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Master course at the
University of Copenhagen
Summer 2021

Behavioral and Experimental Economics

Behavioral economics attempts to make economics a more relevant and powerful science of human behavior by integrating insights from psychology and the social sciences into economics. Experimental economics adapts methods developed in the natural sciences to study economic behavior. Experiments are valuable in testing to what extent the integration of insights from other disciplines into economics is necessary and fruitful.

Behavioral and Experimental Economics is a vibrant field of research in economics and sheds new light on many old and important issues in economics. The field has received wide recognition, for example by the award of the Nobel Prize 2002 to Daniel Kahneman and Vernon Smith for behavioral and experimental economics, and to Richard Thaler in 2017 for behavioral economics (the Nobelists Reinhard Selten 1994, Elinor Ostrom 2009, Alvin Roth 2012, and Abhijit Banerjee, Esther Duflo and Michael Kremer 2019 have used and developed experimental methods; George Akerlof 2001 and Robert Shiller 2013 have contributed to Behavioral Economics). The field is rapidly growing. This course can therefore not provide a comprehensive overview but concentrates on selected topics instead.

The course addresses the following questions:

- What are the advantages and limitations of experimental economics?
- How can (different types of) experiments be used to shed new light on important questions in economics?
- How important are deviations from the assumptions of full rationality and strict self-interest in determining outcomes of economic interaction?

I argue that identifying individual-level "anomalies" is not sufficient to demonstrate their economic and social importance. Instead, it must be analyzed how institutions mitigate and multiply these anomalies. A broad range of institutions, including markets, bargaining and democracy is discussed.

Requirements: A sound knowledge of microeconomics and game theory is required.

Successful completion of this course earns students **7.5 ECTS** credits.

Grading: a) participation in experiments and analysis of experimental data is required for admission to final exam, b) 100% final exam (2 hours). The assessment language is English.

a) Participating in all demonstration experiments is an essential element of this course. However, you are not expected to prepare these experiments. You earn a "pass" grade if you are present (see schedule below), are attentive and make "reasonable" choices in the experiment.
   Students are invited to work on assignments relating to the experiments. Students provide a rough analysis after each experimental session and answer specific questions concerning the experiment. Knowledge of the literature is not expected at this stage (we will talk about the experiments in the lecture). Maximum length of a paper: 4 pages text (not counting graphs, tables, see separate guidelines for more details). Students work in groups (of 2 or) 3. Papers are graded as "pass" or "fail" and *one "pass" paper is required* for admission to the final exam. I strongly recommend to hand in the first assignment.

b) The final exam covers the content of the entire lecture (2 hours, closed book, English). Place and date of the exam to be announced.

Schedule

Lectures are held on weekdays **10:00-13:00** at CSS (lecture hall CSS 18-01-11), starting Monday, August 2. There are no lectures on days with experiments. Lecture notes will be posted briefly before each lecture. The lecture notes summarize selected papers and address issues raised in the assignments. The exam will follow the lecture notes in level and depth of the materials covered.

COVID-19-related aspects:

- **Classroom** participation is expected whenever possible. From August 1st onwards, all students can be seated in class without having to provide a covid test, without the need for additional distancing or wearing a face mask. You can read more at https://kunet.ku.dk/newsroom/news/Pages/No-more-face-masks-and-distancing-from-14-June.aspx
- The lecture will be **streamed** for students who are in quarantine. The streaming can only be viewed through Absalon, and only by course participants. The streaming will not be recorded.

Demonstration **experiments** are held at the Laboratory for Experimental Economics CSS 05-0-34, starting 10:00 and ending 13:00 the latest. **Please show up on time**. It is important that everyone hears and understands the instructions for the experiment. Those who are late for the instructions cannot meaningfully participate. However, you are not expected to prepare these experiments in any way.

The assignments (questions and the data to be analyzed), readings and other materials are posted on my **absalon.ku.dk** webpage. You are supposed to think about the issues raised in the assignment and look at the data for yourself. There is no need to know the literature at this point. Mind the deadlines.

Deadlines for handing in assignments are marked in ***bolditalics*** below.

Week 1

August 2	Introduction
August 3	Experiments I. Hand in assignment 1 by ***August 6***, 10h
August 4	Introduction
August 5	Markets
August 6	Experiments II. Hand in assignment 2 by ***August 11,*** 10h

Week 2

August 9	Loss aversion
August 10	Biases in probability judgments
August 11	Strategic complementarity and coordination
August 12	Money illusion
August 13	Experiments III: Hand in assignment 3 by ***August 17,*** 10h

Week 3

August 16	Fairness, Honesty, Trust, and Institutions
August 17	Cooperation and Public Goods
August 18	Cooperation and Public Goods / Democracy
August 19	Democracy
August 20	Discrimination / Q&A time
August 23	Exam (time and place tba)

Readings

Papers marked with * are required readings. These will be discussed in some detail in class and can be covered in the final exam *at the level discussed* in my lectures. For example, a study may have several treatment arms but we only discuss a subset of them, or a paper uses extensive and sophisticated statistical techniques but I may only discuss a subset of statistical tests and regression results (in which case I will not ask questions about the ones we did not discuss in class). However, I expect you to understand all concepts mentioned in class even if I do not explain them (again) in detail. For example, if I discuss an experiment on competitive markets and mention the 1st theorem of welfare economics, or in a game theory experiment I mention subgame-perfection, I expect you to know (or catch up on) these concepts.

