

1 Sept 05

NYU G31.3001.009 Topics in Behavioral Economics

Prof. Colin Camerer
NYU Fall 2005
camerer@hss.caltech.edu

office ?
?
M 11-1, 110 Fifth Ave., room 456

“All economics rests on some sort of implicit psychology. The only question is whether the implicit psychology is good or bad. We think it is simply unwise, and inefficient, to do economics without paying some attention to good psychology”

Colin Camerer and George Loewenstein [2002, Advances in Behavioral Economics intro]

The interface of psychology and economics has a long history. In 19th century social science the two were indistinguishable. Economics books now considered classics (Adam Smith, Marshall, Fisher, Edgeworth) were filled with psychological insight and did not insist agents were always rational (in the sense of foresightful utility-maximization) or self-interested.

Early in this century, however, the two disciplines took different methodological paths. While both economics and psychology were inspired by empirical and theoretical methods in physical and natural sciences, they took different routes. Psychologists began to use experiments to chart the details of how people think and behave, but did not seek to express theories in parsimonious mathematical terms. Economists turned to highly simplified models of individual agents as building blocks for theories of markets (general equilibrium) and strategic behavior (game theory). (One view is that psychology emulated biology, accumulating carefully-documented facts that were organized under broad themes, while economics aspired to be like a physics of social life (or as Edgeworth named his book, “Mathematical psychics”).)

This course will describe a modern attempt to draw the disciplines back together, called “behavioral economics”, which incorporates psychological regularities into economics while being formal, and predictive. The idea is to retain much of the basic style of neoclassical economic reasoning and modelling, but generalize conventional models to allow patterns of behavior that appear to be common but are paradoxical for conventional models based on strong assumptions of rationality and equilibrium.

Loosely speaking, behavioral economics means refusing to keep a straight face when implausible assumptions are made purely for the sake of tractability (without a conscientious, empirically-based search for better assumptions that might turn out to be tractable with a little more thought). Specifically, we assume people are limited in their self-interest, willpower, and calculating ability (including foresight, and knowledge of their own preferences).

Note that relaxing the assumption of perfect (unlimited) rationality simply follows in the footsteps of earlier developments in economic theory, relaxing perfect competition to allow imperfect competition (spawning a huge, useful literature in industrial organization etc.), and later relaxing perfect information to allow imperfect information (cf. the Akerlof-Spence-Stiglitz 2001 Nobel prize). Since these generalizations are now widely-accepted, why not do the same for the constraint on perfect rationality?

Some papers start with an obvious assumption about limited rationality and see what follows. For example, if people are tempted by nearby rewards (exhibiting “present bias” etc) what does that imply for savings-consumption decisions? If attention is limited, what follows? If

very low probabilities are overweighted, what follows?

In most cases, behavioral economics modelling is motivated by an applied problem or phenomenon, like: Why do stock prices sometimes underreact to information and sometimes overreact? Why do people in "ultimatum games" reject substantial offers, and how can their apparent expressions of social preference be included in economic theorizing? Why do people succumb to immediate temptations which they later regret? How does equilibration occur through processes of individual learning, evolutionary selection, or imitation?

Because the modelling is meant to substitute more realistic assumptions for less realistic ones, modelling often proceeds from the top (or middle) down, rather than trying to start at the most basic foundational assumptions about knowledge and inference and work up. As a result, the idea is **not** always to create the most general possible theory (i.e. to show what broad behavior follows from the weakest, most general assumptions), although such exercises are certainly useful. Instead, the assumptions that are chosen are deliberately restricted to fit data better than more general ones. Obviously, the two approaches should be complementary-- sometimes more foundational work provides startling insight (e.g., the no-trade theorems) and tools to do middlebrow theory with; and hopefully observations encapsulated in middlebrow theory sometimes inspire serious theorists to think about foundational issues (e.g., it would be interesting to know what basic assumption about knowledge is consistent with widespread optimism about relative skill).

The first day I will provide an overview of methodological and substantive differences in economics and psychology, and give a sample of ideas from a couple of areas. The topics to be covered after that fall into several categories. Each will be covered [tentatively] in one week, with some time at the end for revisiting rich topics and adding applications or topics which are popularly acclaimed.

Notice that while the categories are mostly organized on the basis of phenomena, the range of applications is very wide (e.g., consumer choice, finance, microfoundations of macro-savings/consumption models, game theory, labor).

As you learn you should be constantly thinking about various themes that will come up again and again. Here is a short list:

1. What kind of data support a particular theory or establish a fact? How reliable are they? Are the results robust across time (history) and space (cross-country and cross-culturally)?
2. How important and reliable are individual differences?
3. What happens in market equilibrium? E.g. if consumers make mistakes, can firms profit competitively by correcting them, or by exploiting or creating mistakes? What happens in the face of heterogeneity (2)?
4. If consumers make a mistake, how strong are the pressures—advice, shame, bankruptcy—to eliminate the mistake? Is it possible that consumers who make mistakes thrive (e.g., overconfident CEO's)?
5. What neural mechanisms would create the observed behaviors? Would such mechanisms be selected by evolution, especially in a world where the human brain is simply some cortical add-on (plus cultural and institutional constructions) to a primate brain?

