

Syllabus
Behavioral Economics – Theory and the Lab 38918-50
Spring 2023
Professor Alex Imas

This is a research class intended for Ph.D. students in economics, behavioral science, finance, and other related fields. The class will be discussion based, so students must come to class well prepared.

Contact:

Instructor: Professor Alex Imas (alex.imas@chicagobooth.edu)

Location:

All classes will be held in person in HCA3

There will be three assignments:

1. Referee reports. You will be asked to prepare a referee report for a paper that will be discussed in class. The report should be 2-3 pages in length and include a short summary of the paper, followed by critiques and suggestions for the authors. It will be due on May 9th. The report will be on:

Simplicity Equivalents, Oprea, Working Paper 2022, <https://drive.google.com/file/d/1-BzflZfsMgI38q0goPCeiyF02swZbIZI/view>

2. Idea briefs. You will be asked write a short idea brief (2-3) pages focusing on a research idea related to the material covered in class. The idea brief should provide a short motivation for the research question and outline the theoretical or empirical strategy that would be used to explore it. For example, if the research idea involves an experiment, the brief should include a sketch of an experimental design. It will be due on May 16th.

3. Final Paper. The most important assignment for the class is to complete a research paper on a topic approved by me. Research proposals are due on the last day of class and the final paper is due by August 28th. These papers can be theoretical, field empirical, or laboratory-based and should be related to behavioral economics in some way.

The syllabus, along with homework assignments and other announcements, will be placed on the course's Canvas site. For students who have not used Canvas (non-Booth students), please contact the TA Umy Yasar (umy@chicagobooth.edu) for instructions on how to gain access to the course site.

Some of the readings for the course come from two excellent edited volumes that you can purchase:

Advances in Behavioral Economics

Colin Camerer, George Loewenstein and Matthew Rabin
Russell Sage Foundation and Princeton University Press, 2004.

Choices, Values, and Frames

Daniel Kahneman and Amos Tversky
New York: Russell Sage Foundation; Cambridge, U.K.: Cambridge University Press, 2000.

Other books that would be good to own:

Misbehaving: The Making of Behavioral Economics.

Richard H. Thaler
New York: W.W. Norton & Company, 2015

The Winner's Curse: Paradoxes and Anomalies of Economic Life

Richard H. Thaler
Princeton, N.J.: Princeton University Press, 1994.

Quasi Rational Economics

Richard H. Thaler
New York: Russell Sage Foundation, 1991.

Nudge: Improving Decisions about Health, Wellness, and Happiness

Richard H. Thaler and Cass R. Sunstein
New York: Penguin 2009.

The Handbook of Experimental Economics

John Kagel and Alvin Roth, editors.
Princeton, N.J.: Princeton University Press, 1995.

Policy and Choice: Public Finance through the Lens of Behavioral Economics

William Congdon, Jeffrey Kling, and Sendhil Mullainathan,
Washington, D.C.: Brookings Institution Press, 2011
Free electronic copy: <http://www.brookings.edu/press/Books/2011/policyandchoice.aspx>

Reading Assignments:

* indicates required reading

Week 1, March 21th: Introduction and Choice under Uncertainty

***Toward a Positive Theory of Consumer Choice**

Richard H. Thaler

Journal of Economic Behavior & Organization 1.1 (1980): 39-60.

Choices, Values, and Frames, p. 269 (Chapter 15).

<http://www.sciencedirect.com/science/article/pii/0167268180900517>

***Prospect Theory: An Analysis of Decision under Risk**

Daniel Kahneman and Amos Tversky

Econometrica 47.2 (1979): 263-92.

Choices, Values, and Frames, p. 17 (Chapter 2).

<http://www.jstor.org/stable/1914185>

Diminishing Marginal Utility of Wealth Cannot Explain Risk Aversion

Matthew Rabin

Choices, Values, and Frames, p. 202 (Chapter 11).

