



**Course:** EXPERIMENTAL ECONOMICS

**Faculty:** Jordi Brandts

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**Office Hours:** Upon appointment

### **Description:**

This course will introduce students to the methodologies of behavioral and experimental economics, using both theoretical and experimental approaches. This is one of the fastest growing areas of economic research. The purpose of the course is to show that a formal enrichment of standard economic models using behavioral insights and the design and careful analysis of experiments can be a powerful tool for economic research. The outline of the course will be built using the following guideline:

1. Why Include (and How to) Behavioral Components into Decision Theory and Game Theory Models?
2. How to Design and Analyze Insightful Experiments?
3. External Validity: Lab and Field Experiments as one important Methodological Tool.

The course will survey some of the main research topics in the area. Among them:

- Methodology of Experiments
- Social Preferences
- Cooperation and Public Good Games
- Cognitive Levels of Reasoning
- Uncertainty and Risk
- Markets and Industrial organization
- Coordination and Communication
- Gender
- Related Fields and New Methodologies: Field Experiments and Neuroeconomics

### **Readings**

Journal articles marked by \* will be required reading for the course. An interested student expecting to do at least some work on Experimental Economics in the future should take a look at **all** papers cited. All papers will be available online.

#### **Topic 1: Methodology of Experiments**

Andersen, J., S. Ertac, U. Gneezy, M. Hoffman and J. List (2011), "Stakes Matter in Ultimatum Games," [American Economic Review](#) 101(7), 3427-3439.

Camerer, C. (2016), "The Promise and Success of Lab-Field Generalizability in Experimental Economics: A Critical Reply to Levitt and List." in Handbook of Experimental Economic Methodology, edited by G. Frechette and A. Schotter, Oxford University Press, 249-295.

Card, D. DellaVigna, S., Malmendier, U. "The Role of Theory in Field Experiments". *Journal of Economic Perspectives—Volume 25, Number 3—Summer 2011—Pages 39–62.*

Charness, G. and E. Fehr (2015), "From the Lab to the Real World," *Science*, 30 October, 2015, 512-513)

Glenn Harrison, 2011. "The methodological promise of experimental economics," *Journal of Economic Methodology*, Taylor and Francis Journals, vol. 18(2), pages 183-187.

Falk, A. and J. J. Heckman (2009), "Lab Experiments are a Major Source of Knowledge in the Social Sciences," *Science* 326, 535-539.

U. Gneezy, P. Rey-Biel. "What is an Economic Theory that Can Inform Experiments?" in *Methods of Modern Experimental Economics*, edited by Guillaume Frechette and Andrew Schotter, Oxford University Press (Forthcoming).

Levitt, Steven D. and John A. List. On the generalizability of lab behaviour to the field. *Canadian Journal of Economics*, (2007), 40(2), pp. 347-370.

\* List, J.A., S. Sadoff, M. Wagner. So you want to run an experiment, now what? Some Simple Rules of Thumb for Optimal Experimental Design. NBER working paper 15701 (2008).

\* Rubinstein, A: "Discussion of "Behavioral Economics". *Advances in Economics and Econometrics. Theory and Applications*. 9th World Congress.

## **Topic 2: (I)Rationality in Individual Decision and in Strategic Interaction**

Steffen Andersen & Glenn W. Harrison & Morten I. Lau & E. Elisabet Rutström, 2008. "Eliciting Risk and Time Preferences," *Econometrica*, Econometric Society, vol. 76(3), pages 583-618, 05

Choi, S. Fisman, R., Gale, D., Kariv, S. (2007). "Consistency and Heterogeneity of Individual Behavior under Uncertainty. *American Economic Review*, 1922-1938.

Choi, S., Kariv, S., Müller, W., Silverman. "Who is (More) Rational?". WP 2011.

\*Jacob K. Goeree & Charles A. Holt, 2001. "Ten Little Treasures of Game Theory and Ten Intuitive Contradictions," *American Economic Review*, American Economic Association, vol. 91(5), pages 1402- 1422, December.

\*HOLT, C. A., AND S. K. LAURY (2002): "Risk Aversion and Incentive Effects," *American Economic Review*, 92, 1644–1655.

Nagel, Rosemarie, 1995. "Unraveling in Guessing Games: An Experimental Study," *American Economic Review*, American Economic Association, vol. 85(5), pages 1313-26, December

Rey-Biel, P. "Equilibrium Play and Best Response to (Stated) Beliefs in Normal Form Games", *Games and Economic Behavior* 65(2), 572-585, 2009.

