Uri. "Mistake #37: The Effect of Previously Faced Prices on Current Housing Demand".

# Framing / Anchoring

Kahneman, D. Ilana Ritov and Savid Schkade, "Economic preferences or attitude expressions? An analysis of dollar responses to public issues" CVF 36.

#### Bargaining

Babcock, L., Wang, X., & Loewenstein, G. (1996). Choosing the wrong pond: Social comparisons that reflect a self-serving bias. *Quarterly Journal of Economics*, 111, 1-19.

Babcock, L., and Loewenstein, G. (1997). Explaining bargaining impasse: the role of self-serving biases. Journal of Economic Perspectives. 11, 109-126.

#### Flypaper effect

Singhal, Monica. Special Interest Groups and the Allocation of Public Funds, mimeo.

# Neuroeconomics

Camerer, Colin; Loewenstein, George; Prelec, Drazen. "Neuroeconomics: How Neuroscience Can Inform Economics"

Bernheim, D. and A. Rangel, "Addiction and Cue-Triggered Decision Processes", *American Economic Review*, forthcoming.

Knutson, B. & Peterson, R. (In Press). Neurally reconstructing expected utility. *Games and Economic Behavior*.

McClure, Samuel M., David Laibson, George Loewenstein and Jonathan D. Cohen. 2004. "Separate Neural Systems Value Immediate and Delayed Monetary Rewards." Science, 306.