

**RSM 3091 L0104: Experimental Economics**  
**Rotman School of Management**  
**University of Toronto**  
**Winter 2016**

**Course Syllabus and Schedule**

- Instructors:* Tanjim Hossain  
Email: [tanjim.hossain@utoronto.ca](mailto:tanjim.hossain@utoronto.ca)
- Class:* Wednesdays (January 13, 2016 – February 10, 2016 and  
February 24 – March 23, 2016)  
10:00 am – 1:00 pm, Room RT 470
- Office Hours:* By appointment
- Optional Texts:*
1. *Handbook of Experimental Economics*, John Kagel and Al Roth, Princeton University Press, 1995
  2. *Friedman D. and A. Cassar: Economics Lab: An Intensive Course in Experimental Economics*, Routledge, 2004 (Electronic Version Available Through U of T Library)
  3. *Davis, D. and C. Holt: Experimental Economics*, Princeton University Press, 1992.
- References:*
4. *Camerer, C.: Behavioral Game Theory: Experiments in Strategic Interaction*, Princeton University Press, 2003.
  5. *Friedman D. and S. Sunder: Experimental Methods – A Primer for Economists*, Cambridge University Press, 1994

### **Overview and Objectives**

Incentivized laboratory and field experiments have become a major area of research in economics and it is slowly emerging as a very useful tool in quantitative marketing. Its basic premise is that all good economic theories can be testable in a controlled laboratory or field setting. In fact, one may argue that some economic theories (e.g., theories of refinement in games) can only be tested experimentally. This course surveys some classics of experimental economics and discusses some of its recent developments. We will initially focus on laboratory experiments and then move on to field experiments. The objective of this course is to be able to design good economic experiments.

The course is primarily designed for second-year PhD students in Marketing (quantitative stream) and Economics. One is expected to have taken the first-year sequence of microeconomics for PhD students (ECO 2020H and 2030H for U of T students) or for master students. Basic knowledge of game theory and its applications

(e.g. auctions) will be assumed. Nevertheless, PhD students from other disciplines at Rotman or U of T who do not have those prerequisite courses are welcome to attend. Please talk to me as soon as possible (and definitely by the end of the first lecture) in that case.

There will be ten three-hour long lectures in this reading course. In lecture 1, I will provide an introduction to experimental methods. From lecture 2, we will cover two or three papers in each class. These papers will be presented by you.

### **Assessment:**

You will be assessed through three components in this course—class presentation, a referee report, and an experimental design exercise. Everyone who attends the course, including those who are not taking the course for credit, must present at least one paper (most likely more, depending on attendance). From lectures 2 to 10, two students will present one (set of) paper(s) each on each lecture day. I expect well prepared presentations, typically with slides. You have to email me your slides before or right after the class.

Those who take the course for credit, will also write a referee reports for a recent experimental paper that I will provide. The final component will be designing an experiment. You should consult with me to choose an economic question that you want to test experimentally. Then you will design an experiment for this and submit experimental instructions for that. These details will be finalized later.

### **Outline of the Course**

\* Denotes a paper that will likely be covered in class

#### **Lecture 1 (January 13): Motivation and Overview of Experimental Methods and Some Classics**

Charles Holt and Arthur Schram, Editor's Preface, *Experimental Economics*, Vol 1, Issue 1 (Available through the website of *Experimental Economics*)

Alvin Roth, Chapter 1, "Introduction to Experimental Economics," in Kagel and Roth (eds.), *The Handbook of Experimental Economics*, Princeton, 1995: 3-23.

Friedman and Cassar, Chapter 2, "Economists go to the Laboratory: Who, what, when, and why," *Economics Lab*

Colin Camerer, Behavioral Game Theory: Experiments on Strategic Interaction, Princeton, 2003: 34-42 (Appendix 1.2, Experimental Design) and (optional) pp. 1-25; manuscript at [http://dss.ucsd.edu/~vcrawfor/Camerer\\_Ch1intro.pdf](http://dss.ucsd.edu/~vcrawfor/Camerer_Ch1intro.pdf)

Section 3, Experimental Designs from Vincent Crawford, "Theory and Experiment in the Analysis of Strategic Interaction," Chapter 7 in David Kreps and Ken Wallis, Editors, *Advances in Economics and Econometrics: Theory and Applications, Seventh World Congress*, Vol. I, Cambridge 1997;

<http://dss.ucsd.edu/~vcrawfor/CrawfordThExp97.pdf>.