<http://129.3.20.41/eps/game/papers/0012/0012002.pdf>

The Endowment Effect

Keith Ericson and Andreas Fuster

Annual Review of Economics, 6, 555-579

<https://www.annualreviews.org/doi/abs/10.1146/annurev-economics-080213-041320>

A Model of Reference-Dependent Preferences

Botond Koszegi and Matthew Rabin

The Quarterly Journal of Economics 121.4 (2006): 1133-165.

<http://qje.oxfordjournals.org/content/121/4/1133.full.pdf>

A Behavioral Analysis of Stochastic Reference Dependence

Yusufcan Masatlioglu and Collin Raymond

American Economic Review, 2016

<https://drive.google.com/file/d/1WdrcShxTUmJX41kbyLGkKODuao1IHOs8/view?usp=sharing>

The Methodology of Positive Economics

Milton Friedman

Essays in Positive Economics. Chicago, IL: The University of Chicago Press, 1953.

Week 2, March 28th: Mental Representation

***The Realization Effect: Risk Taking after Realized versus Paper Outcomes**

Alex Imas

American Economic Review (2016)

<https://alex-imas-3nnf.squarespace.com/s/Realization-Effect.pdf>

***On the Role of Similarity in Mental Accounting and Hedonic Editing**

Ellen Evers, Alex Imas, and Christy Kang

Psychological Review (2021)

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3452943

Features of Similarity

Amos Tversky

Psychological Review (1977)

<https://psycnet.apa.org/fulltext/1978-09287-001.pdf>

Dynamic Inconsistency in Risky Choice: Evidence from the Lab and Field

Rawley Heimer, Zwetelina Iliewa, Alex Imas, and Martin Weber

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3600583

Choice with Endogenous Categorization

Andrew Ellis and Yusufcan Masatlioglu

Review of Economic Studies, 2022

<http://econweb.umd.edu/~masatlioglu/CTM.pdf>

Mental Accounting Matters

Richard H. Thaler

Journal of Behavioral Decision Making 12.3 (1999): 183-206.

Advances in Behavioral Economics, p. 75 (Chapter 3).

<http://www.tinbergen.nl/ti-events/tilectures2007/thaler2.pdf>

Preference Reversals Between Joint and Separate Evaluations of Options: A Review and Theoretical Analysis

Chris Hsee, George Loewenstein, Sally Blount, and Max Bazerman

Psychological Bulletin (1999)

<https://www.academia.edu/download/30784565/PrefRevJoint.pdf>

Ambiguity Aversion and Comparative Ignorance

Craig Fox and Amos Tversky

Quarterly Journal of Economics (1995)

<https://www.jstor.org/stable/2946693>

The Impact of Joint Versus Separate Prediction Mode on Forecasting Accuracy

Alex Imas, Minah Jung, Silvia Saccardo, and Joachim Vosgerau

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4234803

Week 3, April 4th: Attention and Memory

***The Economics of Attention**

George Loewenstein and Zachary Wojtowicz

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4368304

***Memory and Probability**

Pedro Bordalo, John J. Conlon, Nicola Gennaioli, Spencer Y. Kwon, and Andrei Shleifer
Quarterly Journal of Economics (2023)

https://www.dropbox.com/s/9aujqlmyd0s24ud/map_qje2023.pdf?dl=0

Behavioral Inattention

Xavier Gabaix

Handbook of Behavioral Economics, (2018)

https://scholar.harvard.edu/files/xgabaix/files/behavioral_inattention.pdf

A Sparsity-Based Model of Bounded Rationality

Xavier Gabaix

Quarterly Journal of Economics (2014)

<https://pages.stern.nyu.edu/~xgabaix/papers/sparsebr.pdf>

Salience

Pedro Bordalo, Nicola Gennaioli and Andrei Shleifer

Annual Review of Economics (2022)

