**Experimental Economics**

**Fall 2013**

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319A Porter Hall

Office Hours: By Appointment

**Course Description:** This course will focus on the experimental literature studying decision-making and strategic interactions. We will explore both seminal and ongoing experimental work on risk, time and social preferences. We will then do an overview of how experiments have been used to test theory of strategic interactions, learning and market behavior. The last sections of the class will briefly review experimental work on incentives, behavioral finance and emotions. The class is meant to be interactive, and students will have many opportunities to critically discuss existing experimental research as well as to present their own research ideas.

**Text:** There is no text requirement for the course. Required and optional reading will be posted to blackboard and the course website. The following text is encouraged:

Camerer, C. F., Loewenstein, G., and Rabin, M. *Advances in Behavioral Economics*, New York, Princeton University Press, 2004.

**Format:** The course will be taught in a seminar format. Students are expected to interact, comment and challenge the presenter. We will spend between one and three classes on each of the topics below. We will first introduce the seminal papers in the literature and then explore recent developments on the topic.

There will be weekly assignments of either a referee report or an idea brief. Students will have an opportunity to present their own ideas and existing working papers of others throughout the semester. In addition, a final paper will be due at the end of the semester.

**Course Requirements:**

***Participation* (40%):** Given the seminar format of this course, students are expected to play an active role in class discussions. Each student should plan on preparing 2-3 questions on each paper to be discussed. In addition, a student will be assigned to present a working or recently published paper from the reading list on each topic. The presentations should be between 40 minutes to an hour, and designed to facilitate discussion. The presenter is encouraged to incorporate their own thoughts and opinions about the paper.

***Idea Brief* (20%):**For each topic covered, students will write a short idea brief (1-2 pages) focusing on a research idea related to the topic. The idea briefs should focus on the big picture questions that the research aims to answer, with a focus on the motivation and the experimental design used to explore it. Students will give a short (5-10 minute) presentation of their idea brief on the day that they are due.

***Referee Report* (20%):** Students will be assigned a recent working or recently published paper on each topic to evaluate in a referee report. Reports should not be longer than 2 pages single-spaced. The reports should be structured as follows:

* A succinct summary of the paper (1-2 paragraphs)
* Overall impression of the paper. What it does right and what it does wrong (1-2 paragraphs).
* Criticism and discussion of issues that the paper either failed to address or should improve on. Guidance on how these improvements can be made should be included here. Each issue should be organized by either using separate paragraphs or bullet points.
* Final impression and recommendation (1 paragraph)

***Final Project* (20%):** The final project is a paper (10-20 pages) on an original research topic of the student’s choice. The paper should be structured as a standard scientific article, with an introduction, literature review, procedures, results, discussion and conclusion. Actual data is not required. If no data was collected, the results section should contain a detailed plan on how such data would be analyzed. Students can work together, and are HIGHLY encouraged to make an appointment to discuss the final project with me. Each student or group will make a brief presentation (20 minutes) of their final project.

**Course Outline**

Required readings are in **bold**

**Introduction (8/28)**

**Assignments Due:** *Required readings*

*Behavioral and Experimental Economics*

1. **Loewenstein, G. (1999). Experimental Economics from the Vantage-Point of Behavioral Economics. *Economic Journal*, 109, 25-34.**
2. **Smith, V. (1991). Rational Choice: The Contrast between Economics and Psychology. *Journal of Political Economy*, 99, 877-897.**
3. Kahneman, D. and Smith, V. (2002). Foundations of Behavioral and Experimental Economics. Royal Swedish Academy of Sciences.
4. Binmore, Ken. (2005). Economic Man—or Straw Man? *The Behavioral and Brain Science*, 28, 815-818.

*Methods of Experimental Economics*

1. Hertwig, R. and Ortmann, A. (2001). Experimental Practices in Economics: A Methodological Challenge for Psychologists? *The Behavioral and Brain Sciences*, 24, 383-403.
2. Ariely, D. and Norton, M. (2007). Psychology and Experimental Economics: A Gap in Abstraction. *Current Directions in Psychological Science*, 16, 336-339.
3. Camerer, C. and Hogarth, R. (1999). The Effects of Financial Incentives in Experiments: A Review and Capital-Labor-Production Framework. *Journal of Risk and Uncertainty*, 19, 7-42.
4. Smith, V. and Walker, J. (1989). Monetary Rewards and Decision Cost in Experimental Economics. *Economic Inquiry*, 21, 245-261.
5. Bonetti, S. (1998). Experimental Economics and Deception. *Journal of Economic Psychology*, 19, 377-395.
6. Jamison, J., Karlan, D. and Schechter, L. (2008). To Deceive or Not to Deceive: The Effect of Deception on Behavior in Future Laboratory Experiments.  *Journal of Economic Behavior and Organization,* 68, 477-488.