Brañas, P., Espinosa, M. P., Rey-Biel, P. "Travelers' Types". *Journal of Economic Behavior and Organization* 78, 25-36. 2011.

## **Topic 3 Gender**

Brandts, J. and O. Garofalo (2012) "Gender Pairings and Accountability Effects," *Journal of Economic Behavior and Organization*, 83, 31-41.

Brandts, J., V. Groenert and C. Rott (2014), "The Impact of Advice on Women's and Men's Selection into Competition," *Management Science*, 61(5), 1018-1035.

Crosan, R. and Gneezy, U. (2009) "Gender Differences in Preferences," *Journal of Economic Literature*, 47 (2), 1-27.

Gneezy, U., M. Niederle, and A. Rustichini (2003), "Performance in competitive environments: Gender differences," *Quarterly Journal of Economics* pp. 1049-1074.

Iriberry, N., Rey-Biel, P. **Stereotypes are Only a Threat when Beliefs are Reinforced. On the Sensitivity of Gender Differences in Performance under Competition to Information Provision** (with N. Iriberry). *Journal of Economic Behavior and Organization*.

Iriberry, N., Rey-Biel, P. **Stereotypes are Only a Threat when Beliefs are Reinforced. On the Sensitivity of Gender Differences in Performance under Competition to Information Provision** (with N. Iriberry). *Journal of Economic Behavior and Organization*.

Niederle, Muriel, and Lise Vesterlund (2007), "Do Women Shy away from Competition? Do Men Compete too Much?," *Quarterly Journal of Economics*, Vol. 122, No. 3: 1067-1101.

Niederle, M. and L. Vesterlund (2011), "Gender and Competition," *Annual Review of Economics*, 31(1), pp. 601-630.

Schram, A., J. Brandts and K. Gërkhani (2016), "Status Anxiety Makes Women Underperform", working paper, on my webpage.

#### **Topic 4 Field Experiments and Other Experimental Methodologies**

##### **Empirical Papers Data with Behavioral "Flavor" and Experimental Approach:**

Apestequia, J. Palacios-Huerta, I. "Psychological Pressure in Competitive Environments: Evidence from a Randomized Natural Experiment" ., *American Economic Review*, 100(5):2548-2564, 2010.

##### **Field Experiments:**

\*Bandiera, O., Barankay, I., Rasul, I., "Field Experiments with Firms". *Journal of Economic Perspectives*, 2011, 25(3), 63-82.

Gneezy, U., Rey-Biel, P. "On the Relative Efficiency of Performance Pay and Social Incentives". Barcelona GSE WP. Armin Falk, 2007. "Gift Exchange in the Field," *Econometrica*, Econometric Society, vol. 75(5), pages 1501-1511, 09.

\*Gneezy, U. S. Meier and P. Rey-Biel (2011) "When and Why Incentives (Don't) Work to Modify Behavior." *Journal of Economic Perspectives*, 25, 4, 191-210.

Gneezy, U., and A. Rustichini "Pay Enough or Don't Pay At All." *Quarterly Journal of Economics* August 2000, 791-810.

Gneezy, U., and A. Rustichini "A Fine is a Price," *Journal of Legal Studies*, vol. XXIX, 1, part 1, 2000, 1-18.

Harrison, G., List, J. "Field Experiments". *Journal of Economic Literature*, vol XLII, 2004, 1009-1055.

Armin Falk & Andrea Ichino, 2006. "Clean Evidence on Peer Effects," *Journal of Labor Economics*, University of Chicago Press, vol. 24(1), pages 39-58, January.

List, John A. "Introduction to field experiments in economics". *Journal of Economic Behavior and Organization*, (2009), 70(3), pp. 439-442.

\*John A. List. "Why Economists Should Conduct Field Experiments and 14 Tips for Pulling One Off" . *Journal of Economic Perspectives*—Volume 25, Number 3—Summer 2011—Pages 3–16

List, John A. and David Reiley. "Field experiments." *The New Palgrave Dictionary of Economics*. Second Edition. Eds. Steven N. Durlauf and Lawrence E. Blume. Palgrave Macmillan, 2008. The New Palgrave Dictionary of Economics Online. Palgrave Macmillan. 20 January 2010

##### **Neuroeconomics:**

Glenn Harrison & Don Ross, 2010. "The methodologies of neuroeconomics," *Journal of Economic Methodology*, Taylor and Francis Journals, vol. 17(2), pages 185-196.