<https://www.dropbox.com/s/6k1wtb2zxm39w1/annurev-economics-salience-2.pdf?dl=0>

Memory, Attention and Choice

Pedro Bordalo, Nicola Gennaioli and Andrei Shleifer

Quarterly Journal of Economics (2020)

<https://www.dropbox.com/s/zfyf285u9tngmcw/qjaa007-2.pdf?dl=0>

Associative Memory and Belief Formation

Ben Enke, Frederik Schwerter, and Florian Zimmermann

https://drive.google.com/file/d/1MQFWekxbBw9VBInmrygBJSn-T_pi_YQE/view?usp=sharing

Stereotypes

Pedro Bordalo, Katie Coffman, Nicola Gennaioli and Andrei Shleifer

Quarterly Journal of Economics (2016)

https://www.dropbox.com/s/bmq4etmre58nso8/stereotypes.qje_.october2016.pdf?dl=0

Week 4, April 11th: Noisy Cognition

***Modeling Imprecision in Perception, Valuation, and Choice**

Michael Woodford

Annual Review of Economics, (2020)

http://blogs.cuit.columbia.edu/mw2230/files/2020/07/AREcon_noise.pdf

***Cognitive Uncertainty**

Ben Enke and Thomas Graeber

https://benjamin-enke.com/pdf/Cognitive_uncertainty.pdf

Efficient Coding and Risky Choice

Cary Frydman and Lawrence Jin

Quarterly Journal of Economics (2022)

https://drive.google.com/file/d/1pD2COQ_AgQ_trhoFwjsBThR1-WR1vKkG/view?usp=sharing

Cognitive Imprecision and Strategic Behavior

Cary Frydman and Salvatore Nunnari

https://drive.google.com/file/d/1Bs08_Q3ZT1q4Kw7UJkTjSMi6adUIIGjQ/view?usp=sharing

Confidence, Self-Selection, and Bias in the Aggregate

Ben Enke, Thomas Graeber, and Ryan Oprea

American Economic Review (2023)

https://drive.google.com/file/d/1-GunuOjlvuPpe3qKMX65o_xO5W0Ld1yt/view?usp=share_link

Cognitive Imprecision and Stake-Dependent Risk Attitudes

Mel Win Khaw, Ziang Li, and Michael Woodford

<http://blogs.cuit.columbia.edu/mw2230/files/2022/09/fourfold.pdf>

Cost-Benefit Analysis in Reasoning

Larbi Alaoui and Antonio Penta

Journal of Political Economy, 2022

<https://www.journals.uchicago.edu/doi/epdf/10.1086/718378>

Myopia and Discounting

Xavier Gabaix and David Laibson

<https://www.nber.org/papers/w23254>

Dual Decision Processes: Retrieving Preferences When Some Choices are Automatic

Francesco Cerigioni

Journal of Political Economy, 2021

https://francescocerigioni.weebly.com/uploads/5/5/1/9/55191825/francesco_cerigioni_dual_decision_processes.pdf

Experimental Design

Experimental Economics from the Vantage Point of Behavioral Economics

George Loewenstein

The Economic Journal, 109 (1999): 25-34

[http://onlinelibrary.wiley.com/store/10.1111/1468-0297.00400/asset/1468-](http://onlinelibrary.wiley.com/store/10.1111/1468-0297.00400/asset/1468-0297.00400.pdf?v=1&t=j7s2xasz&s=7cd9fe482f749d13cb9be590329baa1bd4b58188)

[0297.00400.pdf?v=1&t=j7s2xasz&s=7cd9fe482f749d13cb9be590329baa1bd4b58188](http://onlinelibrary.wiley.com/store/10.1111/1468-0297.00400/asset/1468-0297.00400.pdf?v=1&t=j7s2xasz&s=7cd9fe482f749d13cb9be590329baa1bd4b58188)

Economics in the Laboratory

Vernon Smith

Journal of Economic Perspectives, 8 (1994): 113-131

<https://www.jstor.org/stable/2138154>

To Deceive or Not to Deceive: The Effect of Deception on Future Laboratory Experiments