Readings will be a series of journal articles and unpublished manuscripts. The Thaler book (CURSE) on "anomalies" is easy background reading, though it isn't required. Articles

labelled “READ” will be available on the website in advance and also in hardcopy (details on availability TBA).

Students taking the course for a grade should give one paper presentation, and write a 15-page paper on a topic related to the course. There will also be 3 homeworks. Grade distribution is one-third each for presentation, homeworks (together) and paper. If you are an undergraduate taking the course P/F you can simply do the presentation and homework to pass. (If you cannot think of an interesting topic from this list you do not belong in graduate school in economics!) The presentations should be a 20 minute presentation of a paper that either introduces a topic (an historically important paper) or a new paper which provides some insight and raises speculative questions you are not expected to answer thoroughly. If you want to work as a pair with one other person you can do so (e.g., 2 people could share a 90-minute discussion though I will be unforgiving if one of the two people free rides on both presentations).

In your presentation, focus first on what motivated the papers (earlier research, a policy question, a puzzling empirical fact...). How do their assumptions relate to psychological regularities (or if it is not a theory paper, what regularities it reports or uses)? Give enough detail on the formalism and the intuition it captures or generates to be able to judge its surprise value and generality, but don't lose sight of the broader question. Also discuss what future research (particularly empirical tests) the paper inspires.

If you are taking the course for a grade you **must** write some draft of your 15-page paper by the end of the term (due date 15 December). It can be a progress report or a rough draft on which you are willing to be graded, but you must hand in something. I will allow no exceptions. Handing in nothing means is the same as choosing an F.

There are three levels of reading conveyed in the syllabus.

READ ** means you must read these articles/chapters before class. If I sense that people are not doing the basic reading, we'll have pop quizzes or some other mechanism to encourage you to read.

READ (*) means these are very basic important readings but are optional. A serious student will read them too but I don't want to overload you with reading.

Background are important background articles (e.g., if you were doing research on a topic you should know all those articles well). This list is like a reading list for a preliminary exam—if you are serious about behavioral economics you should read all these articles.

Background reading (acronyms are used below to denote where readings can be found):

ADVANCES *Advances in Behavioral Economics* (Camerer, Loewenstein, Rabin Eds). Princeton Univ Press, 2003 (\$35 in paper).

TAD: Time and Decision: Economic and Psychological Perspectives on Intertemporal Choice, George Loewenstein, Daniel Read, and Ray Baumister (eds.), Russell Sage Foundation Publications, 2003

CVF: Choices, Values, and Frames, Daniel Kahneman and Amos Tversky (eds.), Cambridge University Press, 2000

JUU: Judgment Under Uncertainty: Heuristics and Biases, Daniel Kahneman, Paul Slovic, and Amos Tversky, Cambridge University Press, 1982

HAB: Heuristics and Biases: The Psychology of Intuitive Judgement, Thomas Gilovich, Dale

Griffin, and Daniel Kahneman (eds.), Cambridge University Press, 2002
 QRE: Quasi Rational Economics, Richard Thaler, Russell Sage Foundation, 1994
 CURSE: The Winner's Curse: Paradoxes and Anomalies of Economic Life, Richard Thaler, Princeton University Press, 1992
 FHP: Well-Being: The Foundations of Hedonic Psychology, D. Kahneman, E. Diener, and N. Schwarz (eds.) Rusell Sage Foundation 2000
 COT: Choice Over Time, G. Loewenstein and J. Elster (eds), Rusell-Sage Foundation, 1992
 BGT: Behavioral Game Theory, Colin Camerer, Princeton University Press, 2003
 HSP: Handbook of Social Psychology, D. Gilbert et. al. (eds.), McGraw Hill, 1998
 HEE: Handbook of Experimental Economics, John Kagel and Alvin Roth, Princeton University Press, 1995
 T&D: Thinking and Deciding, 3rd edition, Jonathan Baron, Cambridge University Press, 2000
 (Baron is a philosophical psychologist who is very insightful about delicate questions and well-informed about details of thinking)

For those who want to read even more there is an oldish reading list compiled by Matthew Rabin and his RA's at <http://www.mit.edu/people/irons/rsage/rabib.html>). A list of lists (bibliographies) is at http://cebr.ust.hk/~guide/Experimental_Bibliographies/List_all/ (the danger with these is that they can get outdated fast and don't give you much guide to quality of the different entries, but they are a good resource tool to remind you about new articles and put them all in one place). Ran Spiegel's syllabus for a more theoretical course on bounded rationality is useful too, see <http://www.tau.ac.il/~rani/brsyllabus.doc>. MIT Open course software from Xavier Gabaix at <http://ocw.mit.edu/OcwWeb/Economics/14-127Spring2004/Readings/index.htm> is also useful.

Timetable

Week	Date	Topic
1	9/12	Introduction + preferences over gambles introduction (basic utility theory)
2	9/19	Preferences over gambles (cont'd) and goods
3	9/26	Intertemporal choice
4	10/3	Addiction
5	10/17	Consumer pricing & IO
6	10/24	Behavioral game theory: Limited strategic thinking and learning
7	10/31	Social preferences
8	11/7	Labor economics
9	11/14	Behavioral finance
10	11/21	Attention
11	11/28	Public finance and law
12	12/5	Neuroeconomics
13	12/12	TBA: Spillover and special requests

Note: 10/10 is a holiday of some sort. Nov 23 (Wed) is designated as a Monday schedule but it is the day before Thanksgiving and we'll not meet then.

