

14.13: Psychology and Economics

Frank Schilbach (MIT)

Syllabus Spring 2020

Instructor: Frank Schilbach (fschilb@mit.edu; E52-560)

Individual Zoom office hours by appointment – please sign up [HERE](#).

Open Zoom office hours on Tuesday from 5 pm to 6 pm [HERE](#) (no appointment needed!).

Assistant: Krista Moody (kristamo@mit.edu)

Lectures: Monday and Wednesday 1:00 pm to 2:30 pm, on Zoom (<https://mit.zoom.us/j/363283818>)

Graduate teaching assistants and Zoom office hours:

Maddie McKelway (mckelway@mit.edu)

OH 12:30-1:30 pm on Wednesdays and Thursdays (<https://mit.zoom.us/j/5403369659>)

Alex Olssen (aolssen@mit.edu)

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Will Rafey (rafey@mit.edu)

OH 4:15-5:15 pm on Fridays (<https://mit.zoom.us/my/rafey>)

Pierre-Luc Vautrey (vautrey@mit.edu)

OH 2-3 pm on Fridays (<https://mit.zoom.us/j/485549623>)

Aaron Goodman (agoodm@mit.edu)

OH 4:00-5:00 pm on Tuesdays and Thursdays (<https://mit.zoom.us/j/4672815777>)

Recitations on Zoom:

Thursdays 3:00-4:00 pm (<https://mit.zoom.us/s/509124218>)

Fridays 10:00-11:00 am (<https://mit.zoom.us/s/887938542>)

Fridays 2:00-3:00 pm (<https://mit.zoom.us/s/174190866>)

Fridays 3:00-4:00 pm (<https://mit.zoom.us/s/906676780>)

Course website:

<https://learning-modules.mit.edu/class/index.html?uuiid=/course/14/sp20/14.13#info>

Online forum (Piazza): <https://piazza.com/mit/spring2020/1413/home>

Course Overview: Behavioral Economics (aka ‘Psychology and Economics’) 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 self-control issues, concerns for others, or aversion to losses. This course covers 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. We draw on empirical evidence from psychology and related fields that shed light on 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. Students participate in surveys and small experiments in class, review evidence from lab and field experiments, and examine how the results can be integrated into existing or novel models.

Prerequisites. As the class is considering *deviations* from mainstream models of economics, a solid grasp of these models is essential for mastering the material. Therefore, 14.01 or an equivalent introductory microeconomics course is a prerequisite for this class. If you have not taken 14.01, please talk to the instructors after the first lecture to discuss whether this class is suitable for you. Note that the class will also be offered in Fall 2020, so you might consider taking the class then and take an intro econ course before then.

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 recitation notes as well as by a set of readings for each class, as specified in the reading list. These readings will feature in lectures, 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 sections announced in class, usually abstract, introduction, and selected sections of the paper.

Lectures. Given the large size of the class and difficulties for some students to attend online lectures given time different time zones, etc., there will be two options for lectures:

- (i) *Asynchronous*: Each lecture will be recorded online before the scheduled time of the class. This recording will be done without student questions or any other interruptions.
- (ii) *Synchronous*: Each lecture will also be given during the scheduled time of the class. Students will be able to ask questions during this time. A recording of this class will be uploaded to the course website as well.

You can choose which type of lecture to attend and/or watch. Of course, you can make use of both options but this is NOT required.

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 the lecture notes are fairly comprehensive, the course material will be difficult to master without attending lectures live or watching the recordings.

Grading. Following MIT regulations, the grades for this class will be pass/fail only, so please do NOT worry about your grade. Below are the different components of your grade, which will then be translated into pass/fail. As long as you do the psets and exams, you will pass the class.

The class is *not* graded on a curve. It is possible that everyone will do very well, which will make us very happy. However, if you do not put effort into this class, you will likely not do well. If we think you are in danger of failing the class (which is unlikely), we will try to warn you before the drop date. Here are the different components of your grade:

- **Exams (70%).** There will be two exams, which will both be administered online.