*Economic Theory and Experimental Economics*

1. Samuelson, L. (2005). Economic Theory and Experimental Economics. *Journal of Economic Literature,* 43, 65-107.
2. Thaler, R. (1980). Towards a Positive Theory of Consumer Choice. *Journal of Economic Behavior and Organization*, 1, 39-60.
3. Rabin, M. (1998). Psychology and Economics. *Journal of Economic Literature,* 1, 11-46.

**Risk Preferences and Mental Accounting: *Foundations 1* (9/4)**

**Assignments Due:** *Required readings, Idea brief*

*Expected Utility and Prospect Theory*

1. **Kahneman, D. and Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk.  *Econometrica*, 47, 263-292.**
2. **Koszegi, B. and Rabin, M. (2006). A Model of Reference-Dependent Preferences. *Quarterly Journal of Economics*, 121, 1133-1165.**
3. Tversky, A. and Kahneman, D. (1992). Advances in Prospect Theory: Cumulative Representation of Uncertainty. *Journal of Risk and Uncertainty,* 5, 297-323.
4. Camerer, C., Babcock, L., Loewenstein, G. and Thaler, R. (1997). Labor Supply of New York City Cabdrivers: One Day at a Time. *Quarterly Journal of Economics,* 112, 407-441.

*Mental Accounting*

1. **Thaler, R. (1985). Mental Accounting and Consumer Choice. *Marketing Science,* 4, 199-214.**
2. Thaler, R. (1999). Mental Accounting Maters. *Journal of Behavioral Decision Making,* 12, 183-206.
3. Prelec, D. and Loewenstein, G. (1998). The Red and the Black: Mental Accounting of Savings and Debt. *Marketing Science*, 17, 4-28.

**Risk Preferences and Mental Accounting: *Foundations 2* (9/11)**

**Assignments Due:** *Required readings*

*Endowment Effect*

1. **Kahneman, D., Knetsch, J. and Thaler, R. (1991). Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias. *Journal of Economic Perspectives*, 5, 193-2006.**
2. List, J. (2003). Does Market Experience Eliminate Market Anomalies? *Quarterly Journal of Economics*, 118, 41-71.
3. Engelmann, D. and Guillaume, H. (2010). Reconsidering the Effect of Market Experience on the ‘Endowment Effect.’ *Econometrica*, 10, 2005-2019.
4. Thaler, R. and Benartzi, B. (2004). Save More Tomorrow ™: Using Behavioral Economics to Increase Employee Savings. *Journal of Political Economy*, 112, S164-S187.

*History-Dependent Risk Preferences*

1. **Thaler, R. and Johnson, E. (1990). Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice. *Management Science*, 36, 643-660.**
2. Weber, M. and Zuchel, H. (2005). How Do Prior Outcomes Affect Risky Choice? Further Evidence on the House-Money Effect and Escalation of Commitment. *Decision Analysis,* 2, 30-43.
3. Andrade, E. and Iyer, G. (2009). Planned Versus Actual Betting in Sequential Betting. *Journal of Marketing Research*, 46, 372-383.

*Ambiguity Aversion*

1. **Fox, C. and Tversky, A. (1995). Ambiguity Aversion and Comparative Ignorance. *Quarterly Journal of Economics,* 110, 585-603.**
2. Ellsberg, D. (1961). Risk, Ambiguity, and the Savage Axioms. *Quarterly Journal of Economics*
3. Camerer, C. and Weber, M. (1992). Recent Developments in Modeling Preferences: Uncertainty and Ambiguity. *Journal of Risk and Uncertainty,* 5, 323-370.
4. Halevy, Y. (2007). Ellsberg Revisited: An Experimental Study. *Econometrica*, 75, 503-536.