Charles Plott, "Industrial Organization Theory and Experimental Economics," *Journal of Economic Literature* 20 (1982), 1485-1527; <http://www.jstor.org/stable/2724830>.

Vernon Smith, "Microeconomic Systems as an Experimental Science," *American Economic Review* 72 (1982), 923-955; <http://www.jstor.org/stable/1812014>.

Alvin Roth, "Game Theory as a Part of Empirical Economics," *Economic Journal* 101 (1991), 107-114; <http://www.jstor.org/stable/2233845>;  
<http://www.economics.harvard.edu/%7Earoeth/alroth.html>.

Edward H. Chamberlin (1948): "An Experimental Imperfect Market," *Journal of Political Economy*, 56:2 (April), 95-108.

\* Vernon L. Smith (1962): "An Experimental Study of Competitive Market Behavior," *Journal of Political Economy*, 70:2 (April), 111-137.

Holt, Charles A. (1995) "Industrial Organization: A Survey of Laboratory Results," in *Handbook of Experimental Economics*, edited by J. Kagel and A. Roth, Princeton, N.J.: Princeton University Press, 349-443

Smith, Vernon L. (1964) "The Effect of Market Organization on Competitive Equilibrium," *Quarterly Journal of Economics*, 78:2 (May), 181-201.

Smith, Vernon L. (1965) "Experimental Auction Markets and the Walrasian Hypothesis," *Journal of Political Economy*, 73:4 (August), 387-393

\* Plott, Charles and Smith, Vernon, "An Experimental Study of Two Exchange Institutions," *Review of Economic Studies*, vol. 45, 1978, pp. 113-153.

Smith, Vernon L., and Arlington W. Williams, "On Non-binding Price Controls in a Comprehensive Market," *American Economic Review*, 1981, 71:3 (June), 467-474

Ketcham, Jon, Vernon L. Smith, and Arlington W. Williams, "A Comparison of Posted-Offer and Double-Auction Pricing Institutions," *Review of Economic Studies*, 1984, 51:4 (October), 595-614

## Lecture 2 (January 20): Bargaining, Trust, and Dictator Games

\* Werner R. Guth, Schmittberger, and B. Schwartz, "An Experimental Analysis of Ultimatum Bargaining," *Journal of Economic Behavior and Organization*, December 1982, 3(4).

Forsythe, Robert, Joel Horowitz, N.S. Savin and Martin Sefton, "Fairness in Simple Bargaining Games," *Games and Economic Behavior*, May 1994, 6(3)

\* Joyce Berg, John Dickhaut, and Kevin McCabe, "Trust, Reciprocity, and Social History," *Games and Economic Behavior*, Volume 10, Issue 1, July 1995, Pages 122-142

\* Daniel Kahneman, Jack L. Knetsch, and Richard H. Thaler "Fairness And The Assumptions Of Economics," *The Journal of Business* 59.S4 (1986): S285-S300

Alvin Roth, Vesna Prasnikar, Masahiro Okuno-Fujiwara, Shmuel Zamir, "Bargaining and Market Behavior in Jerusalem, Ljubljana, Pittsburgh, and Tokyo: An Experimental Study," *American Economic Review* (1991), 81 (5), 1068-1095

\* Joseph Henrich, "Does Culture Matter in Economic Behavior? Ultimatum Game Bargaining Among the Machiguenga of the Peruvian Amazon," *American Economic Review* (2000), 90 (4), 973-979

Joseph Henrich, Robert Boyd, Samuel Bowles, Colin Camerer, Ernst Fehr, Herbert Gintis, and Richard McElreath "In Search of Homo Economicus: Behavioral Experiments in 15 Small-Scale Societies," *American Economic Review* (2001), 91 (2), 73-78

Edward L. Glaeser, David I. Laibson, Jos'e A. Scheinkman, Christine L. Soutter. "Measuring Trust," *Quarterly Journal of Economics* (2000) 115:3, 811-846.