- (1) The mid-term exam will count for 30% of your grade. It will be designed for 85 minutes (as originally planned) but you be given 120 minutes to complete it online to account for difficulties uploading your answers or any other issues that may arise. The mid-term exam will take place on April 6, 2020 (instead of class on that day). Starting at 8:01 am EST, you will be given 16 hours (until midnight) to pick a 120-minute window during which you can complete the exam.
 - (2) There will be a cumulative end-term exam (180 minutes), which will count for 40% of your grade. If your grade on the final is higher than your grade on the midterm, both grades will be replaced with your grade on the final so that your final counts for 70% of your grade. The final exam will take place on May 19, 2020 (during the finals period). Starting at 8:01 am EST, you will be given 16 hours (until midnight) to pick a 180-minute window during which you can complete the exam.
- **Problem sets (30%).** There will be five 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 Gradescope (<https://www.gradescope.com/>). 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 tentative problem set schedule is as follows:

- PS1 is due on Feb 22 at 6 pm.
- PS2 is due on Mar 7 at 6 pm.
- PS3 is due on Apr 1 at 6 pm.
- PS4 is due on Apr 22 at 6 pm.
- PS5 is due on May 4 at 6 pm.

Note that problem sets are each due at 6 pm. Please make sure to submit your problem set a bit earlier to account for network issues or other unforeseen problems. Late problem sets will not be accepted for such reasons.

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) Email your TA along with a note describing specifically what you believe the problem to be.
- (2) The TA will schedule an in-person meeting to discuss the issue, likely during TA office hours.

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 online forum ([Link to Piazza](#)). We will have threaded discussions (monitored by the TAs and professor) for all problem sets and class-related topics, which should allow you to get a timely, high-quality answer to most of your questions.

- (ii) Ask questions during recitation and lectures.
- (iii) Ask questions during TA office hours (on Zoom, see above).
- (iv) Ask questions during Prof. Schilbach's office hours (on Zoom, see above)

Please avoid sending us your class-related questions by email (except for personal class-related matters). The discussion forum and office hours are more efficient ways for us to communicate with you, and your forum questions and responses will benefit many of your classmates.

Academic integrity. In this class, you will be held to the high standard of academic integrity expected of all students at MIT.

- We will follow MIT's Academic Integrity Policy (see complete policy at [Integrity at MIT](#)).
- You may work jointly with other groups on problem sets but each of you must submit solutions individually. If you choose to work with other students, we expect that you work jointly on the solutions rather than simply copying solutions from another student. This will help you to learn the material and to prepare for exams.
- **IMPORTANT:** On the mid-term and final exam, you can consult your notes but you must work on your own, i.e. without the help of other students or anyone else in person or online.
- Violating the Academic Integrity policy in any way will result in official Institute sanction. Please review the Academic Integrity policy and related resources, and contact us if you have any questions related to the Academic Integrity of this course.

Check. Great, you are still reading! To confirm that you indeed read the syllabus, please send an email a picture of a bear to Prof. Schilbach (fschilb@mit.edu) with the subject line "14.13 confirmation". Please send interesting pictures, not just the first one that shows up when googling 'bear'.

General books of interest (not required). The following books are background readings in case you would like to learn more. They are by no means 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*
- [Lewis \(2017\)](#): *The Undoing Project: A Friendship That Changed Our Minds*
- [Thaler \(2015\)](#): *Misbehaving: The Making of Behavioral Economics*

Tentative schedule. Below is a tentative 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 before 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. You might want to consult these papers in case you'd like to deepen your understanding of the material covered in class, but we will not test you on the content of these papers beyond the parts that are covered in class.

Introduction and Overview (Feb 3, 5)

- ** [Rabin \(2002\)](#): *A Perspective on Psychology and Economics* (sections I and II)
- [Carter et al. \(2017\)](#): *The Impact of Computer Usage on Academic Performance: Evidence from a Randomized Trial at the United States Military Academy*
- [Darley and Batson \(1973\)](#): *“From Jerusalem to Jericho”: A Study of Situational and Dispositional Variables in Helping Behavior*
- [DellaVigna \(2009\)](#): *Psychology and Economics: Evidence from the Field*
- [Gabaix and Laibson \(2008\)](#): *The Seven Properties of Good Models*
- [Mullainathan and Thaler \(2000\)](#): *Behavioral Economics*
- [Rabin \(1998\)](#): *Psychology and Economics*
- [Rabin \(2013\)](#): *Incorporating Limited Rationality into Economics*

Time Preferences (Feb 10, 12, 18, 19)

Introduction to Time Preferences

- ** [Frederick et al. \(2002\)](#): *Time Discounting and Time Preference: A Critical Review*
- [Akerlof \(1991\)](#): *Procrastination and Obedience*