Harrison, G. "Neuroeconomics: A critical reconsideration". *Economics and Philosophy*, 24. 2008, 303- 344.

\*B. Douglas Bernheim. *Neuroeconomics: A sober (but hopeful) appraisal*. Technical report, Stanford University, April 2008.

\*Sobel, N. "Neuroeconomics: A Sobel Appraisal". UCSD WP 2008.

\*Rubinstein, A. "Comments on Neuroeconomics". *Economics and Philosophy* 24, 2008, 485-494.

##### **Econometrics Applied to Experimental Economics.**

Houser, D. "Experiments and Econometrics". George Mason WP.

\*Winter, J. "Econometric Challenges in Experimental Economics: Thinking About the Error Term". International ESA Meeting. Washington D.C. 2009 (slides).

#### **Topic 5: Social Preferences**

Andreoni, J. and J. Miller 2002), "Giving According to GARP: An Experimental Test of the Consistency of Preference for Altruism", *Econometrica* 70, 737-753.

Binmore, K., Shaked. "Experimental economics: What Next?". *Journal of Economic Behavior and Organization*. 2009. (see also Shaked's "Pamphlet" and the responses and counter responses of Fehr and Schmidt).

Bolton, G., J. Brandts and A. Ockenfels (2005), "Fair Procedures. Evidence from Games Involving Lotteries", *Economic Journal* 115, 1054-1076.

- Bolton, G. E. and A. Ockenfels (2000), "ERC: A Theory of Equity, Reciprocity and Competition," American Economic Review 90, 166-193.
- Brandts, J. and G. Charness (2003), "Truth and Consequences: An Experiment," Management Science 49, 116-130.
- Brandts, J. and G. Charness (2004), "Do Labour Market Conditions Affect Gift Exchange? Some Experimental Evidence," Economic Journal 114, 684-708.
- Brandts, J., E. Fatás, E. Haruvy and F. Lagos (2015), "The Impact of Relative Position, Prices of Sacrifice and Reciprocity: An Experimental Study Using Individual Decisions," Social Choice and Welfare 45(3), 489-511.
- Brandts, J., T. Saijo and A. Schram (2004), "How Universal is Behavior? A Four Country Comparison of Spite and Cooperation in Voluntary Contribution Mechanisms," Public Choice 119, 381-424.
- Brandts, J. and C. Solà (2001), "Reference Points and Negative Reciprocity in Simple Sequential Games," Games and Economic Behavior 36, 136-157.
- Charness, G. and M. Rabin (2002), "Understanding Social Preferences with Simple Tests," Quarterly Journal of Economics 117, 817-869.
- Cooper, D. and J. Kagel (2016), "Other-regarding Preferences: A Selective Survey of Experimental Results," in Kagel, J. and A. Roth (editors) (2016), The Handbook of Experimental Economics, volume 2, Princeton University Press, 217-289.
- Fehr, Ernst, Simon Gaechter and Georg Kirchsteiger (1997), "Reciprocity as a Contract Enforcement Device: Experimental Evidence," Econometrica 65(4), 833-860.
- Fehr, Ernst, Georg Kirchsteiger and Arno Riedl (1993), "Does Fairness Prevent Market Clearing? An Experimental Investigation," Quarterly Journal of Economics 108(2), 437-460.
- Fehr, Ernst and Klaus Schmidt (1999), "A Theory of Fairness, Competition and Cooperation," Quarterly Journal of Economics CXIV, 817-868.
- Isaac, M. and J. Walker (1988): "Group Size Effects in Public Goods Provision: The Voluntary Contribution Mechanism", Quarterly Journal of Economics 103, 179-200.
- Isaac M., J. Walker and A. Williams (1994), "Group Size and the Voluntary Provision of Public Goods. Experimental Evidence Utilizing Large Groups", Journal of Public Economics, 54, 1-36.
- Ledyard, J. (1995), "Public Goods: A Survey of Experimental Research", in The Handbook of Experimental Economics, Princeton University Press, 111-194.
- \*Levitt, Steven D. and John A. List. "What do Laboratory Experiments Measuring Social Preferences Reveal About the Real World." Journal of Economic Perspectives, (2007), 21(2), pp. 153-174.
- List, John A., "Young, Selfish, and Male: Field Evidence of Social Preferences". Economic Journal, (2004), 114(492), pp. 121-149.
- Offerman, T., J. Sonnemans and A. Schram (1996), "Value Orientations, Expectations and Voluntary Contributions in Public Goods", The Economic Journal 106, 817-845.
- Rabin, M. (1993), "Incorporating Fairness into Game Theory and Economics", American Economic Review 83, 1281-1302.
- \*Sobel, J. "Interdependent Preferences and Reciprocity". Journal of Economic Literature, 93,392-436, June 2005.