**Risk Preferences and Mental Accounting: *Advances* (9/18)**

**Assignments Due:** *Required readings, Referee report*

1. **Barberis, N. (2013). Thirty Years of Prospect Theory: A Review and Assessment. *Journal of Economic Perspectives*, 27, 173-196.**
2. **Abeler, J., Falk, A., Gotte, L. and Huffman, D. (2011). Reference Points and Effort Provision. *American Economic Review,* 101, 470-492.**
3. Charness, G., Gneezy, U. and Imas, A. (2013). Experimental Methods: Eliciting Risk Preferences. *Journal of Economic Behavior and Organization*, *forthcoming.*
4. Gneezy, U., List, J. and Wu, G. (2006). The Uncertainty Effect: When a Risky Prospect is Valued Less than its Worst Possible Outcome. *Quarterly Journal of Economics,* 121, 1283-1309.
5. Rabin, M. and Weizsacker, G. (2009). Narrow Bracketing and Dominated Choices. *American Economic Review*, 99, 1508-1543.
6. Sprenger, C. (2013). An Endowment Effect for Risk: Experimental Tests of Stochastic Reference Points. *mimeo.*
7. Imas, A. (2013). The Realization Effect: Risk-Taking after Realized versus Paper Losses. *mimeo.*

*Referee Report and Presentation*

Ericson, K. M. and Fuster, A. (2011). Expectations as Endowments: Evidence on Reference-Dependent Preferences from Exchange and Valuation Experiments. *Quarterly Journal of Economics*, 126, 1879-1907.

*OR*

Heffetz, O. and List, J. (2012). Is the Endowment Effect an Expectations Effect? *Mimeo.*

**Time Preferences: *Foundations* (9/25)**

**Assignments Due:** *Required readings, Idea brief*

1. **Frederick, S., Loewenstein, G. and O’Donoghue, T. (2002). Time Discounting and Time Preferences: A Critical Review. *Journal of Economic Literature*, 40, 351-401.**
2. O’Donoghue, T. and Rabin, M. (1999). Doing it Now or Doing it Later. *American Economic Review*, 89, 103-124.
3. Loewenstein, G. (1987). Anticipation and the Valuation of Delayed Consumption. *Economic Journal*, 97, 666-684.
4. Prelec, D. and Loewenstein, G. (1997). Beyond Time Discounting. *Marketing Letters,* 8, 97-108.
5. Kirby, K., Petry, N. and Bickel, W. (1999). Heroin Addicts Have Higher Discount Rates for Delayed Rewards than Non-Drug-Using Controls. *Journal of Experimental Psychology: General,* 128, 78-87.

**Time Preferences: *Advances* (10/2)**

**Assignments Due:** *Required readings, Referee report*

1. **Benhabib, J., Bisin, A. and Schotter, A. (2010). Present-Bias, Quasi-Hyperbolic Discounting, and Fixed Costs. *Games and Economic Behavior*, 69, 205-223.**
2. Read, D., Frederick, S., Orsel, B. and Rahman, J. (2005). Four Score and Seven Years from Now: The Date/Delay Effect in Temporal Discounting. *Management Science*, 51, 1326-1335.
3. Eil, D. (2012). Hypobolic Discounting and Willingness-to-Wait. *Mimeo.*
4. Anderson, S., Harrison, G., Lau, M. and Rutstrom, E. (2008). Eliciting Risk and Time Preferences. *Econometrica*, 76, 583-618.

*Referee Report and Presentation*

Andreoni, J. and Sprenger, C. (2012). Estimating Time Preferences from Convex Budgets. *American Economic Review,* forthcoming.

**Social Preferences: *Foundations* (10/9)**

**Assignments Due:** *Required readings, Idea brief*

*Social Preferences (Global)*

1. **Charness, G. and Rabin, M. (2002). Understanding Social Preferences with Simple Tests. *Quarterly Journal of Economics*, 117, 817-869.**
2. **Fehr, E. and Schmidt, K. (1999). A Theory of Fairness, Competition and Cooperation. *Quarterly Journal of Economics,* 114, 817-868.**
3. Andreoni, J. and Miller, J. (2002). Giving According to GARP: An Experimental Test of the consistency of Preferences for Altruism.
4. Loewenstein, G., Thompson, L. and Bazerman, M. (1989). Social Utility and Decision Making in Interpersonal Contexts. *Journal of Personality and Social Psychology*, 57, 426-441.
5. Becker, G. (1976). A Theory of Social Interactions. *Journal of Political Economy,* 82, 1063-1093.