Quasi-Hyperbolic Discounting

- ** [O'Donoghue and Rabin \(1999\)](#): *Doing it Now or Later*
- [Laibson \(1997\)](#): *Golden Eggs and Hyperbolic Discounting*
- [O'Donoghue and Rabin \(2001\)](#): *Choice and Procrastination*

Empirical Applications

- ** [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*

- Bryan et al. (2010): *Commitment Devices*
- DellaVigna and Malmendier (2006): *Paying Not To Go To the Gym*
- Gruber and Koszegi (2001): *Is Addiction 'Rational'? Theory and Evidence*
- Hershfield (2011): *Future Self-continuity: How Conceptions of the Future Self Transform Intertemporal Choice*
- Kaur, Kremer and Mullainathan (2015): *Self-Control at Work*
- Milkman et al. (2014): *Holding the Hunger Games Hostage at the Gym*
- Schilbach (2017): *Alcohol and Self-Control: A Field Experiment in India*

Risk Preferences (Feb 24) and Reference Dependence (Feb 26, Mar 2)

Introduction to Risk Preferences

- ** Rabin and Thaler (2001): *Anomalies: Risk Aversion*
- ** Sydnor (2010): *(Over)insuring Modest Risk*
- Rabin (2000): *Risk Aversion and Expected-Utility Theory: A Calibration Theorem*

Reference-Dependent Preferences

- ** Tversky and Kahneman (1979): *Prospect Theory: An Analysis of Decision under Risk*

Empirical Applications

- Allen et al. (2017): *Reference-Dependent Preferences: Evidence from Marathon Runners*
- Camerer et al. (1997): *Labor Supply of New York City Cabdrivers: One Day at a Time*
- 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*
- Pope and Schweitzer (2011): *Is Tiger Woods Loss Averse? Persistent Bias in the Face of Experience, Competition, and High Stakes*

Social Preferences (Mar 4, 9, 11, 30)

Experiments in Class (March 4)

- No readings. You will participate in simple in-class experiments. You can make some money while learning about the generosity of your classmates.

Modeling and Measuring Social Preferences

- ** Camerer and Fehr (2004)

Empirical Applications

- ** [Bandiera et al. \(2005\)](#): *Social Preferences and the Response to Incentives: Evidence from Personnel Data*
- ** [Rao \(2019\)](#): *Familiarity Does Not Breed Contempt: Diversity, Discrimination and Generosity in Delhi Schools*
- [Gneezy and List \(2006\)](#): *Putting Behavioral Economics to Work: Testing for Gift Exchange in Labor Markets Using Field Experiments*
- [Henrich \(2012\)](#): *Hunter-Gatherer Cooperation*
- [Lazear et al. \(2006\)](#): *Sorting, Prices, and Social Preferences*
- [Andreoni and Bernheim \(2007\)](#): *Social Image and the 50-50 Norm: A Theoretical and Experimental Analysis of Audience Effects*
- [Dana et al. \(2007\)](#): *Exploiting Moral Wiggle Room: Experiments Demonstrating an Illusory Preference for Fairness*
- [Ellingsen and Johannesson \(2007\)](#): *Paying Respect*

Mar 16, 18: No class (MIT closed)

Mar 23, 25: No class (Spring Break)

Limited Attention (April 1)

- ** [Chetty et al. \(2009a\)](#): *Saliency and Taxation: Theory and Evidence*
- [Hanna et al. \(2014\)](#): *Learning Through Noticing: Theory and Evidence from a Field Experiment*
- [Huberman and Regev \(2001\)](#): *Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar*
- [DellaVigna \(2009\)](#): *Psychology and Economics: Evidence from the Field*

April 6: Mid-term exam

Beliefs and Learning (Apr 8, 13)

- ** [Oster et al. \(2013\)](#): *Optimal Expectations and Limited Medical Testing: Evidence from Huntington's Disease*
- [Chen et al. \(2016\)](#): *Decision-making under the Gambler's Fallacy: Evidence from Asylum Judges, Loan Officers, and Baseball Umpires*
- [Gilovich et al. \(1985\)](#): *The Hot Hand in Basketball: On the Misperception of Random Sequences*
- [Gold and Hester \(1987\)](#): *The gambler's fallacy and the coin's memory*
- [Loewenstein \(1987\)](#): *Anticipation and the Valuation of Delayed Consumption*
- [Malmendier and Tate \(2008\)](#): *Who makes acquisitions? CEO overconfidence and the market's reaction*