Gary Bolton, Ben Greiner, and Axel Ockenfels, "Engineering Trust: Reciprocity in the Production of Reputation Information," *Management Science*, December 2012.

Alvin Roth and J. Keith Murnighan, "The Role of Information in Bargaining: An Experimental Study," *Econometrica* 50 (1982), 1123-1142

\* Alvin Roth and Francoise Schoumaker, "Expectations and Reputations in Bargaining: An Experimental Study," *American Economic Review* 73 (1983), 362-37; <http://www.jstor.org/stable/1808119>

Fehr, Ernst and Klaus M. Schmidt (1999): "A Theory of Fairness, Competition, and Cooperation," *Quarterly Journal of Economics*, 114, 817-868.

Bill McEvily, Joseph R. Radzevick, Roberto A. Weber, "Whom do you distrust and how much does it cost? An experiment on the measurement of trust," *Games and Economic Behavior*, 2012, 74, 285-298

Eduardo B. Andrade and Teck-Hua Ho, "Gaming Emotions in Social Interactions," *Journal of Consumer Research*, 36: 539-552, 2009.

### **Lecture 3 (January 27): Public Goods**

Ledyard, John O. (1995) "Public Goods: A Survey of Experimental Research," in A Handbook of Experimental Economics, edited by A. Roth and J. Kagel, Princeton: Princeton University Press, 111-194.

\* Marwell, Gerald, and Ruth E. Ames (1979): "Experiments on the Provision of the Public Goods I: Resources, Interest, Group Size, and the Free-Rider Problem," *American Journal of Sociology*, 84(May), 1335-1360

\* Marwell, Gerald, and Ruth E. Ames (1980): "Experiments on the Provision of Public Goods II: Provision Points, Stakes, Experience and the Free-Rider Problem," *American Journal of Sociology*, 85(January), 926-937.

\* Isaac, R. Mark, and James M. Walker (1988): "Group Size Hypotheses of Public Goods Provision: The Voluntary Contributions Mechanism," *Quarterly Journal of Economics*, 103(February), 179-200.

Andreoni, James (1993): "An Experimental Test of the Public-Goods Crowding-Out Hypothesis," *American Economic Review*, 83 (5), 1317-1327

\* Andreoni, James (1995): "Cooperation in Public-Goods Experiments: Kindness or Confusion?" *American Economic Review*, 85 (4), 891-904

\* Andreoni, James (1995): "Warm-Glow versus Cold-Prickle: The Effects of Positive and Negative Framing on Cooperation in Experiments" *Quarterly Journal of Economics*, 110 (1), 1-21

### **Lecture 4 (February 3): Coordination, Networks, and Social Preference**

John Ochs. (1995) "Coordination Problems" in A Handbook of Experimental Economics, edited by A. Roth and J. Kagel, Princeton: Princeton University Press, 209-222.

\* Van Huyck, J., Battalio, R., and Beil, R. "Tacit Coordination Games, Strategic Uncertainty, and Coordination Failure," *American Economic Review*, March 1990, pp. 234-248.

Van Huyck et. al., "Strategic Uncertainty, Equilibrium Selection Principles, and Coordination Failures in Average Opinion Games," *Strategic Quarterly Journal of Economics*, August 1991, pp. 885-910.

Van Huyck, Gillette, A., and Battalio, R., "Credible Assignments in Coordination Games," *Games and Economic Behavior*, vol. 4, 1992, pp. 606-626.

\* Cooper, R., DeJong, D., Forsythe, R. & Ross, T., "Selection Criteria in Coordination Games: Some Experimental Results," *American Economic Review*, March 1990, Vol. 80, No.1, pp. 218-233.

Rapoport, Amnon, Tamar Kugler, Subhasish Dugar, and Eyran J. Gisches, "Choice of routes in congested traffic networks: Experimental tests of the Braess Paradox," *Games and Economic Behavior*, March 2009, 65 (2), 538-571.

Brandts, Jordi, and David J. Cooper. 2006. "A Change Would Do You Good .... An Experimental Study on How to Overcome Coordination Failure in Organizations," *American Economic Review*, 96(3): 669-693.