Week 1: Introduction: How to psychologize economics

I will discuss in broad terms some differences between theorizing and data-gathering in psychology and economics to motivate the course, and give examples.

READ:

** Camerer and Loewenstein. Behavioral economics: Past, present and future. In ADVANCES.

Background:

Mullainathan, Sendhil and Thaler, Richard. Behavioral economics, Int'l Encyclopedia of the Social and Behavioral Sciences, in press. http://econ-www.mit.edu/faculty/download_pdf.php?id=285

Rabin, Matthew. Psychology and Economics, J Economic Literature, March 1998, 11-46.

Kahneman, Maps of bounded rationality: Psychology for behavioral economics. AER, Dec 2003, 1449-1475. (Nobel lecture, puts a lot of old ideas together in a tour de force.)

Conlisk, John (1996) "Why Bounded Rationality?", Journal of Economic Literature, 34:667-700

McFadden, Daniel. J Risk Uncertainty 1999. (a "newcomer" assesses behavioral economics)

Some history of thought: (making the point that a lot of behavioral ideas are in early writings but were neglected by the 20th century development of consumer theory).

Ashraf, Camerer and Loewenstein. Adam Smith, behavioral economist. Journal of Economic Perspectives, in press.

Bruni and Sugden. The road not taken: Two debates about the role of psychology in economics. Economic Journal, in press.

Weeks 1-2: Preferences over goods & gambles

READ:

**Koszegi, Botond and Rabin, Matthew. A model of reference-dependent preferences, March 2005. <http://emlab.berkeley.edu/users/botond/refdep.pdf>

**Starmer, Chris, Developments in nonexpected utility, J Economic Literature, 1998, and in ADVANCES.

**Chen, Keith, Lakshminarayanan, Venkat, and Santos, Laurie. [The Evolution of Our Preferences: Evidence from Capuchin-Monkey Trading Behavior](http://www.som.yale.edu/Faculty/keith.chen/papers/LossAversionDraft.pdf). March 2005
<http://www.som.yale.edu/Faculty/keith.chen/papers/LossAversionDraft.pdf>

Background:

Thaler, Richard (1999) "Mental Accounting Matters," reprinted in CVF

Ariely, Loewenstein and Prelec. Arbitrary coherence, QJE, 2003.

Barberis and Huang. Frame-dependent preferences: A new utility specification that allows for the framing of risks. December 2003
<http://gsbwww.uchicago.edu/fac/nicholas.barberis/research/tc6b.pdf>

Camerer, Prospect theory in the wild. In CUV and ADVANCES.

Camerer, C. et. al. (2000) "Labor Supply of New York City Cab Drivers: One Day at a Time" reprinted in CVF & ADVANCES.

Camerer, Colin F and Martin Weber. Developments in ambiguity-aversion. J Risk and Uncertainty, 1992.

Cox, J. and D. Grether (1996) "The Preference Reversal Phenomenon: Response Mode, Markets, and Incentives," Economic Theory, VII:381-405

Harless, David and Colin Camerer (1994) "The Predictive Utility of Generalized Expected Utility Theories," Econometrica, 62: 1251-1290.

List, J. (2003) "The Effect of Market Experience on the WTA/WTP disparity: Evidence from the Field," Quarterly Journal of Economics.

Prelec, D. (1998) "The probability weighting function", Econometrica.

Week 3: Intertemporal choice

READ:

**Loewenstein, O'Donoghue, and Frederick. A review of intertemporal choice. J Economic Literature, 90,: 351-401, 2002, and in ADVANCES.

**Angeletos, M. et. al. (2001) "The Hyperbolic Consumption Model: Calibration, Simulation, and Empirical Evaluation," Journal of Economic Perspectives, August, 47-68

**Fudenberg, Drew and Levine, David. A dual self model of impulse control. February 2005.

http://post.economics.harvard.edu/faculty/fudenberg/papers/dual_self.pdf

Background:

Laibson, "Golden eggs and hyperbolic discounting," QJE 1997, 443-478 and in ADVANCES.

Loewenstein, G. and D. Prelec (1998) "The Red and the Black: Mental Accounting of Savings and Debt,:" Marketing Science , 17(1):4-28

Loewenstein, G. and D. Prelec (1992) "Anomalies in Intertemporal Choice: Evidence and Interpretation," Quarterly Journal of Economics, 1992:573-97

Metcalfe, J. and W. Mischel (1999) "A Hot/Cold System Analysis of Delay of Gratification: Dynamics of Willpower," Psychological Review, 106(1):3-19

Thaler & Shefrin, "The behavioral life-cycle hypothesis," Economic Inquiry, October 1988, 26, 609-643 and in COT. [note footnote about neuroeconomics!]

Koszegi, Botond. Utility from anticipation and personal equilibrium. June 2004.