#### Topic 6 Markets and Industrial Organization

- Bayona, A., J. Brandts and X. Vives (2016), "Supply Function Competition, Private Information and Market Power," working paper, on my web page.
- Brandts, J. and J. Potters (2017), "Experimental Industrial Organization," Handbook of Game Theory and Industrial Organization, Edward Elgar Publishing, forthcoming.
- Brandts, J., S. Reynolds and A. Schram (2014), "Pivotal Suppliers and Market Power in Experimental Supply Function Competition," The Economic Journal, 124, 887-916.
- Brandts, J. and A. Riedl (2016), "Market Interaction and Efficient Cooperation," working paper, on my webpage.
- Brown-Kruse, J., S. Rassenti, S. Reynolds and V. Smith (1994), "Bertrand-Edgeworth Competition in Experimental Markets," Econometrica, vol. 62(2), 343-371.
- Davis, D. and C. Holt (1994): "Market Power and Mergers in Laboratory Markets with Posted Prices", RAND Journal of Economics, vol. 25, no.3, pp. 467-487.
- Dufwenberg, M., and U. Gneezy (2000): "Price competition and market concentration: an experimental study", International Journal of Industrial Organization, 18, 7-22.
- Engel, C. (2007). How much collusion? A meta-analysis of oligopoly experiments. Journal of Competition Law and Economics, 3(4), 491-549.

Holt, C. (1995): "Industrial Organization: A Survey of Laboratory Research", in The Handbook of Experimental Economics, Princeton University Press, pp. 349-444.

Kagel, J. and D. Levin (2016): "Auctions: A Survey of Experimental Research", in The Handbook of Experimental Economics, volume 2, Princeton University Press, pp. 563-637.

Plott, C. and V. Smith (1978): "An Experimental Examination of Two Exchange Institutions", Review of Economic Studies, vol. 45, no. 1, pp. 133-153

Potters, J., & Suetens, S. (2013). Oligopoly experiments in the current millennium. *Journal of Economic Surveys*, 27(3), 439-460.

Rassenti, S., S. Reynolds, S., V. Smith, and F. Szidarovszky (2000): "Adaptation and convergence of behavior in repeated experimental Cournot games", Journal Of Economic Behavior And Organization, vol. 41, no. 2, pp. 117-146.

Smith, V. (1962): "An Experimental Study of Competitive Market Behavior", Journal of Political Economy, vo. 70, no. 2, pp. 111-137.

Smith, V. (1982): "Markets as Organizers of Information: Experimental Examination of the 'Hayek Hypothesis'", Economic Inquiry, vol. 20, pp. 165-179.

Sunder, S. (1995): "Experimental Asset Markets: A Survey", in The Handbook of Experimental Economics, Princeton University Press, pp. 445-500.

### **Topic 7 Coordination, Communication and Other Organization issues**

Angelovski, A., J. Brandts and C. Solà (2016), "Hiring and Escalation Bias in Subjective Performance Evaluations: A Laboratory Experiment," *Journal of Economic Behavior and Organization*, 121, 114-129.

Brandts, J., G. Charness and M. Ellman (2016), "Let's Talk: How Communication Affects Contract Design," *Journal of the European Economic Association*, 14(4), 2016, 943-974.

Brandts, J. and D. Cooper (2004), "A Change Would Do You Good: An Experimental Study of How to Overcome Coordination Failure in Organizations", forthcoming American Economic Review.

Brandts, J. and D. Cooper (2005), "It's What you Say Not What You Pay. An Experimental Study of Manager-Employee Relationships in Overcoming Coordination Failure", mimeo.