References marked with # are recommended reading. These references provide background information.

The remaining (non-marked) papers will only be mentioned or briefly discussed in class (and are relevant for the exam only to the extent I discuss them) or may serve as "complementary reading" for those who want to delve more deeply into the literature.

Readings will be made available on Absalon.

Introduction

Alekseev, A., Charness, G. and Gneezy, U. (2017): Experimental Methods: When and Why Contextual Instructions are Important. *Journal of Economic Behavior and Organization* 134: 48-59.

Bénabou, R. and Tirole, J. (2016): Mindful Economics: The Production, Consumption, and Value of Beliefs. *Journal of Economic Perspectives* 30(3): 141-64.

Camerer, C.F. (2015): The Promise and Success of Lab-field Generalizability in Experimental Economics: A Critical Reply to Levitt and List. *Handbook of Experimental Economic Methodology*, Ch. 14: 249-95.

* Camerer, C.F. et al. (2016): Evaluating Replicability of Laboratory Experiments in Economics. *Science* 351(6280): 1433-6.

Coffman, L.C. and Niederle, M. (2015): Pre-analysis Plans Have Limited Upside, Especially Where Replications Are Feasible. *Journal of Economic Perspectives* 29(3): 81-98.

deQuidt, J., Haushofer, J. and Roth, C. (2018): Measuring and Bounding Experimenter Demand. *American Economic Review* 108(11): 3266-302.

Dhami, S. (2019): *Foundations of Behavioral Economic Analysis*. Oxford University Press, Vol I: Introduction: 1-65.

* Falk, A. and Heckman, J. (2009): Lab Experiments Are a Major Source of Knowledge in the Social Sciences. *Science* 326(5952): 535-8.

Friedman, M. (1953): *Essays in Positive Economics*. Univ. of Chicago Press: Chicago, Ill.

Kahneman, D. (2011): *Thinking, Fast and Slow*. Farrar, Straus and Giroux, New York.

Levitt, S. and List, J.A. (2006): What Do Laboratory Experiments Measuring Social Preferences Reveal About the Real World? *Journal of Economic Perspectives* 21(2): 153-74.

Olken, B.A. (2015): Promises and Perils of Pre-analysis Plans. *Journal of Economic Perspectives* 29(3): 61-80.

* Rabin, M. (2013): An Approach to Incorporating Psychology into Economics. *American Economic Review* 103(3): 617-22.

Roth, A.E. (2002): The Economist as Engineer: Game Theory, Experimentation and Computation as Tools for Design in Economics. *Econometrica* 70(4): 1341-78.

Roth, A.E. (2015): Is Experimental Economics Living Up to Its Promise? *Handbook of Experimental Economic Methodology*. Oxford Univ. Press, Ch. 1: 13-40.

Snowberg, E. and Yariv, L. (2021): Testing the Waters: Behavior across Participant Pools. *American Economic Review* 111(2): 687-719.

Smith, V.L. (1982): Microeconomic Systems as an Experimental Science. *American Economic Review* 72(5): 923-55.

Smith, V.L. (2002): Method in Experiment: Rhetoric and Reality. *Experimental Economics* 5(2): 91-110.

Thaler, R.H. (2016): Behavioral Economics: Past, Present, and Future. *American Economic Review* 106(7): 1577-600.

Thaler, R.H. and Sunstein, C.R. (2008): *Nudge: Improving Decisions about Wealth, Health, and Happiness*. Yale Univ. Press.

Thaler, R.H. (2015): *Misbehaving. The Making of Behavioral Economics*. Norton.

Tversky, A. and Kahneman, D. (1974): Judgment under Uncertainty: Heuristics and Biases. *Science* 185(4157): 1124-31.

Markets

Deck, C.A. and Porter, D. (2013): Prediction Markets in the Laboratory. *Journal of Economic Surveys* 27(3): 589-603.

* Gächter, S., Thöni, C. and Tyran, J.-R. (2006): Cournot Competition, Contestability, and Hit-and-Run Entry and Exit in a Teaching Experiment. *Journal of Economic Education* 37(4): 418-30.

* Huck, S., Normann, H.-T. and Oechssler, J. (2004): Two are Few and Four are Many: Number Effects in Experimental Oligopolies. *Journal of Economic Behavior and Organization* 53(4): 435-46.

Lin, P.-H., Brown, A., Imai, T., Wang, J., Wang, S.W. and Camerer, C. F. (2020): Evidence of General Economic Principles of Bargaining and Trade from 2,000 Classroom Experiments. *Nature Human Behaviour* 4(9): 917-27.