<http://emlab.berkeley.edu/users/botond/feelingsnew.pdf>

Chua, Zhikang (Eric) and Colin Camerer. Experiments on Intertemporal Consumption with Habit Formation and Social Learning, Dec 2003. At <http://www.hss.caltech.edu/~camerer/camerer.html>

*Della Vigna, Stefano and Ulrike Malmendier. Overestimating self-control: Evidence from the health club industry, Nov 2003.

http://emlab.berkeley.edu/users/sdellavi/wp/self_control_nov03.pdf

Huang, Kevin, Zheng Liu, and Qi Zhu. Temptation and self-control: Some evidence from the consumer expenditure survey. Emory working paper, February 2005,

<http://userwww.service.emory.edu/%7Ezliu5/papers/temptation.pdf>

Week 4: Addiction

**Bernheim, Douglas and Rangel, Antonio. Addiction and cue-triggered decision processes. AER Dec 2004, 1558-1590.

**Gul, Faruk and Wolfgang Pesendorfer. Temptation and self-control. Econometrica, 2001, 69, 1403-35 (see also A Theory of Addiction, Nov 2001, <http://www.princeton.edu/~fgul/addic.pdf> and Self-control and the theory of consumption, Oct 2000, <http://www.princeton.edu/~fgul/consumption.pdf>

Background:

Laibson, Cues paper QJE

Week 5: Consumer pricing (IO) and labor economics

READ:

**Ellison, Glenn. Bounded rationality and industrial organization. World Congress paper 2005.
<http://eswc2005.econ.ucl.ac.uk/papers/ESWC/2005/2735/wc3%5B2%5D.pdf>

**Gabaix, X. and D. Laibson (2005) "Shrouded attributes, consumer myopia and information suppression in competitive markets," April 2005
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=728545

Background:

*Ellison, Glenn. A model of add-on pricing. MIT working paper,
http://econ-www.mit.edu/faculty/download_pdf.php?id=1071

*Heidhues, Paul and Botond Koszegi. 2004. The impact of consumer loss aversion on pricing.
<http://emlab.berkeley.edu/users/botond/pricing.pdf>

Ausbel, L. (1991) "The Failure of Competition in the Credit Card Market," American Economic Review;

Liebman, J. and R. Zeckhauser (2003) "Schmeduling," mimeo

Della Vigna, S. and U. Malmedier (2003) "Contract Design and Self-Control: Theory and Evidence," mimeo.

Week 6: Behavioral game theory

READ:

**Camerer, Behavioral game theory chapter in ADVANCES.

**Camerer, C. et. al. (2004) "A Cognitive Hierarchy model of one-shot games," QJE

Background:

McKelvey and Palfrey, "An experimental study of the centipede game," Econometrica 1992.

McKelvey and Palfrey. 1995. Quantal response equilibrium. Games Ec Behavior.

Camerer, Ho and Chong, "Thinking, learning and teaching" (at
<http://www.iies.su.se/nobel/papers.htm>). In S. Huck (Ed.), In Honor of Werner Guth, in press.

Camerer and Weigelt. An experimental test of a sequential equilibrium model. *Econometrica*, 1988.(first repeated trust game data)

Berg, Dickhaut and McCabe, Trust game. *Games Ec Behavior*, 1995.

Cooper, David and John Kagel. "[Lessons Learned: Generalizing Learning Across Games](#)," *AER* (papers and proceedings) (2003).

Camerer, Colin F. [Behavioral Game Theory](#) (esp chapter 9), 2003.

Costa-Gomes, M. et. al. (2003) "Experimental studies of strategic sophistication and cognition in normal-form games," *Econometrica*, 69:1193-1235. (Masterpiece of careful interaction of theory and design)

Ho, Camerer and Chong. 2005. The economics of learning models: A self-tuning theory of learning in games. <http://www.hss.caltech.edu/~camerer/AER2004.pdf>

Week 7: Social preferences

**Rabin, M. (1993) "Incorporating Fairness into Game Theory and Economics," *American Economic Review*, 83(5):1281-1302. (Monster paper; a recipe for how to do behavioral economics)

**Fehr and Gächter, Fairness and retaliation: The economics of reciprocity. *J Ec Perspectives*, 2000. and in *ADVANCES*.

**Sobel, Joel. Social interdependent preferences and reciprocity, *J Ec Lit* June 2005, vol 43, 392-436.

Background:

Fehr, Ernst and Klaus Schmidt. Theories of Fairness and Reciprocity - Evidence and Economic Applications, forthcoming in: M. Dewatripont, L. Hansen and St. Turnovsky (Eds.), *Advances in Economics and Econometrics - 8th World Congress, Econometric Society Monographs*.

Kahneman, Knetsch & Thaler, "Fairness as a constraint on profit seeking: Entitlements in the market", *AER*, 1986, 76, 728-741.

Week 8: Labor economics

READ:

**Benabou and Tirole. "[Intrinsic and Extrinsic Motivation](#)" *Review of Economic Studies*, 70(3) (2003), 489-520.

Brown, Falk and Fehr. Relational contracts and the nature of market interaction. **Econometrica, in press.

