Econ 594BT: Behavioral Economics (Theory)  
a.k.a. Psychology & Economics  
Introduction

Your host: Zack Grossman

UCSB

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Class Information

- Web:
  http://econ.ucsb.edu/~grossman/Econ594BTS09.html
- Office hours: Wednesday 11-12, or by appointment, 3049 North Hall
- Recommended Text: *Choices, Values, and Frames* (CVF), by Kahneman & Tversky
Who should take this class?

- PhD students in 2nd year or higher
- Interested in doing applied or theoretical work
- ...incorporating realistic formal assumptions
- Possibly specializing in Behavioral/Experimental—not required, though
Course Requirements

- 2 problem sets: 15% of your grade (each)
- 2 problem set questions: 10%
- 2 referee reports: 10%
- 1 take-home final: 30%
What is this course about?

- Behavioral economics:
  - Same as standard econ: questions, approaches
  - ... but with more psychologically realistic assumptions ('robots’ a bit more complicated/human)
- Examples: Imperfect self-control, altruism, beliefs-based preferences, misprediction of future preferences, non-Bayesian thinking, overconfidence
- We adapt the “standard” model where it is lacking
- This course is not about: evolutionary economics, models of bounded rationality that are not grounded in psychology, alternatives to mainstream economic methodologies.
- What it would be about if we had more time: behavioral finance, neuroeconomics, learning, social learning, and more behavioral game theory
Some random examples:

- People try to sell condos at the price they bought them. Even similar condos bought at different prices are sold at prices reflecting the price at which they were bought. (Genesove & Mayer, 2001)
- People are reluctant to sell their stocks below the purchase price. (Odean, 98)
- Massive credit card debt: over 5 cards in circulation in US per adult. People w/ debt pay hundreds of dollar each year in interest
- People frequently encounter small stakes, independent gambles and turn them down.
- People regularly pay more for low insurance deductibles, buy extended warranties, and buy insurance for risks involving trivial losses (tea kettles, internal wiring, ferrets).
Motivation

Some random examples:

- Which of the following sequences of 10 flips of a fair coin is most (least) likely?
  1. hhthh hhhhh (4/5 heads, followed by 5/5 heads, yielding 9/10 heads)
  2. tthtt thttt (1/5 heads, followed by 1/5 heads, yielding 2/10 heads)
  3. hhtht hhttt (3/5 heads, followed by 2/5 heads, yielding 5/10 heads)

- Do you think employee morale will be lower following
  1. a nominal wage increase of 2% when inflation is 8%, or
  2. a nominal wage decrease of 3% when inflation is 1%?
General Approach

- Read up on psychological/experimental evidence,
- Largely from *CVF*, most of remainder available online
- Explore how to incorporate evidence w/ formal assumptions
- Develop insights from now models
- (Lamentably) little time for: applications, empirical tests, market responses
Benefits of our Approach

Ways that psychologically more realistic assumptions can improve our analysis:

- We can explain economic behavior that traditional assumptions have difficulty explaining.
- We can explain important economic behavior that one would have thought economists would have been studying, but haven’t been.
- We can better explain the normative/hedonic consequences of observed behavior, comment on welfare.
- We frequently make models more complicated and less tractable, but more realistic—a tradeoff on the scale of what economists do all the time. BUT ALSO frequently make them less complicated and more tractable.
We Love Mainstream Econ

Three central premises of this course:

1. *Most* facts about people that seem to be true and economically relevant—even if not in Samuelson—are both true and economically relevant.

2. Nonstandard assumptions can and should be studied using *exactly* the same set of tools, approaches, and scientific criteria as economists are used to. Sole difference: broader view of human nature.

3. To a *very* large extent, familiar economic assumptions are great. They have occasional limitations, but are often appropriate and tremendously useful even when not exactly right. We are not replacing, merely enhancing mainstream econ.

Eventual goal: ‘behavioral economics’ will disappear as a separate field, dissolve like game theory or information econ.
Each individual chooses her “lifetime strategy” \( x = (x_1, x_2, \ldots) \) to maximize

\[
\max_{x \in X} \sum_{t=0}^{\infty} \delta^t \sum_{s_t \in S_t} p(s_t) u(x_t | s_t)
\]

where

- \( X \) is the set of all lifetime plans/strategies
- \( S_t \) are the set of state spaces
- \( p(s_t) \) is a rational belief about the probability that state \( s_t \) occurs in period \( t \)
- \( \delta \) is a time-consistent, exponential discount factor
- \( u(x_t, s_t) \) is true utility in period \( t \), which depends upon current, but not prior consumption, doesn’t change over time or depend directly on beliefs, or the consumption/utility of others.
Non-standard preferences

- What does $u(x_t|s_t)$ really look like?
  - Reference-dependent: depends both on consumption levels and changes
  - Social-preferences: concern for fairness, reciprocity, beliefs of self or others

- Risk preferences: is $p(s_t)$ appropriate? are weightings linear in probability?

- Time preferences: today vs. tomorrow $\neq$ day $t$ vs. day $t+1$ (present bias $\rightarrow$ time inconsistency)
Non-standard beliefs: $\tilde{p}(s_t) \neq p(s_t)$

- The Law of Small Numbers: incorrect assessment of $p(s_{t+1}|s_t)$
- Overconfidence
- Information projection: assuming others observe the same signals you do
- Projection bias: $\tilde{u}(x_t|s_t) \neq u(x_t|s_t)$ (mispredict future preferences)
Non-Standard Decision-making: a hodgepodge of phenomena that suggest that, even by improving our conception of preferences and beliefs, we may still be wrong in our conceptualization of some behaviors.

- Narrow framing, choice bracketing and mental accounting
- Not visited: menu effects, limited attention, emotions, peer pressure
Behavioral game theory: how do people actually play and learn in games?

Time Permitting...