* Smith, V.L. (1962): An Experimental Study of Competitive Market Behavior. *Journal of Political Economy* 70(2): 111-37.

Wolfers, J. and Zitzewitz, E. (2004): Prediction Markets. *Journal of Economic Perspectives* 18(2): 107-26.

Prospect Theory, Loss Aversion, WTA/WTP-Disparity

* Andersson, O., Holm, H.J., Tyran, J.-R. and Wengström, E. (2016): Deciding for Others Reduces Loss Aversion. *Management Science* 62(1): 29-36.

* De Martino, B., Kumaran, D., Seymour, B. and Dolan, R.J. (2006): Frames, Biases, and Rational Decision-Making in the Human Brain. *Science* 313: 684-7.

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* Fryer, R.G., Levitt, S.D., List, J. and Sadoff, S. (2012): Enhancing the Efficacy of Teacher Incentives through Loss Aversion: A Field Experiment. NBER Working paper 18237.

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Mayhew, B.W. and Vitalis, A. (2014): Myopic Loss Aversion and Market Experience. *Journal of Economic Behavior and Organization* 97: 113-25.

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Biases in Probability Judgments

Bar-Eli, M., Avugos, S. und Raab, M. (2006): Twenty Years of "Hot Hand" Research: Review and Critique. *Psychology of Sport and Exercise* 7(6): 525-53.

* Croson, R. and Sundali, J. (2005): The Gambler's Fallacy and the Hot Hand: Empirical Data from Casinos. *Journal of Risk and Uncertainty* 30(3): 195-209.

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Ganguly, A., Kagel, J.H. and Moser, D. (2000): Do Asset Market Prices Reflect Traders' Judgment Biases? *Journal of Risk and Uncertainty* 20(3): 219-45.

Rabin, M. and Vayanos, D. (2010): The Gambler's and Hot-hand Fallacies: Theory and Applications. *Review of Economic Studies* 77(2): 730-78.

* Slembeck, T. and Tyran, J.-R. (2004): Do Institutions Promote Rationality? An Experimental Study of the Three-Door Anomaly. *Journal of Economic Behavior and Organization* 54(3): 337-50.

* Snowberg, E. and Wolfers, J. (2010): Explaining the Favorite–Long Shot Bias: Is it Risk-Love or Misperceptions? *Journal of Political Economy* 118(4): 723-46.

* Suetens, S., Jørgensen, C.B. and Tyran, J.-R. (2016): Predicting Lotto Numbers. *Journal of the European Economic Association* 14(3): 584-607.

Yari, G. and David, G. (2012): "Hot Hand" on Strike: Bowling Data Indicates Correlation to Recent Past Results, Not Causality. *PlosOne* 7(1): e30112.

Strategic Complementarity, Coordination and Expectations

Bosch-Domenech, A. Garcia-Montalvo, J. and Nagel, R. (2002): One, Two, (Three), Infinity…: Newspaper and Lab Beauty-Contest Experiments. *American Economic Review* 92(5): 1687-701.

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The Economics of Money illusion

\# Akerlof, G.A. (2002): Behavioral Macroeconomics and Macroeconomic Behavior. *American Economic Review* 92(3): 411-33.

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Weber, B., Rangel, A., Wibral, M. and Falk, A. (2009): The Medial Prefrontal Cortex Exhibits Money Illusion. *Proceedings of the National Academy of Science* 106(13): 5025-8.

Fairness, Honesty, Trust and Institutions

* Almas, I., Cappelen, A.W., Tungodden, B. (2019): Cutthroat Capitalism versus Cuddly Socialism: Are Americans More Meritocratic and Efficiency-Seeking than Scandinavians? Working paper 04/2019 NHH.

Bilen, D., Dreber, A. and Johannesson, M. (2020): Are Women more Generous than Men? A Meta-Analysis. Working paper

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Dhami, S. (2016): *Foundations of Behavioral Economic Analysis*. Oxford University Press, Ch. 5: Evidence on Human Sociality: 344-97.

Engel, C. (2011): Dictator Games: A Meta-Study. *Experimental Economics* 14: 583-610.

Fehr, E. and Schmidt, K. (1999): A Theory of Fairness, Competition, and Cooperation. *Quarterly Journal of Economics* 64(3): 817-68.

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Cooperation and the Provision of Public Goods

Bryan J.H. and Test, M.A. (1967): Models and Helping: Naturalistic Studies in Aiding Behavior. *Journal of Personality and Social Psychology* 6(4): 400-7.

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* Keizer, K., Lindenberg, S. and Steg, L. (2008): The Spreading Disorder. *Science* 322: 1681-5.

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Democracy

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Kamei, K., Putterman, L. and Tyran, J.-R. (2015): State or Nature? Formal vs. Informal Sanctioning in the Voluntary Provision of Public Goods. *Experimental Economics* 18(1): 38-65.

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* Kartal, M. and Tyran, J.-R. (2020): Fake News, Overconfidence, and the Quality of Democratic Decision making. Working paper 20-03 University of Copenhagen.

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Discrimination

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