<http://www.iew.unizh.ch/home/fehr/papers/RelationalContractsNatureOfMI.pdf>

**Camerer, Babcock, Loewenstein, Thaler, "Labor supply of New York City cab drivers: One day at a time," QJE May 1997 and ADVANCES (*short & updated version*)

**Farber, Hank. "Is Tomorrow Another Day? The Labor Supply of New York City Cab Drivers," JPE 113(1) 2005, 46-82.

Background:

Akerlof, G. (1982) "Labor contracts as partial gift exchange," *Quarterly Journal of Economics*, 543-69

Charness, Gary; Guillaume Frechette; and John Kagel. How robust is gift exchange?, unpublished. <http://www.econ.ohio-state.edu/kagel/CFK.pdf>

Fehr, Kirchsteiger & Reidl, "Does fairness prevent market clearing? An experimental investigation," QJE May 1993, 108, 437-459; (Look on Fehr's site for many more papers.)

Healy, "Fairness or gambling on irrationality? An experimental test of cooperation in the gift exchange game" Caltech working paper, 2003

(<http://kakutani.caltech.edu/~pj/papers/Healy-FairnessGambling.pdf>);

Kagel, John; Lynn Hannan and Don Moser. "[Partial Gift Exchange in an Experimental Labor Market: Impact of Subject Population Differences, Productivity Differences and Effort Requests on Behavior.](#)" 2003, *Journal of Labor Economics*.

Bewley, T. (1998) "Why Not Cut Pay?" *European Economic Review*, 42(3-5),459-90 (why do firms hate to cut pay [in nominal terms]? They say—in interviews—that they fear drop in worker morale that cannot be monitored or punished by other mechanisms)

Frank, R. and A. R. Hutchins (1993) "Wages, seniority, and the demand for rising consumption profiles," in *Journal of Economic Behavior and Organizations*, 21:251-76

Fehr, Ernst and Armin Falk (2001) "Psychological Foundations of Incentives,"

<http://www.iew.unizh.ch/home/fehr/>

Fang, Hangming, and Giuseppe Moscarini. Overconfidence, morale, and wage-setting policies. Yale University November 2002. <http://www.szgerzensee.ch/download/jmepapers/overconf1.pdf> (uses worker overconfidence about relative ability as an assumption and shows that

overconfidence is necessary for wage compression).

Week 9: Behavioral finance

Read:

**Barberis and Thaler. A survey of behavioral finance. In Handbook of Economics & Finance, in press. (<http://badger.som.yale.edu/faculty/ncb25/ch18-6.pdf>)

Background:

Barberis, Nick, Ming Huang and Manuel Santos. (2001) "Prospect Theory and Asset Prices," Quarterly Journal of Economics, 86(1):1-53

Fama, E. "Market efficiency, long-term returns, and behavioral finance", J Fin Econ, 1998, 283-306. (a critique of behavioral finance)

Gabaix, Xavier and David Laibson. 2002. [The 6D Bias and the Equity Premium Puzzle](#) In Benjamin Bernanke and Kenneth Rogoff ed., NBER Macroeconomics Annual, vol.16, 2002, p. 257-312. <http://post.economics.harvard.edu/faculty/laibson/papers/6DJUNE26.PDF>

Hirshleifer, David. ["Investor Psychology and Asset Pricing."](#) *Journal of Finance*, 56(4), August (2001):1533-1598. <http://fisher.osu.edu/fin/faculty/hirshleifer/>

Shleifer, Andrei. Inefficient Markets: An introduction to Behavioral Finance. Oxford Univ Press, 2000.

Week 10: Attention

READ: (readings TBA)

**Barber, Brad and Terrance Odean. All that glitters, 2003. <http://faculty.haas.berkeley.edu/odean/papers/Attention/All%20that%20Glitters.pdf>

**Hong, Harrison and Jeremy Stein. Simple forecasts and paradigm shifts. <http://www.princeton.edu/~hhong/simplicity-june-2005.pdf>

Background:

D'Avolio, Gene and Eric Nierenberg. Investor Attention: Evidence from the Message Boards, 2003.

Hirshleifer, David, and Siew Teoh. Limited attention, information disclosure, and financial reporting. October, 2003. Ohio State working paper.

DellaVigna, Stefano and Joshua Pollet. Attention, Demographic Changes, and the Stock Market, 2003

Gabaix, X., D. Laibson, G Moloche, S Weinberg. (2002) "The Allocation of Attention: Theory and Evidence," mimeo

Gabaix, Xavier and David Laibson. [A New Challenge for Economics: "The Frame Problem"](#) In I. Broca and J. Carillo eds., forthcoming in *Collected Essays in Psychology and Economics*, Oxford University Press.

