“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):

Griffin, and Daniel Kahneman (eds.), Cambridge University Press, 2002
COT: Choice Over Time, G. Loewenstein and J. Elster (eds), Russell-Sage Foundation, 1992
HEE: Handbook of Experimental Economics, John Kagel and Alvin Roth, Princeton University Press, 1995
(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 Spiegler’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

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<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
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<td>9/12</td>
<td>Introduction + preferences over gambles introduction (basic utility theory)</td>
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<tr>
<td>2</td>
<td>9/19</td>
<td>Preferences over gambles (cont’d) and goods</td>
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<td>3</td>
<td>9/26</td>
<td>Intertemporal choice</td>
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<td>Addiction</td>
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<td>5</td>
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<td>Consumer pricing &amp; IO</td>
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<td>6</td>
<td>10/24</td>
<td>Behavioral game theory: Limited strategic thinking and learning</td>
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<tr>
<td>13</td>
<td>12/12</td>
<td>TBA: Spillover and special requests</td>
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</tbody>
</table>

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:


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.)


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).


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:


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


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.


**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.


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.


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

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

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.**


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.**


Background:

*Ellison, Glenn. A model of add-on pricing. MIT working paper,*

http://emlab.berkeley.edu/users/botond/pricing.pdf


Week 6: Behavioral game theory

READ:

**Camerer, Behavioral game theory chapter in ADVANCES.**


Background:


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


**Week 7: Social preferences**


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


Background:


**Week 8: Labor economics**

READ:

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

**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)


Background:


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);


overconfidence is necessary for wage compression).

**Week 9: Behavioral finance**

Read:


Background:


**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


Background:


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


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)


[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:


Background:


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


(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.**


**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.**


**Background:**

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


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


WEEK 13: TBA and SPILLOVER

MISCELLANEOUS
New Phenomena and Constructs

Attention

Addiction


Automaticity


Categorization

READ:
Mullainathan, Sendhil. Thinking through categories. MIT, December 2000;

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

Background:

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

Conformity and fashion


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


**Emotion**


**Hedonics & happiness**


**Memory**


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/)

8. Applications

Macroeconomics


Sargent, Thomas. Bounded Rationality in Macroeconomics.

Sims, Christopher. Rational inattention.

Political Science


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. )


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

Public finance
Savings


Laibson, David; James Choice; Bridgette Madrian; and Andrew Metric.
http://post.economics.harvard.edu/faculty/laibson/papers/activedecisions.pdf

Status


Thaler CURSE ch 4.

Probability Judgment

READ:


Background:


