EE416 Behavioral Economics

Semester 2/2019

Introduction to behavioral economics

Today's content

- What is economics?
- What is behavioral economics?
  - What is behavioral econ claiming? What is it not claiming?
  - What are the standards? What are the non-standards?
  - Psychology vs. Behavioral Econ, Experimental econ vs. Behavioral Econ
- Examples
- Two-system thinking
- Overview of the class
- Grading

What is economics?

- "The core theory used in economics builds on a simple but powerful model of behavior. Individuals makes choices so as to maximize a utility function, using the information available, and processing this information appropriately. Individuals' preferences are assumed to be time-consistent, affected only by own payoffs, and independent of the framing of the decision."

– Stefano DellaVigna, Psychology and Economics: Evidence from the Field

What is economics?

- Economics is the study of how people and societies deal with scarcity (i.e., limited resources)
- Some assumptions of the standard economic model:
  - Individuals are motivated by expected utility maximization
  - Individuals have time-consistent preferences
  - Individual’s utility governed by individual (selfish) concerns
  - Framing should not matter, only information
  - All income and assets are fungible

In reality, people are not always calculated, ‘rational’ thinkers. Individuals are:

- time-inconsistent,
- show a concern for the welfare of others,
- exhibit an attitude toward risk that depends on framing and reference points,
- violate rational expectations, for example, by overestimating their own skills and overprojecting from the current state
- use heuristics to solve complex problems,
- are affected by transient emotions in their decisions.

What is behavioral economics?

- Behavioral economics tries to improve upon existing economic models by using insights from the field of psychology.

What is behavioral economics?

- Behavioral economists are saying that standard models could be better, but they aren’t claiming that the new models are perfect.

- "All models are wrong, but some are useful” George Box
  - All models are simplifications of reality!

What is behavioral economics?

- Standard economic theory assumes that individuals are perfectly "rational".
- Behavioral economics points out ways in which people are **systematically** "irrational".
- Behavioral economics started by observing anomalies and updating models based on these observations.

What is behavioral economics?

- To fix ideas, consider the following stylized version of the standard model. Individual i *at time* $t = 0$ maximizes expected utility subject to the probability distribution $p(s)$ of the state of the world $s \in S$:

$$\max_{x_i^t \in X_i} \sum_{t=0}^{\infty} \delta^t \sum_{s_t \in S_t} p(s_t) U(x_i^t | s_t)$$

What is behavioral economics?

- Behavioral Economics suggests that individuals (might) deviate from the standard model in three (related) respects (DellaVigna, JEL, 2009).
  - Nonstandard preferences
  - Nonstandard beliefs/Incorrect beliefs
  - Nonstandard decision making

What is behavioral economics?

- Nonstandard preferences are such as
  - Time preferences, e.g., self-control
  - Risk preferences, e.g., reference-dependence
  - Social preferences, e.g., altruism

What is behavioral economics?

- Nonstandard beliefs are such as:
  - Overconfidence
  - Projection bias

What is behavioral economics?

- Nonstandard decision making are such as:
  - Framing effect:

    being sensitive to how the problem is presented
  - Limited attention:

    being inattentive to the less salient features of the problem
  - Heuristics:

    use mental shortcut to solve the problem
  - Emotions

What is behavioral economics?

- Psychology vs. Behavioral Economics
  - Psychologists develop models of how individuals make decisions.

  - Behavioral economists use these insights to inform more realistic assumptions, and **determine how they might be relevant in economic contexts.**

What is behavioral economics?

- Experimental Economics vs. Behavioral Economics
  - Both employ experimental methods to test theories.
  - Experimental economics is not necessarily focused on ‘behavioral’ aspects derived from psychology.

ECONS vs. HUMANS

ECONS	HUMANS
Homo Economicus, or economic man	Homo Sapien
"Rational"	"Irrational" or have "behavioral anomalies"
Time consistent	Time inconsistent
Make unbiased forecast	Can make systematically wrong (biased) forecast in a predictable direction
No inertia	Status Quo bias (Inertia to change from status quo)
Only individual own payoff matters to individual's decision making.	The payoff of other people also matters to individual's decision making.

And more

Example 1- Shepard's two tables

Seeing is believing.

Do these two tables have the same ratio of the length to the width?

Source: Shepard RN (1990) Mind Sights: Original Visual Illusions, Ambiguities, and other Anomalies, New York: WH Freeman and Company

Example 2 - Linda

- Linda is thirty-one years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice and also participated in antinuclear demonstrations.

- What is more probable for Linda?
  - (A.) She is a bank teller.
  - (B.) She is a bank teller and active in the feminist movement.

Example 3 – Flipping a fair coin

- If the coin comes up head, you win X baht.
- If the coin comes up tail, you lose 500 baht.

- How much does X have to be for you to take the bet?

Example 4 – Monkeys and grapes

Example 5 – Airborne disease

- Imagine that Thailand is preparing for the outbreak of an unusual airborne disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows:

Example 5 – Which of the two programs would you favor?