Brandts, J. and D. Cooper (2016), "Centralized vs Decentralized Management: An Experimental Study," working paper, on my webpage.

Brandts, J., D.J. Cooper and R.A. Weber (2015), "Legitimacy, Communication and Leadership in the Turnaround Game," *Management Science*, 61(11), 2627-2645.

Brandts, J., D.J. Cooper, E. Fatás and S. Qi (2016), "Stand By Me. Help, Heterogeneity and Commitment in Experimental Coordination Games," *Management Science*, 62(10), 2916-2936.

Brandts, J., C. Rott and C. Solà (2016), "Not Just Like Starting Over – Leadership and Revivification of Cooperation in Groups," *Experimental Economics*, 19(4), 2016, 792-818.

Knez, Marc and Colin Camerer (1994), "Creating Expectational Assets in the Laboratory: Coordination in 'Weakest-Link' Games," Strategic Management Journal, 15, 101-119.

Knez, Marc and Colin Camerer (2000), "Increasing Cooperation in Prisoner's Dilemmas by Establishing a Precedent of Efficiency in Coordination Games," Organizational Behavior and Human Decision Processes, 82, 2, 194 – 216.

Kriss, P. and R. Weber (2013), "Organizational Formation and Change: Lessons from Economic Laboratory Experiments," in Handbook of Economic Organization: Integrating Economic and Organizational Theory, A. Grandori (ed.), Edward Elgar, pp. 245-269.

Weber, R.A. and C. Camerer. (2003). "Cultural conflict and merger failure: An experimental approach." Management Science, 49, 400-415.

### **Texts:**

There is no formal textbook for the course. However, the following is a list of books for any student interested in Experimental and Behavioral Economics.)

Banerjee, A. and E. Duflo, (2011), Poor Economics, Public Affairs.

Brañas. P. (coordinador): *Economía Experimental y del Comportamiento*, Antoni Bosch editor 2011. (Also in English as: "Experimental Economics I: Economic Decisions. Palgrave Macmillan (2015).

Camerer, C. (2003), Behavioral Game Theory, Princeton University Press.

Camerer, C., G. Loewenstein and M. Rabin (2004), Advances in Behavioral Game Theory. Princeton University Press.

Davis, D. and C. Holt (1993), Experimental Economics, Princeton University Press.

Dhami, S. (2016), The Foundations of Behavioral Economic Analysis, Oxford University Press.

Frechette, G. and A. Schotter (2016), Handbook of Experimental Economic Methodology, Oxford University Press.

Friedman, D. and A. Cassar, *Economics Lab: An Intensive Course in Experimental Economics*, Routledge 2004.

Friedman, D. and S. Sunder (1994), Experimental Methods. A Primer for Economists. Cambridge University Press.

Gneezy, U., List, J., *The Why Axis*, Public Affairs, 2012. (Also available in Spanish under “Lo que Importa es el Porqué”. Empresa Activa 2014.)

Hey, J. (1991), Experiments in Economics, Basil Blackwell, Cambridge, Massachusetts.

Kagel, J. and A. Roth, (editors) (1995), The Handbook of Experimental Economics, Princeton University Press.

Kagel, J. and A. Roth (editors) (2016), The Handbook of Experimental Economics, volume 2, Princeton University Press.

Kahneman, D. (2012), Thinking, Fast and Slow. Farrar, Strauss and Giroux.

Al Roth's Game Theory and Experimental Economics Page, <http://www.economics.harvard.edu/~aroth/alroth.html> , contains a wealth of interesting material.

Thaler, R. (2016), Misbehaving. The Making of Behavioral Economics. W.W. Norton and Company, Inc.

The following books are also interesting (and fun!) for any PhD:

- Ariely, D.: *Predictably Irrational*. HarperCollins Publishers, 2009.
- Bergstrom, T., Miller, J.: *Experiments with Economic Principles: Microeconomics* (2nd Edition). McGraw-Hill, 2000.
- Dixit, A., Nalebuff: *Thinking Strategically*. Norton Paperback, 1991.
- Levitt, S., Dubner, S.: *Freakonomics*. William Morrow, 2005.
- Thomson, W.: *A Guide for the Young Economist*. The MIT Press, 2001.

### **Course Evaluation**

Grading will be based on:

1. Design and presentation of an original experiment.
2. Referee report(s) of experimental paper(s).
3. Final exam.

Weights will be announced at the beginning of the course