

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 voting 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), are attentive and make “reasonable” choices during 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.
- 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 2-0-63), starting Monday, August 3. 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.

Experiments are held at the Laboratory for Experimental Economics CSS 05-0-34. This year, demo experiments are held in two groups to make sure minimum distance requirements due to covid19 are met. You will be informed on Monday the latest which group you are in. One group will do the demo experiments in the morning, one in the afternoon. The exact times will be communicated in the first lecture. **Please show up on time.** It is important that everyone 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 webpage <https://homepage.univie.ac.at/jean-robert.tyran/summer-school-at-ku.html> . You are supposed to think about the issues and look at the data for yourself. There is no need to know the literature at this point. Please send your assignments as a pdf file to me (jean-robert.tyran@univie.ac.at). Mind the deadlines.

Deadlines for handing in assignments are marked in *bolditalics*, dates for experiments in **bold** below.

Week 1

August 3	Introduction
August 4	Experiments I: Intro starts 09:15 for group 1, and at 13:15 for group 2 at 2.0.63. Hand in assignment 1 by <i>August 7</i> , 10h, by e-mail to me
August 5	Introduction
August 6	Markets; loss aversion
August 7	Experiments II. Intro starts 09:30 for group 1, and at 13:30 for group 2 at 2.0.63. Hand in assignment 2 by <i>August 12</i> , 10h, by e-mail to me

Week 2

August 10	Loss aversion
August 11	Biases in probability judgments
August 12	Strategic complementarity and coordination
August 13	Money illusion
August 14	Experiments III: No Intro, experiment starts 10:00 for group 1, and at 14:00 for group 2 directly at the lab, 05-0-34 Hand in assignment 3 by <i>August 19</i> , 10h, by e-mail to me

Week 3

August 17	Fairness
August 18	Discrimination
August 19	Voting
August 20	Cooperation and Public Goods
August 21	Cooperation and Public Goods / Q&A time
August 24	Exam (time and place tba)

Readings

Papers marked with * are required readings. These will be discussed in some detail during the lectures and can be covered in the final exam *at the level discussed* in my lectures. You are expected to read these papers but not to understand them in all details (except those discussed 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, I expect you to know what this theorem says.

Papers marked with (*) will be extensively discussed in the lecture but are unpublished papers, i.e. no materials beyond the lecture notes are available for exam preparation.

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

The remaining (non-marked) papers will only be mentioned or briefly discussed during the course (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.

Some readings will be made available at “Teaching Materials” on my homepage. Details will be provided in the first lecture.

Introduction

Alos-Ferrer, C. (2018): A Review Essay on *Social Neuroscience: Can Research on the Social Brain and Economics Inform Each Other?* *Journal of Economic Literature* 56 (1): 234-64.

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* 10.1126/science.aaf0918.

- DellaVigna, S. and Pope, D. (2018): Stability of Experimental Results: Forecasts and Evidence. Working paper.
- * deQuidt, J., Haushofer, J. and Roth, C. (2018): Measuring and Bounding Experimenter Demand. *American Economic Review* 108(11): 3266-302.
- # Dhimi, 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. (2003): Maps of Bounded Rationality: Psychology for Behavioral Economics. *American Economic Review* 93(5): 1449-75.
- # 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.
- 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.
 - * 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.
 - * Fellner, G. and Sutter, M. (2009): Causes, Consequences, and Cures of Myopic Loss Aversion – An Experimental Investigation. *Economic Journal* 119(April): 900-16.
 - * 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.
 - * Gneezy, U., Kapteyn, A. and Potters, J. (2003): Evaluation Periods and Asset Prices in a Market Experiment. *Journal of Finance* 58(2): 821-37.
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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.
- * Thaler, R. and Benartzi, S. (2004): Save More Tomorrow: How to Use Behavioral Economics to Increase Employee Saving. *Journal of Political Economy* 112(1): S164-87.

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.
 - # Fehr, E. and Tyran, J.-R. (2005): Individual Irrationality and Aggregate Outcomes. *Journal of Economic Perspectives* 19(4): 43-66.

- * Friedman, D. (1998): Monty Hall's Three Doors: Construction and Deconstruction of a Choice Anomaly. *American Economic Review* 88(4): 933-46.
- * 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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- * Smith, V.L., Suchanek, G. and Williams, A. (1988): Bubbles, Crashes and Endogenous Expectations in Experimental Spot Asset Markets. *Econometrica* 56(5): 1119-51.
- (*) Tyran, J.-R. and Øvliisen, F. (2013): Making and Educated Guess. Unpublished working paper.

The Economics of Money illusion

- # Akerlof, G.A. (2002): Behavioral Macroeconomics and Macroeconomic Behavior. *American Economic Review* 92(3): 411-33.
- Akerlof, G.A. and Shiller, R.J. (2009): *Animal Spirits*. Princeton Univ. Press: Princeton, N.J. (in particular Ch. 4: 41-50)
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- * Cooper, K., Schneider, H.S. and Waldman, M. (2017): Limited Rationality and the Strategic Environment: Further Theory and Experimental Evidence. *Games and Economic Behavior* 106: 188-208.
- # Duffy, J. (2016): *Macroeconomics. A Survey of Experimental Research*. In: J.H. Kagel and A.E. Roth (eds.): *Handbook of Experimental Economics*, Vol. 2: 1-90.