Julian Jamison, Dean Karlan and Laura Schechter

Journal of Economic Behavior and Organizations, 68 (2008), 477-488

<http://isps.yale.edu/research/publications/isps08-014>

Experimental Methods: Between-subjects and Within-subject design

Gary Charness, Uri Gneezy and Michael Kuhn

Journal of Economic Behavior and Organizations, 81 (2012), 1-8

<http://rady.ucsd.edu/docs/faculty/rest%20published.pdf>

The Effects of Financial Incentives in Experiments: A Review of Capital-Labor-Production Framework

Colin Camerer and Robin Hogarth

Journal of Risk and Uncertainty, 19 (1999): 7-42

<https://link.springer.com/article/10.1023/A:1007850605129>

Economic Theory and Experimental Economics

Larry Samuelson

Journal of Economic Literature, 43 (2005): 65-107

Psychology and Experimental Economics: A Gap in Abstraction

Dan Ariely and Michael Norton

Current Directions in Psychological Science, 16 (2007): 336-339

Monetary Rewards and Decision Costs in Experimental Economics

V. Smith and J. Walker

Economic Inquiry, 21 (1989): 245-261

An Experimental Study of Competitive Market Behavior

Vernon Smith

Journal of Political Economy, 70 (1962): 111-137

Experimental Methods: When and why contextual instructions are important

Aleksandr Alekseev, Gary Charness and Uri Gneezy

Journal of Economic Behavior and Organizations, 134 (2017), 48-59

Experimental Methods: Eliciting Risk Preferences

Gary Charness, Uri Gneezy and Alex Imas

Journal of Economic Behavior and Organizations, 87 (2013), 43-51

Lab in the Field: Measuring Preferences in the Wild

Uri Gneezy and Alex Imas

In Handbook of Field Experiments, edited by Abhijit Banerjee and Esther Duflo

Week 5, April 18th: Complexity

***What Makes a Rule Complex?**

Ryan Oprea

American Economic Review (2020)

<https://drive.google.com/open?id=1gQI3p97H7vBozNhXDE8PNkqOIvCUaIvE>

***Simplicity Equivalents**

Ryan Oprea

<https://drive.google.com/file/d/1-BzflZfsMgI38q0goPCeiyF02swZbIZl/view?usp=sharing>

Computationally Tractable Choice

Modibo Camara

<https://mkcamara.github.io/ctc.pdf>

Cognitive Limitations: Failures of Contingent Thinking

Muriel Niederle and Emanuel Vespa

Annual Review of Economics (2023)

https://drive.google.com/file/d/104jv_CrDqzVbmajXCxrwR2dR-NSaDTre/view

Computational Complexity and Human Decision-Making

Peter Bossaerts and Carsten Murawski

Trends in Cognitive Science (2017)

<https://www.sciencedirect.com/science/article/abs/pii/S1364661317301936>

How Humans Solve Complex Problems: The Case of the Knapsack Problem

Carsten Murawski and Peter Bossaerts

Scientific Reports (2016)

<https://www.nature.com/articles/srep34851>

On the Complexity of Forming Mental Models

Chad Kendall and Ryan Oprea

https://drive.google.com/file/d/1-JCmmnXbZaCqjyhguVWPgN_8qOQGvwpw/view

Complexity and Procedural Choice

James Banovetz and Ryan Oprea

American Economic Journal: Microeconomics (2022)

<https://drive.google.com/file/d/15wtpNeRnNSqFJZg6GUePnjh2UG5gmHFM/view>

Complexity and Time

Ben Enke, Thomas Graeber and Ryan Oprea

https://drive.google.com/file/d/1kCMn58jRFksbJJqFazaBtzcL5en62VZ4/view?usp=share_link

Guest Lecture: Modibo Camara

Week 6, April 25th: Behavioral IO

***Bounded Rationality in Industrial Organization**

Glenn Ellison

Advances in Economics and Econometrics: Theory and Applications, Ninth World Congress, Volume II (2006).