*Reciprocity and Fairness*

1. **Fehr, E. and Gachter, S. Fairness and Retaliation: The Economics of Reciprocity. *Journal of Economic Perspectives,* 14, 159-181.**
2. Camerer, C. and Thaler, R. (1995). Anomalies: Ultimatums, Dictators and Manners. *Journal of Economic Perspectives*, 9, 209-219.
3. Dawes, R. M. and Thaler, R. (1988). Anomalies: Cooperation. *Journal of Economic Perspectives,* 2, 187-197.
4. Fehr, E., Kirchler, A., Weichbold, A. and Gachter, S. (1998) When Social Norms Overpower Competition: Gift Exchange in Experimental Labor Markets. *Journal of Labor Economics*, 16, 324-351.
5. Rabin, M. (1993). Incorporating Fairness into Game Theory and Economics. *American Economic Review*, 83, 1281-1302.

*Warm Glow*

1. Andreoni, J. (1990). Impure Altruism and Donations to Public Goods: A Theory of Warm Glow Giving. *Economic Journal,* 100, 464-477.
2. Andreoni, J. (1993). An Experimental Test of the Public-Goods Crowding-Out Hypothesis. *American Economic Review*, 83, 1317-1327.

**Social Preferences: *Advances* (10/16)**

**Assignments Due:** *Required readings, Referee report*

1. **Dana, J., Weber, R. A. and Kuang, J. X. (2007). Exploiting Moral Wiggle Room: Experiments Demonstrating an Illusory Preference for Fairness. *Economic Theory*, 33, 67-80.**
2. **Dellavigna, S., List, J. and Malmendier, U. (2012). Testing for Altruism and Social Pressure in Charitable Giving*. Quarterly Journal of Economics*, 127, 1-56.**
3. Dana, J., Cain, D. and Dawes, R. (2006). What You Don’t Know Won’t Hurt Me: Costly (but Quiet) Exit in Dictator Games. *Organizational Behavior and Human Decision Processes*, 100, 193-201.
4. Gneezy, U. and List, J. (2006). Putting Behavioral Economics to Work: Testing for Gift Exchange in Labor Markets using Field Experiments. *Econometrica,* 74, 1364-1384.
5. Andreoni, J. and Bernheim, B. D. (2009). Social Image and the 50-50 Norm: A Theoretical and Experimental Analysis of Audience Effects. *Econometrica,* 77, 1607-1636.
6. Krupka, E. and Weber, R. A. (2013). Identifying Social Norms Using Coordination Games: Why Does Dictator Game Sharing Vary? *Journal of the European Economic Association, forthcoming.*
7. Gneezy, U., Imas, A. and Madarasz, K. (2013). Conscience Accounting: Emotional Dynamics in Social Behavior. *Mimeo.*

*Referee Report and Presentation*

Andreoni, J., Rao, J. M. and Trachtman, H. (2012). Avoiding the Ask: A Field Experiment on Altruism, Empathy and Charitable Giving. *Mimeo.*

**Strategic Interactions and Markets: *Foundations* (10/23)**

**Assignments Due:** *Required readings, Idea brief*

*Markets*

1. **Smith, V. L. (1962). An Experimental Study of Competitive Market Behavior. *Journal of Political Economy*, 70, 111-137.**
2. Smith, V. L. (1989). Theory, Experiments and Economics. *Journal of Economic Perspectives,* 3, 151-169.
3. Smith, V. L. (1994). Economics in the Laboratory. *Journal of Economic Perspectives,* 8, 113-131.
4. Camerer, C., Loewenstein, G. and Weber, M. (1989). The Curse of Knowledge in Economic Settings: An Experimental Analysis. *Journal of Political Economy*, 97, 1232-1254.
5. Forsythe, R., Palfrey, T. and Plott, C. (1982). Asset Valuation in an Experimental Market. *Econometrica*, 50, 537-567.
6. Kahneman, D., Knetsch, J. and Thaler, R. (1986). Fairness as a Constraint on Profit Seeking: Entitlements in the Market. *American Economic Review*, 76, 728-741.

*Game Theory*

1. **Roth, A. and Malouf, M. (1979). Game-Theoretic Models and the Role of Information in Bargaining. *Psychological Review*, 86, 574-594.**
2. McKelvey, R. and Palfrey, T. (1992). An Experimental Study of the Centipede Game. *Econometrica,* 60, 803-836.
3. Roth, A. and Murnighan, J. K. (1982). The Role of Information in Bargaining: An Experimental Study. *Econometrica,* 50, 1123-1142.
4. Ochs, J. and Roth, A. (1989). An Experimental Study of Sequential Bargaining. *American Economic Review*, 79, 355-384.