Tanjim Hossain, Dylan Minor, and John Morgan, "Competing Matchmakers: An Experimental Analysis," *Management Science*, November 2011, 57 (11), 1913-1925

Tanjim Hossain and John Morgan, "The Quest for QWERTY," *American Economic Review*, May 2009, 99 (2), 435-440

Gary Charness, Margarida Corominas-Bosch, and Guillaume Frechette, "Bargaining and Network Structure: An Experiment," *Journal of Economic Theory*, 2007, 136, 28-65.

\* Gary Charness, Francesco Feri, Miguel Meléndez-Jiménez, and Matthias Sutter, "Experimental Games on Networks: Underpinnings of Behavior and Equilibrium Selection," *Econometrica*, September, 2014, 82 (5), 1615-1670.

\* Yan Chen and Sherry Xin Li, "Group Identity and Social Preferences," *American Economic Review*, 99:1 (March 2009): 431-457.

Yan Chen, Max Harper, Joseph Konstan, and Sherry Xin Li, "Social Comparisons and Contributions to Online Communities: A Field Experiment on MovieLens," *American Economic Review*, 100:4 (September 2010): 1358-1398.

Noah Lim, "Social Loss Aversion and Optimal Contest Design," *Journal of Marketing Research*, August 2010, 47 (4), 777-787.

### **Lecture 5 (February 10): Empirical Alternatives to Nash Equilibrium and Learning**

\* McKelvey, Richard D., and Thomas R. Palfrey (1995) "Quantal Response Equilibria for Normal Form Games," *Games and Economic Behavior*, 10:1 (July), 6-38.

Philip Haile, Ali Hortacsu, Grigory Kosenok, "On the Empirical Content of Quantal Response Equilibrium," *American Economic Review*, March 2008, 98(1), 180-200

Goeree J. and Holt, C. "Ten Little Treasures of Game Theory and Ten Intuitive Contradictions," *American Economic Review*, 91 (2001), 1402-1422.

\* Rosemarie Nagel, "Unraveling in Guessing Games: An Experimental Study," *American Economic Review*, December 1995, 85(5), 1313-1326

Stahl, Dale O., and Paul Wilson (1995): "On Players' Models of Other Players: Theory and Experimental Evidence," *Games and Economic Behavior*, 10(1), 218-254.

\* Camerer, C.F., Ho, T-H, Chong, J-K. "A Cognitive Hierarchy Theory of One-Shot Games," *Quarterly Journal of Economics*, 2001, 119 (3), 861-898.

Meyer, Robert J., and Yong Shi, "Sequential choice under ambiguity: Intuitive solutions to the armed-bandit problem," *Management Science* 41.5 (1995): 817-834.

\* Houser, Daniel, Michael Keane, and Kevin McCabe, "Behavior in a dynamic decision problem: An analysis of experimental evidence using a Bayesian type classification algorithm," *Econometrica* 72.3 (2004): 781-822.

Gans, Noah, George Knox, and Rachel Croson, "Simple models of discrete choice and their performance in bandit experiments," *Manufacturing & Service Operations Management* 9.4 (2007): 383-408.

Colin Camerer and Teck-Hua Ho, "Experience-Weighted Attraction Learning in Normal Form Games," *Econometrica*, 67 (1999), 837-874.

### **Lecture 6 (February 24): Risk Preference and Belief Elicitation**

Harrison, Glenn W., "An Experimental Test for Risk Aversion," *Economics Letters*, 1986, 21 (1), 7-11.

Kachelmeier, Steven J. and Shehata, Mohamed, "Examining Risk Preferences Under High Monetary Incentives: Experimental Evidence from the People's Republic of China," *American Economic Review*, December 1992, 82(5), pp. 1120-41

\* Holt, Charles and Laury, Susan, "Risk Aversion and Incentive Effects," *American Economic Review*, December 2002, 92(5), pp. 1644-55

Brier, Glenn W. (1950): "Verification of Forecasts Expressed in Terms of Probability," *Monthly Weather Review*, 78(1), 1-3.

Hao, Li and Daniel Houser (2012): "Belief Elicitation in the Presence of Naïve Respondents: An Experimental Study," *Journal of Risk and Uncertainty*, 44(2), 161-180.

Holt, Charles A. and Angela M. Smith (2009): "An Update on Bayesian Updating," *Journal of Economic Behavior and Organization*, 69, 125-134.