Hirshleifer, David; Sonya Lim; and Siew Teoh. Disclosure to a credulous audience: The role of limited attention. October, 2002. Ohio State working paper,

"Flicker paradigm" (Resnick)

Sims, Christopher. Rational inattention. Princeton working paper, 2001. (Serious macrotheorist thinks carefully about implications of attention limits)

Wegner, D. (1992) "You Can't Always Think What You Want: Problems in The Suppression of Unwanted Thoughts," *Advances in Experimental Psychology*, vol 25;

[idea: mass attention can now be measured more easily by looking at say Nexis/Lexis and google/yahoo searches—e.g. look at <http://search.yahoo.com/top2003> Notice the sharp spikes in "Paris Hilton" searches in 2004-5—and the dropoff as attention moves elsewhere. These data *have* to be useful for *something*]

Week 11: Public finance and law

READ:

****Bernheim and Rangel (2005). Behavioral public economics: Welfare and policy analysis with non-standard decision makers. June 2005. In P. Diamond and H. Vartiainen. <http://www.nber.org/papers/w11518.pdf>**

Background:

Gachter, S. and E. Fehr (1998) "Collective Action as Social Exchange," working paper;

Andreoni, J. (1995) "Warm-Glow versus Cold-Prickle: The Effects of Positive and Negative Framing on Cooperation in Experiments." *Quarterly Journal of Economics*, 110(1): 1-21;

Andreoni, J. (1993) "An Experimental Test of the Public Goods Crowding-Out Hypothesis," *American Economic Review*, 1317-27;

McCaffrey, Ed. (1994). Cognitive theory and tax. *UCLA Law Review*, vol 41.

*Camerer, Issacharoff, Loewenstein, Rabin, O'Donoghue. "Asymmetric Paternalism", *Penn Law Review*, 2003. <http://www.hss.caltech.edu/~camerer/paternPLR.pdf> (see full Penn Law Review symposium with related papers at http://www.law.upenn.edu/lrev/back_issue_vol151iss3.html)

Jolls, Christine; Sunstein, Cass; and Richard Thaler. A behavioral approach to law and economics. *Stanford Law Review*, July 1998. (See also Posner, Richard and Kelman, Mark comments on Jolls, Sunstein and Thaler, *Stanford Law Review*.)

Kahneman, D., Schkade, D., & Sunstein, C. Shared outrage and erratic awards: The psychology of punitive damages. *Journal of Risk and Uncertainty*, 16, 1998, 49-86.

Sunstein, Cass. (Ed) Behavioral Law and Economics. Cambridge Univ Press

Sunstein and Thaler. Libertarian paternalism is not an oxymoron. *U Chicago Law Review*, in press 2003
http://papers.ssrn.com/sol3/delivery.cfm/SSRN_ID405940_code030509630.pdf?abstractid=405940

Talley, Eric. Private information, self-serving biases, and optimal settlement mechanisms: Theory and evidence. April 2003, <http://www-rcf.usc.edu/~etalley/>

(Other pieces by Jeff Rachlinski, Russell Korobkin et al).

Week 12: Neuroeconomics

READ:

**Glimcher, Dorris, Bayer and Lau. Physiological utility theory and the neuroeconomics of choice. Forthcoming, *Games Ec Behavior* (52)2, 213-256.

**McClure, Laibson, Loewenstein and Cohen. 2004. Separate neural systems value immediate and delayed monetary rewards. *Science*, 306, 15 Oct, 503-507.

**Hsu, Bhatt, Adolphs, Tranel, Camerer. A neural system for judging degrees of uncertainty. Working paper (Ellsberg paradox).

Background:

**Knutson and Peterson, Neural reconstruction of expected utility. *Games and Economic Behavior* 52(2) 305-315.

*Deaner, Khera and Platt. "Monkeys pay per view: Adaptive valuation of social images by rhesus macaques" *Current Biology*, January 27, 2005.

*McClure, Daw and Montague. 2003. A computational substrate for incentive salience. *TRENDS in Neurosciences*, 26, 423-428

Background:

Bhatt, Camerer. Self-referential thinking and equilibrium as a state of mind. *Games Ec Behavior* in press.

*King-Casas, Brooks, Damon Tomlin, Cedric Anen², Colin F. Camerer, Steven R. Quartz², and P. Read Montague. 2005. Getting to know you: Reputation and trust in a two-person economic exchange. *Science*.

Adolphs, Ralph. Cognitive neuroscience of human social behaviour. *Nature Reviews Neuroscience*, 4, March 2003, 165-178. [on SS200 website]

Camerer, Loewenstein & Prelec. Neuroeconomics: How neuroscience can inform economics. *J Ec Perspectives*, March 2005. <http://www.hss.caltech.edu/~camerer/neurojepssubmitted.pdf>

McCabe, Houser, Ryan, Smith and Trouard. A functional imaging study of cooperation in two-person reciprocal exchange. *Proc Natl Acad Sci* 2001

(also see syllabus and downloadable files for SS212c Spring 2003 Camerer/Quartz course <http://www.hss.caltech.edu/~steve/course.htm>)

Glimcher, Paul. Decisions, Uncertainty and the Brain, 2003, MIT Press.

Rustichini, Dickhaut, Ghirardato, Smith and Pardo. A brain imaging study of procedural choice. <http://www.econ.umn.edu/~arust/ProcCh3.pdf>

Schultz, W. (2000) "Multiple Reward Signals in the Brain," *Nature Reviews: Neuroscience*, 199-207

Shizgal, P. et. al. (2001) "Brain Reward Circuitry and the Regulation of Energy Balance," *International Journal of Obesity*, 25, Suppl 4, 51-55

Shizgal, P. (1996) "On the Neural Computation of Utility," *Current Directions in Psychological Science*, 37-43

Tomlin, Montague, Camerer, McClure. Neural substrates of trust, 2003.

