# 14.13: Psychology and Economics

## Frank Schilbach (MIT)

### Fall 2016

## 1 Administration

• Instructor: Frank Schilbach

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• Lectures:

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• Recitations:

Friday 9:00 am, E51-151

• Course website:

https://stellar.mit.edu/S/course/14/fa16/14.13/index.html

# 2 Course description

Behavioral Economics (aka 'Psychology and Economics'; or 'Economics and Psychology') is a growing sub-field of economics that incorporates insights from psychology and other social sciences into economics. The broad goal of these efforts is to make economic models more realistic and to strengthen their predictive power by incorporating previously neglected features such as problems with self control, concerns for others, or aversion to losses. This course discusses recent advances in behavioral economics by reviewing some of the assumptions made in mainstream economic models, and by discussing how human behavior systematically departs from these assumptions, drawing on experiments from psychology and other fields that have been used to learn about preferences, cognition, and behavior. Topics include deviations from the standard model in terms of (i) preferences (present bias, reference dependence, and

social preferences), (ii) beliefs (overconfidence, projection bias, and attribution bias), and (iii) decision-making (cognition, attention, and framing), as well as (iv) market and policy reactions to such deviations. Applications will cover a wide range of fields, including labor and public economics, industrial organization, health economics, finance, and development economics.

# 3 Organization of this course

[Note: some of the organizational features of this course follow closely Prof. Autor's organization of his 14.03 course, which allows me (and you!) to benefit from his extensive experience in teaching an excellent undergraduate economics course at MIT.]

## 3.1 Prerequisites

As the class is considering *deviations* from mainstream models of economics, a solid grasp of these models is essential for mastering the material. As a result, 14.01 or an equivalent introductory microeconomics course is a prerequisite for this class. If you have not taken 14.01, please talk to me after the first lecture to discuss whether this class is suitable for you.

## 3.2 Reading materials

There is no textbook for this course. The fairly detailed lecture slides are meant to be self-explanatory, and they are complemented by a set of readings for each class, as specified in the reading list. These readings will feature in lectures, quizzes, exams and problem sets. If a reading is marked as required, you are responsible for preparing the paper prior to class, which means reading the abstract, introduction and conclusion (not necessarily the body of the paper), and additional sections of the paper as specified in the reading list.

### 3.3 Class attendance

Given that the class does not follow a textbook, most of the course materials will be based on empirical and theoretical papers from leading academic journals. While lectures notes are extensive, the course material will be difficult to master without attending lectures. Moreover, there will be unannounced short quizzes at the start of approximately six of the lectures throughout the semester. These quizzes will test basic knowledge of starred readings and materials covered in the previous lecture, and they will count toward your grade for the course (see more below). If you pay attention in lectures and do the specified readings before class, the quizzes will be easy for you.

## 3.4 Laptop policy

Electronic devices may not be used in class unless you opt into a "laptop" seating section of the classroom in which laptops and iPads may be used. Cell phones, smart or not, are not allowed to be used in class. If you are interested in sitting in this laptop section, please send an email

with the subject line "14.13 laptop sign-up" to Fei Song (fsong@mit.edu) no later than 11:59 pm on Sunday, September 11, so we can finalize name tags and assigned seating areas for the two sections of the classroom. After September 11, no more laptop sign-ups will be accepted.

## 3.5 Grading

The class is *not* graded on a curve. It is possible that everyone will do very well, which will make me very happy. However, if you do not put effort into this class, you will likely not do well, i.e. you may receive a C or worse. If we think you are headed for a D or an F, we will try to warn you before the drop date. Your grade in this course will be composed of four components as specified below.

## 3.5.1 Short quizzes (5%)

The short quizzes are meant to encourage you to keep up with the materials of the course throughout the semester. Only your best five (out of approximately six) quizzes will count toward your grade.

### 3.5.2 Class participation (10%)

Regular class participation will be rewarded. Both the quantity and quality of your comments in class count toward your participation grade.

## 3.5.3 Problem sets (25%)

There will be six problem sets over the course of the semester, which will cover materials from lecture, readings, and class discussions. You must submit your problem sets in pdf-form using Stellar. Late problem sets will not be accepted, and there won't be any exceptions to this policy. To accommodate for unanticipated events, illness, conflicts in your schedule, or other rational or irrational reasons that may prevent you from submitting the problem set on time, we will automatically drop the problem set with your lowest score. The problem set schedule is as follows:

- PS1 is due at 9/25/2016 at 8 pm.
- $\bullet$  PS2 is <u>due</u> at 10/9/2016 at 8 pm.
- $\bullet$  PS3 is <u>due</u> at 10/23/2016 at 8 pm.
- PS4 is  $\underline{\text{due}}$  at 11/6/2016 at 8 pm.
- PS5 is <u>due</u> at 11/20/2016 at 8 pm.
- $\bullet$  PS6 is <u>due</u> at 12/4/2016 at 8 pm.

Note that problem sets are due at 8 pm each day. Please make sure to submit your problem set a bit earlier to account for network issues or other unforeseen problems. Late problem sets will <u>not</u> be accepted for such reasons.