<http://www.globalsepri.org/UploadPhotos/2008912173543855.pdf>

Libertarian Paternalism

Richard H. Thaler and Cass R. Sunstein

American Economic Review P&P, 93 (2003): 175-179

Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets

Xavier Gabaix and David Laibson

The Quarterly Journal of Economics 121.2 (2006): 505-40.

<http://qje.oxfordjournals.org/content/121/2/505.full.pdf+html>

Bounded Rationality and Industrial Organization

Ran Spiegler

New York: Oxford University Press, 2011.

Contract Design and Self-control: Theory and Evidence

Stefano DellaVigna and Ulrike Malmendier

The Quarterly Journal of Economics 119.2 (2004): 353-402.

<http://gsbapps.stanford.edu/researchpapers/library/RP1801.pdf>

The Relevance of Quasi Rationality in Competitive Markets

Thomas Russell and Richard Thaler

The American Economic Review 75.5 (1985), p. 1071-1082.

(Reprinted and corrected version from *Quasi Rational Economics*)

<http://www.jstor.org/stable/1818646>

Behavioral Economics and Psychology of Incentives

Emir Kamenica

Annual Review of Economics, forthcoming.

<http://faculty.chicagobooth.edu/emir.kamenica/documents/behavioralIncentives.pdf>

Guest Lecture: Avner Strulov-Shlain

Week 7, May 2nd: Beliefs

***Errors in Probabilistic Reasoning and Judgment Biases**

Daniel Benjamin

Handbook of Behavioral Economics

<https://www.nber.org/papers/w25200.pdf>

***Over- and Underreaction to Information**

Cuimin Ba, Aislinn Bohren, and Alex Imas

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4274617

The Dynamics of Motivated Beliefs

Florian Zimmermann

American Economic Review, (2020)

<https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnx1Y29uZmxvcmlhbnppbW1lcm1hbm58Z3g6NzJjMDkxNGY0YWJiYzc5Ng>

Projection Bias in Predicting Future Utility

George Loewenstein, Ted O'Donoghue, and Matthew Rabin

The Quarterly Journal of Economics 118.4 (2003): 1209-248.

<http://www.jstor.org/stable/25053938>

Inaccurate Statistical Discrimination: An Identification Problem

Aislinn Bohren, Kareem Haggag, Alex Imas, and Devin Pope

Review of Economics and Statistics (2023)

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3402134

Overconfidence and Excess Entry: An Experimental Approach

Colin Camerer and Dan Lovallo

American Economic Review 89.1 (1999): 306-18.

<http://www.jstor.org/stable/116990>

The Curse of Knowledge in Economic Settings: An Experimental Analysis

Colin Camerer, George Loewenstein, and Martin Weber

Journal of Political Economy 97.5 (1989): 1232.

<http://www.jstor.org/stable/1831894>

Motivated Optimism and Workplace Risk

Alain Cohn, Yesim Orhun, and Collin Raymond

https://yesimorhun.com/wp-content/uploads/2021/11/Motivated_Optimism_Workplace_Risk.pdf

Week 8, May 9th: Learning and Mental Models

***What You See is All There Is**

Ben Enke

Quarterly Journal of Economics, (2020)

https://benjamin-enke.com/pdf/What_you_see.pdf

***Learning with Heterogeneous Misspecified Models: Characterization and Robustness**

Aislinn Bohren and Daniel N. Hauser

Econometrica (2021)

https://www.aislinnbohren.com/s/BohrenHauser_LearningModelMisspecification_July2021_PIE

RWP.pdf

Ownership, Learning, and Beliefs

Sam Hartzmark, Sam Hirshman, and Alex Imas

Quarterly Journal of Economics, 2021

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3465246

Mental Models and Learning: The Case of Base-Rate Neglect

Ignacio Esponda, Emanuel Vespa, and Sevgi Yuksel

<https://faculty.econ.ucsb.edu/~sevgi/EVY.pdf>

Contextual Inference in Markets: On the Informational Content of Product Lines

Emir Kamenica

American Economic Review 98.5 (2008): 2127-149.