- * Fehr, E. and Tyran, J.-R. (2001): Does Money Illusion Matter? *American Economic Review* 91(5): 1239-62.
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Fairness, Honesty, Trust and Institutions

- Andersen, S., Ertac, S., Gneezy, U., Hoffman, M. and List, J.A. (2011): Stakes Matter in Ultimatum Games. *American Economic Review* 101(5): 3427-39.
- Bardsley, N. (2008): Dictator Game Giving: Altruism or Artefact? *Experimental Economics* 11: 122-33.
- Bilen, D., Dreber, A. and Johannesson, M. (2020): Are Women more Generous than Men? A Meta-Analysis. Working paper
- # Camerer, C.F. (2003): *Behavioral Game Theory*. Princeton: Princeton Univ. Press: Chapter 2: Dictator, Ultimatum, and Trust Games: 43-117.
- * Cappelen, A.W., Moene, K.O., Sørensen, E.Ø. and Tungodden, B. (2013): Needs versus Entitlements – An International Fairness Experiment. *Journal of the European Economic Association* 11(3): 574-98.
- * Cappelen, A.W., Nielsen, U., Tungodden, B. and Tyran, J.-R. (2013): Give and Take in Dictator Games. *Economics Letters* 118(2): 280-3.
- * Cohn, A., Maréchal, M.A., Tannenbaum, D. and Zünd, C.L. (2019): Civic Honesty around the Globe. *Science* 365(6448): 70-3.
- # Dhimi, 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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- * Gächter, S. and Schultz, J.F. (2016): Intrinsic Honesty and the Prevalence of Rule Violations across Societies. *Nature* 531: 496-9.

Hedegaard, M., “Distributional Preferences Explain Individual Behavior Across Games and Time,” with Hedegaard, M., Müller, D., Kerschbamer, R. University of Innsbruck, Working Papers in Economics and Statistics 2019-09.

- * Huck, S., Lünser, G. and Tyran, J.-R. (2012): Competition Fosters Trust. *Games and Economic Behavior* 76(1): 195-209.
Huck, S., Lünser, G. and Tyran, J.-R. (2016): Price Competition and Reputation in Markets for Experience Goods: An Experimental Study. *RAND Journal of Economics* 47(1): 99-117.
- * Prasnikar, V. and Roth, A.E. (1992): Considerations of Fairness and Strategy: Experimental Data from Sequential Games. *Quarterly Journal of Economics* 107(3): 865-88.

Discrimination

- # Bertrand, M. and Duflo, E. (2017) Field Experiments on Discrimination. In: A. Banerjee and E. Duflo (eds.): *Handbook of Economic Field Experiments*. Vol. 1, Ch. 8: 309-93.
Bohren, J.A., Haggag, K. Imas, A. and Pope, D.G. (2019): Inaccurate Statistical Discrimination. Working paper U Chicago, May 2019.
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- * Hedegaard, M.S. and Tyran, J.-R. (2018): The Price of Prejudice. *American Economic Journal: Applied Economics* 10: 40-63.
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- # Neumark, D. (2018): Experimental Research on Labor Market Discrimination. *Journal of Economic Literature* 56(3): 799-866.
Todorov, A., Mandisodza, A.N., Goren, A. and Hall, C.C. (2005): Inferences of Competence from Faces Predict Election Outcomes. *Science* 308: 1623-6. ([SOM](#))

Issues in Public Economics and Collective Choice

- * Kartal, M. and Tyran, J.-R. (2020): Fake News, Overconfidence, and the Quality of Democratic Decision making. Working paper 20-03 University of Copenhagen.
- * Mechtenberg, L. and Tyran, J.-R. (2019): Voter Motivation and the Quality of Democratic Choice. *Games and Economic Behavior* 116: 241-59.
- * Morton, R., Piovesan, M. and Tyran, J.-R. (2019): The Dark Side of the Vote: Biased Voters, Social Information, and Information Aggregation through Majority Voting. *Games and Economic Behavior* 113: 461-81.

- * Sausgruber, R. and Tyran, J.-R. (2011): Are We Taxing Ourselves? How Deliberation and Experience Shape Voting on Taxes. *Journal of Public Economics* 95: 164-76.
- Schelling, Thomas C. (1981): Economic Reasoning and the Ethics of Policy. *Public Interest* 63: 37-61.
- Tyran, J.-R. and Sausgruber, R. (2006): A Little Fairness may Induce a Lot of Redistribution in Democracy. *European Economic Review* 50(2): 469-85.
- Tyran, J.-R. and Wagner, A. (2018): Experimental Evidence on Expressive Voting. In: Congleton, R., Grofman, B. and Voigt, S. (eds.): *Oxford Handbook of Public Choice*, Vol. 2, Ch. 45: 928-40.

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.
- # Chaudhuri, A. (2010): Sustaining Cooperation in Laboratory Public Goods Experiments: A Selective Survey of the Literature. *Experimental Economics* 14(1): 47-83.
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- * Fehr, E. and Gächter, S. (2000): Cooperation and Punishment in Public Goods Experiments. *American Economic Review* 90(4): 980-94.
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- * Herrmann, B., Thöni, C. and Gächter, S. (2008): Antisocial Punishment Across Societies. *Science* 319: 1362-7.
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- * Markussen, T., Putterman, L. and Tyran, J.-R. (2014): Self-Organization for Collective Action: An Experimental Study of Voting on Sanction Regimes. *Review of Economic Studies* 81(1): 301-24.
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- * Thöni, C., Tyran, J.-R. and Wengström, E. (2012): Microfoundations of Social Capital. *Journal of Public Economics* 96(8): 635-43.

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