### 3.5.4 Exams (60%)

There will be two closed-book, closed-notes exams of 85 minutes in length each: First, there will be a mid-term exam in class (October 27), which will count for 25% of your grade. Second, there will be a cumulative end-term exam during finals week, which will count for 35% of your grade. The date for the final exam will be announced by the MIT Registrar's Office later in the semester.

### 3.5.5 Questions regarding grading

You should direct any questions regarding grading first to your TA. Importantly, you must submit your exam or problem set no more than one week after the assignment has been handed back. To have your grading be reconsidered, take the following steps:

- (1) Take the material to the TA along with a note describing specifically what you believe the problem to be. Include your email address in this note.
- (2) After the TA has contacted you by email, schedule an in-person meeting to discuss the issue.

#### 3.5.6 Getting help outside of class

If you have questions regarding the class material or problem sets, there are four ways to get help:

- (i) Use the course website. We will have threaded discussions there (monitored by TAs and professor as needed) for all problem sets and class topics. You should get a pretty quick response and a good answer.
- (ii) Drop in during TA office hours.
- (iii) Go to Prof. Schilbach's office hours.
- (iv) Ask questions during recitation (and in class as appropriate).

Please do *not* send us your class-related questions by email (except for personal class-related matters). The Stellar Wiki is a more efficient way for us to communicate with you, and this way of communicating also benefits your classmates. If you email class-related questions to us, we may respond, but we will be irritated.

## 4 Schedule

Below is a schedule for the semester, along with the corresponding reading materials for each class. Class topics and readings are subject to revision, i.e. some topics might be revised or even dropped altogether if time runs short. Starred readings are required – please read these papers <u>before</u> coming to class. I will announce in each class which paper(s) to read for the subsequent class(es).

Non-starred readings are *not* required, but they may help you understand the materials covered in lectures or problem sets. That is, you might want to consult these papers in case you'd like to deepen your understanding of the material covered in class (or perhaps you'd just like to find out more!), but we will not test you on the content of these papers beyond the parts that are covered in class.

### General Books of Interest (<u>not</u> required)

- Kahneman et al. (1982): Judgment Under Uncertainty: Heuristics and Biases
- Kahneman and Tversky (2000): Choices, Values and Frames
- Kahneman (2011): Thinking, Fast and Slow
- Ross and Nisbett (1991): The Person and the Situation: Perspectives of Social Psychology
- Cialdini (1993): Influence, the Psychology of Persuasion
- Thaler and Sunstein (2008): Nudge: Improving Decisions about Health, Wealth, and Happiness
- Ariely (2009): Predictably Irrational: The Hidden Forces that Shape our Decisions
- Mullainathan and Shafir (2013): Scarcity: Why Having Too Little Means so Much

#### Sept 8 and 13: Introduction and Overview

- \* Rabin (2002): A Perspective on Psychology and Economics
- Mullainathan and Thaler (2000): Behavioral Economics
- DellaVigna (2009): Psychology and Economics: Evidence from the Field
- Rabin (1998): Psychology and Economics
- Rabin (2013): Incorporating Limited Rationality into Economics

#### Sept 15, 20, 22, and 27: Time Preferences

\* Frederick et al. (2002): Time Discounting and Time Preference: A Critical Review

- Akerlof (1991): Procrastination and Obedience
- Laibson (1997): Golden Eggs and Hyperbolic Discounting
- \* O'Donoghue and Rabin (1999): Doing it Now or Later
- O'Donoghue and Rabin (2001): Choice and Procrastination
- Bryan et al. (2010): Commitment Devices
- \* Ariely and Wertenbroch (2002): Procrastination, Deadlines, and Performance
- Ashraf, Karlan and Yin (2006): Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines
- Schilbach (2015): Alcohol and Self-Control: A Field Experiment in India
- Kaur, Kremer and Mullainathan (2015): Self-Control at Work
- Milkman et al. (2014): Holding the Hunger Games Hostage at the Gym
- Sadoff et al. (2015): Dynamic Inconsistency in Food Choice: Experimental Evidence from a Food Desert
- Hershfield (2011): Future Self-continuity: How Conceptions of the Future Self Transform Intertemporal Choice
- Della Vigna and Malmendier (2006): Paying Not To Go To the Gym
- Gruber and Koszegi (2001): Is Addiction 'Rational'? Theory and Evidence

## Sept 29: Experimental Methods to Uncover Behavioral 'Anomalies'

\* Ariely et al. (2003): 'Coherent Arbitrariness': Stable Demand Curves Without Stable Preferences

#### Oct 4 and 6: Emotions, Visceral Factors, Projection and Attribution Bias

- \* Read and van Leeuwen (1998): Predicting Hunger: The Effects of Appetite and Delay on Choice
- Badger et al. (2007): Altered States: The Impact of Immediate Craving on the Valuation of Current and Future Opioids
- Lerner et al. (2015): Emotion and Decision Making
- Card and Dahl (2011): Family Violence and Football: The Effect of Unexpected Emotional Cues on Violent Behavior