- [Tversky and Kahneman \(1974\)](#): *Judgment under Uncertainty: Heuristics and Biases*

Projection and Attribution Bias (Apr 15)

- ** [Loewenstein et al. \(2003\)](#): *Projection Bias in Predicting Future Utility*
- [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*
- [Boven and Loewenstein \(2003\)](#): *Social Projection of Transient Drive States*
- [Busse et al. \(2015\)](#): *The Psychological Effect of Weather on Car Purchases*
- [Conlin et al. \(2007\)](#): *Projection Bias in Catalog Orders*
- [Loewenstein \(1996\)](#): *Out of Control: Visceral Influences on Behavior*
- [Schelling \(1984\)](#): *Self-Command in Practice, in Policy, and in a Theory of Rational Choice*
- [Haggag and Pope \(2016\)](#): *Attribution Bias in Economic Decision Making*

Apr 20: No class (Patriots' Day)

Gender, Discrimination, and Identity (Apr 22)

- ** [Sarsons \(2019\)](#): *Interpreting Signals in the Labor Market: Evidence from Medical Referrals*
- [Bertrand et al. \(2015\)](#): *Gender Identity and Relative Income within Households*
- [Goldin \(2014\)](#): *A Grand Gender Convergence: Its Last Chapter*
- [Vesterlund et al. \(2015\)](#): *Breaking the Glass Ceiling with "No"*
- [Fredrickson et al. \(1998\)](#): *That Swimsuit Becomes You: Sex Differences in Self-Objectification, Restrained Eating, and Math Performance*
- [Niederle and Vesterlund \(2011\)](#): *Gender and Competition*

Frames, Defaults, Nudges, Mental Accounting (Apr 27)

- ** [Madrian and Shea \(2001\)](#): *Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior*
- [Bertrand et al. \(2010\)](#): *What's Advertising Content Worth? Evidence from a Consumer Credit Marketing Field Experiment*
- [Blumenstock et al. \(2016\)](#): *Mobile-zing Savings with Automatic Contributions: Experimental Evidence on Dynamic Inconsistency and the Default Effect in Afghanistan*
- [Carroll et al. \(2009\)](#): *Optimal Defaults and Active Decisions*
- [Chetty et al. \(2009b\)](#): *Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts*

- [Huber et al. \(1982\)](#): *Adding Asymmetrically Dominated Alternatives: Violations of Regularity and the Similarity Hypothesis*
- [Thaler and Benartzi \(2004\)](#): *Save More TomorrowTM: Using Behavioral Economics to Increase Employee Saving*
- [Hastings and Shapiro \(2013\)](#): *Fungibility and Consumer Choice: Evidence from Commodity Price Shocks*
- [Thaler \(1985\)](#): *Mental Accounting and Consumer Choice*
- [Thaler \(1999\)](#): *Mental Accounting Matters*

Malleability and Inaccessibility of Preferences (Apr 29)

- ** [Ariely et al. \(2003\)](#): *'Coherent Arbitrariness'; Stable Demand Curves without Stable Preferences*
- [Nisbett and Wilson \(1977\)](#): *Telling More Than We Can Know: Verbal Reports on Mental Processes*

Poverty Through the Lens of Psychology (May 4)

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

Happiness and Mental Health (May 6)

- ** [Stevenson and Wolfers \(2008\)](#): *Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox*
- [Levitt \(2016\)](#): *Heads or Tails: The Impact of a Coin Toss on Major Life Decisions and Subsequent Happiness*
- [Kahneman and Thaler \(2006\)](#): *Anomalies: Utility Maximization and Experienced Utility*
- [Kahneman \(1994\)](#): *New Challenges to the Rationality Assumption*
- [Koszegi and Rabin \(2008\)](#): *Choices, Situations and Happiness*
- [Schkade and Kahneman \(1998\)](#): *Does Living in California Make People Happy? A Focusing Illusion in Judgments of Life Satisfaction*

Policy and Paternalism (May 11)

- ** [Thaler and Sunstein \(2003\)](#): *Libertarian Paternalism*
- [Camerer et al. \(2003\)](#): *Regulation for Conservatives: Behavioral Economics and the Case for "Asymmetric Paternalism"*
- [Glaeser \(2006\)](#): *Paternalism and Psychology*
- [Loewenstein et al. \(2007\)](#): *Asymmetric Paternalism to Improve Health Behaviors*

Final exam during exam period (May 19)

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