- If Program A is adopted, 200 people will be saved.
- If Program B is adopted, there is a one-third probability that 600 people will be saved and two-thirds probability that no people will be saved.

Example 5 – Which of the two programs would you favor?

- If Program C is adopted, 400 people will die.
- If Program D is adopted, there is a one-third probability that nobody will die and two-thirds probability that 600 people will die.

Two-system thinking

Automatic System (System 1):	Reflective System (System 2)
Intuitive and associative	Reflective and rational
Automatic and unconscious	Self-aware and conscious
Faster	Slower
Uncontrolled	Controlled
Effortless	Effortful

Two-system thinking

- Write down your answer quickly, then reflect:
  - Soup and salad cost $1.10 in total. The soup costs a dollar more than the salad. How much does the salad cost?
  - If it takes 2 nurses 2 minutes to measure the blood pressure of 2 patients, how long would it take 200 nurses to measure the blood pressure of 200 patients?

Two-system thinking

- Write down your answer quickly, then reflect:
  - Ann's father has a total of five daughters: Lala, Lele, Lili, Lolo, and________. What is the name of the fifth daughter?
  - A farmer had 15 sheep. All but 8 died. How many are left?

Two-system thinking

- Write down your answer quickly, then reflect:
  - John is looking at Emma, and Emma is looking at Harry. John is married, but Harry is not. Is a married person looking at an unmarried person? [A) Yes B) No C) Cannot be determined]

What can we get from studying behavioral economics?

- Behavioral insights to CAREFULLY design more effective public policies
- Better decision makings
- Knowing economics that can have more explanatory power to understand how people think and act

Overview of the class

Risk Preference

Heuristics and biases

Intertemporal choices

Public policy to combat error

Time Preference

Attention, Salience, and Memory

Anticipation

Projection bias

Cognition and emotion

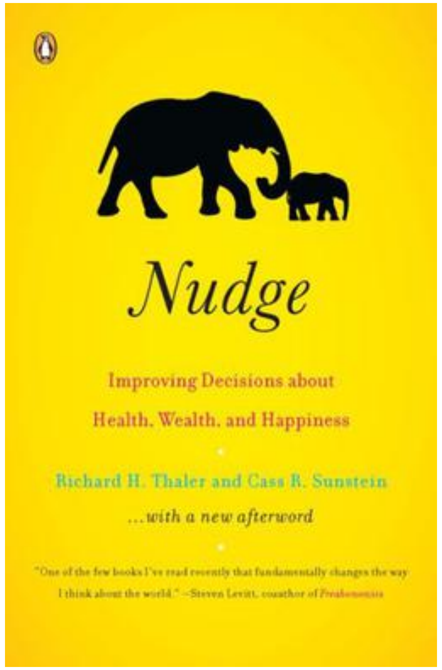
Temptation

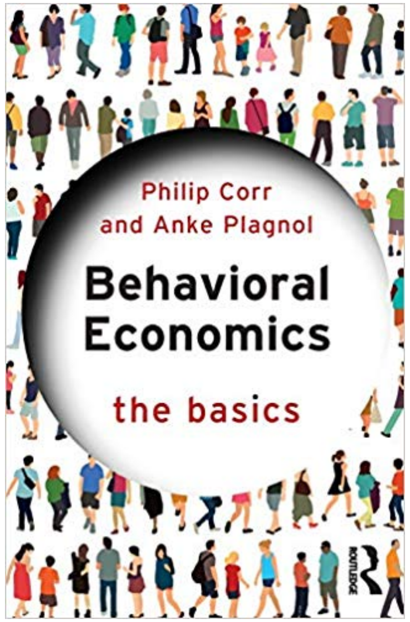
Social Preferences

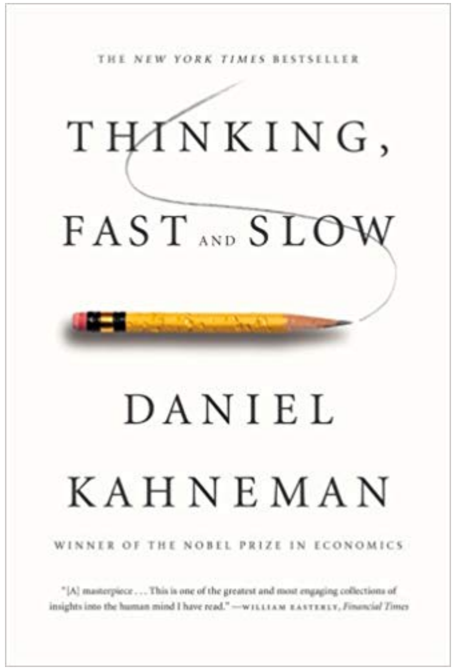
Subjective well being and happiness

Concept + Econ technicalities

- Books







- Papers

Grading

- Midterm Exam: 25%
- Final Exam: 50%
- Term paper: 25%
  - Policy design: a behavioral policy solution to some real-world policy problem that interests you
  - Company's business failure or series of business failures: investigation of the failure(s) as consequences of the behavioral anomalies
  - Any research question: Theoretical or empirical
- Enrollment key for bemoodle: 3589