- \* Loewenstein et al. (2003): Projection Bias in Predicting Future Utility
- Conlin et al. (2007): Projection Bias in Catalog Orders
- Busse et al. (2015): The Psychological Effect of Weather on Car Purchases
- \* Haggag and Pope (2016): Attribution Bias in Economic Decision Making
- Loewenstein (1996): Out of Control: Visceral Influences on Behavior

### Oct 11: No class (Columbus Day)

### Oct 13 and 18: Poverty Through the Lens of Psychology

- Banerjee et al. (2015): A Multi-faceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries
- Sendhil Mullainathan (2005): Development Economics through the Lens of Psychology
- \* Mani et al. (2013): Poverty Impedes Cognitive Function
- Haushofer and Fehr (2014): On the Psychology of Poverty
- \* Schilbach, Mullainathan and Schofield (2016): The Psychological Lives of the Poor
- Shah et al. (2015): Scarcity Frames Value

#### Oct 20 and 25: Risk Preferences

- \* Tversky and Kahneman (1979): Prospect Theory: An Analysis of Decision under Risk
- Rabin (2000): Risk Aversion and Expected-Utility Theory: A Calibration Theorem
- Sydnor (2010): (Over)insuring Modest Risk
- Rabin and Thaler (2001): Anomalies: Risk Aversion

#### Oct 27: Mid-term exam (in class)

#### Nov 1 and 3: Reference-Dependent Preferences

- \* Camerer (2001): Prospect Theory in the Wild: Evidence from the Field
- \* Carmon and Ariely (2000): Focusing on the Forgone: How Value Can Appear So Different to Buyers and Sellers
- Genesove and Mayer (2001): Loss Aversion and Seller Behavior: Evidence from the Housing Market

- Camerer et al. (1997): Labor Supply of New York City Cabdrivers: One Day at a Time

#### November 8, 10, and 15: Social Preferences

- \* Bandiera et al. (2005): Social Preferences and the Response to Incentives: Evidence from Personnel Data
- \* Rao (2013): Familiarity Does Not Breed Contempt: Diversity, Discrimination and Generosity in Delhi Schools

#### November 17: Attention

- \* Chetty et al. (2009): Salience and Taxation: Theory and Evidence
- Thaler (1985): Mental Accounting and Consumer Choice
- Hanna et al. (2014): Learning Through Noticing: Theory and Evidence from a Field Experiment

### November 24: No class (Thanksgiving)

#### Nov 22 and 29; Dec 1: Beliefs and Learning

\* Oster et al. (2013): Optimal Expectations and Limited Medical Testing: Evidence from Huntington's Disease

#### December 6: Frames, defaults, and nudges

- \* Madrian and Shea (2001): Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior
- Carroll et al. (2009): Optimal Defaults and Active Decisions
- Chetty et al. (2014): Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts
- Thaler and Benartzi (2004): Save More Tomorrow  $^{TM}$ : Using Behavioral Economics to Increase Employee Saving

## December 8: Happiness

- \* Kahneman and Thaler (2006): Anomalies: Utility Maximization and Experienced Utility
- Stevenson and Wolfers (2008): Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox
- Schkade and Kahneman (1998): Does Living in California Make People Happy? A Focusing Illusion in Judgments of Life Satisfaction

- Kahneman (1994): New Challenges to the Rationality Assumption

## December 13: Policy

- Thaler and Sunstein (2003):  $Libertarian\ Paternalism$ 

December 22: Final exam

## 5 Other MIT Resources

The Department of Economics values an inclusive environment. If you need a disability accommodation to access this course, please communicate with us early in the semester. If you have your accommodation letter, please meet with the faculty so that we can understand your needs and implement your approved accommodations. If you have not yet been approved for accommodations, please contact Student Disability Services at uaap-sds@mit.edu to learn about their procedures. We encourage you to do so early in the term to allow sufficient time for implementation of services/accommodations that you may need.

The Writing and Communication Center (WCC) at MIT offers free one-on-one professional advice from communication experts (MIT lecturers who have advanced degrees and who are all are published scholars and writers). The WCC works with undergraduate and graduate students, with post-docs and faculty. The WCC helps you strategize about all types of academic and professional writing as well as about all aspects of oral presentations (including practicing classroom presentations & conference talks as well as designing slides). No matter what department or discipline you are in, we help you think your way more deeply into your topic, help you see new implications in your data, research, and ideas.

The WCC also helps with all English as Second Language issues, from writing and grammar to pronunciation and conversation practice. The WCC is located in Kendall Square on the corner of Main and Hayward Streets (E39-115, 55 Hayward Street, in the same building that houses Cosi and across the street from Au Bon Pain). To register with our online scheduler and to make appointments, go to <a href="https://mit.mywconline.com/">https://mit.mywconline.com/</a>. To access the WCC's many pages of advice about writing and oral presentations, go to <a href="http://cmsw.mit.edu/writing-and-communication-center/">https://cmsw.mit.edu/writing-and-communication-center/</a>. The Center's core hours are Monday-Friday, 9:00 am to 6:00 pm; evening hours vary by semester. Check the online scheduler for up-to-date hours.

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