*Behavioral Game Theory*

1. **Nagel, R. (1995). Unraveling in Guessing Games: An Experimental Study. *American Economic Review*, 85, 1313-1326.**
2. Ho, T., Camerer, C. and Weigelt, K. (1998). Iterated Dominance and Iterated Best Response in Experimental “*p*-Beauty Contests.” *American Economic Review*, 88, 947-969.
3. Costa-Gomes, M., Crawford, V. and Broseta, B. (2001). Cognition and Behavior in Normal-Form Games: An Experimental Study. *Econometrica*, 69, 1193-1235.
4. Camerer, C., Ho, T. and Chong, J. (2004). A Cognitive Hierarchy Model of Games. *Quarterly Journal of Economics,* 119, 861-898.

**Strategic Interactions and Markets: *Advances* (10/30)**

**Assignments Due:** *Required readings, Referee report*

1. **Dal Bo, P. and Frechette, G. (2011). The Evolution of Cooperation in Infinitely Repeated Games: Experimental Evidence. *American Economic Review*, 101, 411-429.**
2. Friedman, D. and Oprea, R. (2012). A Continuous Dilemma. *American Economic Review*, 102, 337-363.
3. Dufwenberg, M., Lindqvist, T. and Moore, E. (2005). Bubbles and Experience: An Experiment. *American Economic Review,* 95, 1731-1737.
4. Oprea, R. (2012). Survival Versus Profit Maximization in a Dynamic Stochastic Experiment. *Mimeo.*
5. Bernard, M., Fanning, J. and Yuksel, S. (2013). The Benefits of Being Able to Fire (and Replace) People. *Mimeo*
6. Bernard, M., Fanning, J. and Yuksel, S. (2013). The Benefits of Being Able to Fire (and Replace) People. *Mimeo.*
7. Palfrey, T. and Wang, S. (2013). Speculative Overpricing in Asset Markets with Information Flows. *Econometrica, forthcoming.*

*Referee Report and Presentation*

Frechette, G. and Yuksel, S. (2013). Infinitely Repeated Games in the Laboratory: Four Perspectives on Discounting and Random Termination. *Mimeo.*

**Learning and Persuasion: *Foundations* (11/6)**

**Assignments Due:** *Required readings, Idea brief*

*Cheap Talk*

1. **Crawford, V. (1998). A Survey of Experiments on Communication via Cheap Talk. *Journal of Economic Theory*, 78, 286-298.**
2. Schelling, T. (1957). Bargaining, Communication, and Limited War. *Conflict Resolution*, 1, 19-36.

*Herding and Information Cascades*

1. **Anderson, L. and Holt, C. (1997). Information Cascades in the Laboratory. *American Economic Review,* 87, 847-862.**
2. Allsopp, L. and Hey, J. (2000). Two Experiments to Test a Model of Herd Behavior. *Experimental Economics*, 3, 121-136.
3. Plott, C., Wit, J. and Yang, W. (2003). Parimutuel Betting Markets as Information Aggregation Devices: Experimental Results. *Economic Theory*, 22, 311-351.

**Learning and Persuasion: *Advances* (11/13)**

**Assignments Due:** *Required readings, Referee report*

1. **Gneezy, U. (2005). Deception: The Role of Consequences. *American Economic Review*, 95, 384-394.**
2. **Charness, G. and Dufwenberg, M. (2006). Promises and Partnerships. *Econometrica,* 74, 1579-1601.**
3. Erat, S. and Gneezy, U. (2012). White Lies. *Management Science*, 58, 723-733.
4. Houser, D. and Xiao, E. (2010). Classification of Natural Language Messages Using a Coordination Game. *Experimental Economics,* 14, 1-14.
5. Vespa, E. and Wilson, A. (2012). Communication with Multiple Senders and Multiple Dimensions: An Experiment. *Mimeo*
6. Ellingsen, T. and Ostling, R. (2010). When Does Communication Improve Coordination? *American Economic Review,* 100, 1695-1724.
7. Celen, B. and Kariv, S. (2004). Distinguishing Informational Cascades from Herd Behavior in the Laboratory. *American Economic Review,* 94, 484-498.