Berridge, K. (2002) "Irrational Pursuit: Hyper-Incentives from a Visceral Brain," mimeo

Berridge, K. and T. Robinson (1998) "What is the Role of Dopamine in Reward: Hedonic Impact, Reward Learning, or Incentive Salience?", *Brain Research Reviews*, 28, 309-69

WEEK 13: TBA and SPILLOVER

MISCELLANEOUS

New Phenomena and Constructs

Attention

Addiction

Bernheim, D. and A. Rangel (2002) "Addiction and Cue-Conditioned Cognitive Processes", NBER wp 9329. www.stanford.edu/~bernheim/addiction.pdf

Robinson, T. and K. Berridge (2003) "Addiction," *Annual Review of Psychology*, 54:25-53;

Gruber, J. and B. Koszegi (2001) "Is Addiction 'Rational'? Theory and Evidence," *Quarterly Journal of Economics*, 116(4):1261-1305.

Laibson, D. (2001) "A Cue-Theory of Consumption," *Quarterly Journal of Economics*, 116(1): 81-120

Automaticity

Bargh, J. and T. Chartrand (1999) "The Unbearable Automaticity of Being," in *American Psychologist*, 54(7), 462-79

Benhabib, J. and A. Bisin (2003) "Self-Control and Consumption-Savings Decisions: Cognitive Perspectives", <http://www.econ.nyu.edu/user/bisina/>

Bargh, J. and K. Barndollar (1997) "Automaticity in Action: The Unconscious as Repository of Chronic Goals and Motives," in *The Psychology of Action*

Bargh, J. and P. Gollwitzer (1994) "Environmental Control of goal-directed action: Automatic and strategic contingencies between situations and behavior", in *Integrative Views of Motivation, Cognition, and Emotion*, W.D. Spaulding (ed), Nebraska Press

Langer, E. J. (1989) "Minding Matters: The Consequences of Mindlessness-mindfulness," in Advances in Experimental Psychology vol 22

Luis, M.R. and R. I. Sutton (1991) "Switching Cognitive Gears: From Habits of Mind to Active Thinking," *Human Relations*, 44(1):55-76

Gobet, R. and H. Simon (1996) "Recall of random and distorted chess positions: Implications for the theory of expertise," *Memory and Cognition*, 24(4), 493-503

Schneider, W. and R. Shiffrin (1977) "Controlled and automatic human information processing: I. Detection, search, and attention," *Psychological Review*, 84(1), 1-66

Shiffrin, R.M. and Schneider, W. (1977) "Controlled and Automatic Human Information Processing. II. Perceptual learning, automatic attending, and a general theory," *Psychological Review*, 84(2): 127-90

Categorization

READ:

Mullainathan, Sendhil. *Thinking through categories*. MIT, December 2000;

Fryer and Jackson, 2003. *Categorical cognition*. (Implications for labor market discrimination etc);

Background:

Gilboa, I. and D. Schmeidler (1995) "Case-based Decision Theory," *Quarterly Journal of Economics*, 110, 605-39 and in *ADVANCES*;

Garicano, Cremer and Pratt. 2003. *Organizational codes*, Univ Chicago (codes as crude categories of organizational situations)

Conformity and fashion

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

Scharfstein & Stein, "Herd behavior and investment", *AER* June 1990, 80, 465-479

Karni, Edi & David Schmeidler. Fixed preferences and changing tastes. *AER* May 1990, 80, 262-267.

Pesendorfer, Wolfgang. Design innovation and fashion cycles. *AER*, September 1995, 771-792.

Zweibel, J. Corporate conservatism, *JPE*, 1995, 103, 1-25.

Emotion

Smith, Kip and John Dickhaut. Undated (2003?) Economics and emotion: Institutions matter.

Loewenstein, G. et al (2002) "Risk as Feelings," Psychological Bulletin.

Johnson and A. Tversky (1983) "Affect, Generalization, and the Perception of Risk," Journal of Social and Personality Psychology.

MacCrimmon, Ken R. and Donald A. Wehrung (1990) "Characteristics of risk taking executives," Management Science, 36(4): 422-35

Hirshleifer, David and Tyler Shumway "Good Day Sunshine: Stock Returns and the Weather", forth. JoF. <http://www.cob.ohio-state.edu/fin/faculty/hirshleifer/>

Kathy Yuan, Lu Zheng, Qiaoqiao Zhu "Are Investors Moonstruck? Lunar Phases and Stock Returns" <http://webuser.bus.umich.edu/kyuan/moonstruck.pdf>

Hedonics & happiness

Frey, B. and A. Stutzer (2002) "What Can Economists Learn from Happiness Research?" Journal of Economic Literature: 402-35

Kahneman, Sarin and Wakker. Back to Bentham: Explorations in Experienced Utility. QJE, May 1997.

Gilboa, I. and D. Schmeidler (2001) "A Cognitive Model of Individual Well-being," Social Choice and Welfare, 18:269-88

Oswald, A. (1997) "Happiness and economic performance," Economic Journal, 107:1815-31

Memory

Hirshleifer and Welch. [An Economic Approach to the Psychology of Change: Amnesia, Inertia, and Impulsiveness. Journal of Economics and Management Strategy](http://welch.som.yale.edu/academics/journalcopy/2002-jems.pdf) 11-3, Fall 2002, 379-421. <http://welch.som.yale.edu/academics/journalcopy/2002-jems.pdf>

Mullinaithan, Sendhil. A memory based model of bounded rationality, QJE 2001.