<http://www.jstor.org/stable/29730164>

Inattentive Inference

Thomas Graeber

Journal of the European Economic Association (2022)

[https://academic.oup.com/jeea/advance-](https://academic.oup.com/jeea/advance-article/doi/10.1093/jeea/jvac052/6701366?guestAccessKey=30adf49d-b14c-4782-9235-09ba4cb1c6af)

[article/doi/10.1093/jeea/jvac052/6701366?guestAccessKey=30adf49d-b14c-4782-9235-](https://academic.oup.com/jeea/advance-article/doi/10.1093/jeea/jvac052/6701366?guestAccessKey=30adf49d-b14c-4782-9235-09ba4cb1c6af)

[09ba4cb1c6af](https://academic.oup.com/jeea/advance-article/doi/10.1093/jeea/jvac052/6701366?guestAccessKey=30adf49d-b14c-4782-9235-09ba4cb1c6af)

Correlation Neglect in Belief Formation

Ben Enke and Florian Zimmermann

Review of Economic Studies (2019)

[https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnx1Y29uZmxv](https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnx1Y29uZmxvcmlhbnppbW1lcm1hbm58Z3g6NGM5Mjg4ZDBjZTl1OWNmYw)

[cmlhbnppbW1lcm1hbm58Z3g6NGM5Mjg4ZDBjZTl1OWNmYw](https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnx1Y29uZmxvcmlhbnppbW1lcm1hbm58Z3g6NGM5Mjg4ZDBjZTl1OWNmYw)

The Dynamics of Discrimination: Theory and Evidence

Aislinn Bohren, Alex Imas, and Michael Rosenberg

American Economic Review (2019)

[https://alex-imas-](https://alex-imas-3nnf.squarespace.com/s/BohrenImasRosenberg_DynamicsDiscrimination_January2019.pdf)

[3nnf.squarespace.com/s/BohrenImasRosenberg_DynamicsDiscrimination_January2019.pdf](https://alex-imas-3nnf.squarespace.com/s/BohrenImasRosenberg_DynamicsDiscrimination_January2019.pdf)

Week 9, May 16th: Behavioral Finance

***Prospect Theory and Stock Market Anomalies**

Nick Barberis, Lawrence Jin, and Baolian Wang
<https://nicholasbarberis.github.io/rt30c.pdf>

***Behavioral Finance**

David Hirshleifer

Annual Review of Financial Economics, 2015

<https://cpb-us-e2.wpmucdn.com/sites.uci.edu/dist/c/362/files/2015/01/SSRN-id2480892.pdf>

***The Behavior of Individual Investors**

Brad Barber and Terrance Odean

Handbook of the Economics of Finance, 2013

<https://faculty.haas.berkeley.edu/odean/papers%20current%20versions/behavior%20of%20individual%20investors.pdf>

Selling Fast and Buying Slow: Heuristics and Trading Performance of Institutional Investors

Klakow Akepanidaworn, Rick Di Mascio, Alex Imas and Lawrence Schmidt

Journal of Finance (2022)

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3301277

Can the Market Multiply and Divide? Non Proportional Thinking in Financial Markets

Kelly Shue and Richard Townsend

Journal of Finance, 2020

<https://sites.google.com/site/kellyshue/files/CantheMarketMultiplyandDivide.pdf?attredirects=0>

A Tough Act to Follow: Contrast Effects in Financial Markets

Sam Hartzmark and Kelly Shue

Journal of Finance, 2018

<https://sites.google.com/site/kellyshue/files/A%20Tough%20Act%20to%20Follow%20-%20Contrast%20Effects%20in%20Financial%20Markets.pdf?attredirects=0>