*Referee Report and Presentation*

Enke, B. and Zimmermann, F. (2013). Correlation Neglect in Belief Formation. *Mimeo.*

**Incentives (11/20)**

**Assignments Due:** *Required readings, Idea brief*

1. **Gneezy, U., Meier, S. and Rey-Biel, P. (2011). When and Why Incentives (Don’t) Work to Modify Behavior. *Journal of Economic Perspectives*, 25, 191-210.**
2. **Gneezy, A., Gneezy, U., Nelson, L. and Brown, A. (2010). Shared Social Responsibility: A Field Experiment in Pay-What-You-Want Pricing and Charitable Giving*. Science,* 329, 325-327.**
3. Gneezy, A., Gneezy, U., Reinder, G. and Nelson, L. (2012). Pay-What-You-Want, Identity, and Self-Signaling in Markets*. PNAS,* 109, 7236-7240.
4. Kullgren, J., Troxel, A., Loewenstein, G., Asch, D., Norton, L., Wesby, L., Tao, Y., Zhu, J., Volpp, K. (2013). Individual Versus Group Based Financial Incentives for Weight Loss: A Randomized, Controlled Trial. *Annals of Internal Medicine,* 158, 505-514.
5. Imas, A. (2013). Working for the ‘Warm Glow’: On the Benefits and Limits of Prosocial Incentives. *Mimeo.*
6. Gneezy, U. and Rustichini, A. (2000). Pay Enough or Don’t Pay at All. *Quarterly Journal of Economics*, 115, 791-810.
7. Ariely, D., Gneezy, U., Loewenstein, G. and Mazar, N. (2008). Large Stakes and Big Mistakes. *Review of Economic Studies*, 76, 451-469.
8. Charness, G. and Gneezy, U. (2009). Incentives to Exercise. *Econometrica*, 77, 909-931.
9. Sadoff, S., Fryer, R., Levitt, S. and List, J. (2012). Enhancing the Efficacy of Teacher Incentives Through Loss Aversion: A Field Experiment. *Mimeo.*

*Presentation*

Sadoff, S., Levitt, S., List, J. and Neckermann, S. (2012). The Behavioralist Goes to School: Leveraging Behavioral Economics to Improve Educational Performance. *Mimeo.*

**Thanksgiving (11/27)**

**No Class!**

**Behavioral Finance and Emotions (12/04)**

**Assignments Due:** *Required readings*

*Myopic Loss Aversion*

1. **Gneezy, U. and Potters, J. (1997). An Experiment on Risk Taking and Evaluation Periods. *Quarterly Journal of Economics*, 112, 631-645.**
2. Benartzi, S. and Thaler, R. (1995). Myopic Loss Aversion and the Equity Premium Puzzle. *Quarterly Journal of Economics*, 110, 73-92.
3. Thaler, R., Tversky, A. and Kahneman, D. (1997) The Effect of Myopia and Loss Aversion on Risk Taking: An Experimental Test. *Quarterly Journal of Economics*, 112, 647-661.

*Disposition Effect*

1. **Weber, M. and Camerer, C. (1998). The Disposition Effect in Securities Trading: An Experimental Analysis. *Journal of Economic Behavior and Organization*, 33, 167-184.**
2. Shefrin, H. and Statman, M. (1985). The Disposition to Sell Winners Too Early and Ride Losers Too Long: Theory and Evidence. *Journal of Finance*, 40, 777-790.

*Risk and Affect*

1. **Loewenstein, G., Hsee, C., Weber, E. and Welch, N. (2001). Risk as Feelings.  *Psychological Bulletin,* 127, 267-286.**
2. Van Winden, F., Krawczyk, M. and Hopfensitz, A. (2011). Investment, Resolution of Risk and the Role of Affect. *Journal of Economic Psychology*, 32, 918-939.
3. Lerner, J. and Keltner, D. (2001). Fear, Anger and Risk. *Journal of Personality and Social Psychology*, 81, 146-159.
4. Shiv, B., Loewenstein, G., Bechara, A., Demasio, H. and Demasio, A. (2005). Investment Behavior and the Negative Side of Emotion. *Psychological Science,* 16, 435-439.

*Emotions and Empathy Gaps*

1. **Loewenstein, G. (1996). Out of Control: Visceral Influences on Behavior. *Organizational Behavior and Human Decision Processes*, 65, 272-292.**
2. Loewenstein, G., O’Donoghue, T. and Rabin, M. (2003). Projection Bias in Predicting Future Utility. *Quarterly Journal of Economics,* 118, 1209-1248.
3. Xiao, E. and Houser, D. (2005). Emotion Expression in Human Punishment Behavior. *PNAS*, 102, 7398-7401.
4. Gneezy, U. and Imas, A. (2013). The Materazzi Effect: On the Strategic Use of Anger. *Mimeo.*

*Presentation*

Frydman, C., Barberis, N. and Camerer, C. (2012). Using Neural Data to Test a Theory of Investor Behavior: An Application to Realization Utility. *Journal of Finance*, *forthcoming.*

**Finals Week (12/11)**

Presentations