Sarafidis, Yianis. What have you done for me lately? Release of information and strategic manipulation of memories. Yale working paper, November 2000 (now at INSEAD, <http://www.insead.fr/facultyresearch/economics/sarafidis/>)

Wilson, Andrea. Bounded memory and biases in information processing. <http://www.princeton.edu/~awilson/memorybiases.pdf>

Testafson, Leigh. Agent-based computational economics. August 2003
<http://www.econ.iastate.edu/tesfatsi/acewp1.pdf> [see also site at
<http://www.econ.iastate.edu/tesfatsi/ace.htm>]

8. Applications

Macroeconomics

Akerlof and Shiller. Behavioral macroeconomics. Book introduction, unpublished.

Ball, Larry, Mankiw N. Gregory and Ricardo Reis. .Monetary policy for inattentive economies.
http://www.econ.jhu.edu/pdf/papers/WP491_ball2.pdf

Sargent, Thomas. Bounded Rationality in Macroeconomics.

Sims, Christopher. Rational inattention.

Political Science

Benabou, Roland and Jean Tirole. Belief in a just world and redistributive politics. Unpublished, Oct 2002 <http://www.princeton.edu/~rbenabou/beliefs7csend.pdf>

Callander, Steve and Catherine Wilson. Context-dependent voting. November, 2003.
<http://www.kellogg.northwestern.edu/faculty/callander/html/papers/context2nov03.pdf>

Ghirardato, Paolo and Katz,, Jonathan. Indecision theory: Quality of information and voting behavior. March 2002. <http://jkatz.caltech.edu/papers/wp1106R.pdf>

Green, Don and Ian Shapiro, Pathologies of Rational Choice, 1996. (And see “reply” volume, Friedman, Jeffrey (Ed) The Rational Choice Controversy: Economic Models of Politics Reconsidered, Yale Univ Press.)

Patty, John and Roberto Weber. Letting the good times roll: A theory of voter inference and experimental evidence, Carnegie Mellon paper, November 2002.
<http://www.nyu.edu/gsas/dept/politics/seminars/patty.pdf>

Quattrone and Tversky “Contrasting Rational and Psychological Analyses of Political Choice”
CVF 25

Public finance

Savings

Benhabib, J. and A. Bisin (2003) "Self-Control and Consumption-Savings Decisions: Cognitive Perspectives", <http://www.econ.nyu.edu/user/bisina/>

Laibson, David; James Choice; Bridgette Madrian; and Andrew Metrick.

[Active Decisions: A Natural Experiment in Savings](http://post.economics.harvard.edu/faculty/laibson/papers/activedecisions.pdf) August, 2003.
<http://post.economics.harvard.edu/faculty/laibson/papers/activedecisions.pdf>

Status

Bagwell, Laurie S and B. Douglas Bernheim. Veblen effects in a theory of conspicuous consumption. AER, June 1996, 349-373.

Bakshi, Gurdip S. and Zhiwu Chen, The spirit of capitalism and stock-market prices. AER March 1996, 133-157.

Frank, Robert H. "Local status, fairness, and wage compression revisited," unpublished 1994.

Thaler CURSE ch 4.

Probability Judgment

READ:

Tversky and Kahneman, "Judgment under uncertainty: Heuristics and biases," Science, 1974, 1124-1131 (a classic).

Background:

Barberis, Shleifer and Vishny, "A model of investor sentiment" Journal of Financial Economics, 1998, 307-343.

Camerer, C. Loewenstein, George and Martin Weber. (1989) "The Curse of Knowledge in Economic Settings: An Experimental Analysis," Journal of Political Economy, 97(5):1232-54

Daniel, Hirshleifer, and Subrahmanyam. "Investor psychology and security market under- and overreactions," Journal of Finance, 1998, 1839-1885.

Gilovich T. et. al. (1988) "The hot hand in basketball: On the misperception of random sequences," Cognitive Psychology, 17:295-314. (Rare example of psychologists looking at field data *and* experiments— airtight and brilliant.)

Kahneman and Frederick. Representativeness revisited: Attribute substitution in intuitive judgment. In T Gilovich, D Griffin, and D Kahneman (Eds.) Heuristics of intuitive judgment: Extensions and applications, NY: Cambridge Press 2002.

Rabin, Matthew. The law of small numbers. QJE, 2003.

Rabin and Schrag, "First impressions matter: A model of confirmatory bias," QJE 1999, 37-82. ([http://ernesto.catchword.com/vl=2669753/cl=17/nw=1/rpsv/cgi-bin/cgi?body=linker&reqidx=0033-5533\(1999\)114:1L.37](http://ernesto.catchword.com/vl=2669753/cl=17/nw=1/rpsv/cgi-bin/cgi?body=linker&reqidx=0033-5533(1999)114:1L.37))

Waldman, Michael. "Systematic errors and the theory of natural selection," AER 84, June 1994, 482-497. [on evolutionary stability of overconfidence, a good unfortunately-forgotten paper]