\* Hossain, Tanjim and Ryo Okui (2013): "The Binarized Scoring Rule," *Review of Economic Studies*.

Andersen, Steffen, John Fountain, Glenn W. Harrison and E. Elisabet Rutström (2010): "Estimating Subjective Probabilities," Working paper, 2010-06, Center for the Economic Analysis of Risk, Georgia State University.

Andersen, Steffen, John Fountain, Glenn W. Harrison, Arne Risa Hole and E. Elisabet Rutström (2012): "Inferring Beliefs as Subjectively Imprecise Probabilities," *Theory and Decision*, 73(1), 161-184.

Selten, Reinhard, Abdolkarim Sadrieh, and Klaus Abbink (1999): "Money Does Not Induce risk-neutral Behavior, But Binary Lotteries Do Even Worse," *Theory and Decision*, 46(3), 211-249.

\* Offerman, Theo, Joep Sonnemans, Gijs van de Kuilen and Peter P. Wakker (2009): "A Truth Serum for Non-Bayesians: Correcting Proper Scoring Rules for Risk Attitudes," *Review of Economic Studies*, 76, 1461-1489.

Trautmann, Stefan T. and Gijs van de Kuilen (2014): "Belief Elicitation: A Horse Race among Truth Serums," *Economic Journal*, forthcoming.

### **Lecture 7 (March 2): Auctions – Lab and Field**

Friedman and Cassar, Chapter 9, "Auctions," *Economics Lab*

John Kagel "Auctions: A Survey of Experimental Research," in *Handbook of Experimental Economics*, edited by J. Kagel and A. Roth, Princeton, N.J.: Princeton University Press, 501-535.

\* Coppinger, V. M., Smith, V. and Titus, J. "Incentives and behavior in English, Dutch, and sealed-bid auctions," *Economic Inquiry*, 43:1-22, 1980.

\* Kagel, J. and Levin, D. "The Winner's Curse and Public Information in Common Value Auctions," *American Economic Review*, Vol. 76, No. 5. (Dec., 1986), pp. 894-920.

Kagel, J. and Levin, D. "Common Value Auctions with Insider Information," *Econometrica*, Vol. 67, No. 5. (Sep., 1999), pp. 1219-1238.

\* Glenn Harrison "Theory and Misbehavior of First-Price Auctions," *American Economic Review*, September 1989, vol. 79, pp. 749-762.

Kagel, J. and Roth, A. "Theory and Misbehavior of First-Price Auctions: Comment", *American Economic Review*, September 1992, vol. 82, pp. 1379-1391.

Antonio Merlo; Andrew Schotter "Theory and Misbehavior of First-Price Auctions: Comment," *American Economic Review*, Vol. 82, No. 5. (Dec., 1992), pp. 1413-1425.



\* David Lucking-Reiley, "Using Field Experiments to Test Equivalence Between Auction Formats: Magic on the Internet," *American Economic Review*, December 1999, vol. 89, no. 5, pp.1063-1080.

John A. List and Lucking-Reiley, D. "Demand Reduction in a Multi-Unit Auction: Evidence from a Sportscard Field Experiment," *American Economic Review* (2000), 90(4), pp. 961-972.

### **Lecture 8 (March 9): Field Experiments – Markets**

Glenn Harrison and John A. List, "Field Experiments," *Journal of Economic Literature*, 2004, 42 (4), 1009-1055.

John A. List, "Why Economists Should Conduct Field Experiments and 14 Tips for Pulling One Off," *Journal of Economic Perspectives*, 2011, 25(3), 3-16

\* John A. List, "Does Market Experience Eliminate Market Anomalies?," *Quarterly Journal of Economics* (2003), 118, 41-71.

\* John A. List, "Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace," *Econometrica*, March 2004, 72 (2), 615-625.

John A. List, "The Nature and Extent of Discrimination in the Marketplace: Evidence from the Field," *Quarterly Journal of Economics*, Feb 2004, 119 (1), pp. 49-89

Jeffrey C. Ely and Tanjim Hossain, "Sniping and Squatting in Auction Markets," *American Economic Journal: Microeconomics*, August 2009, 1 (2), 68-94

\* Ginger Z Jin and Andrew Kato, Price, Quality and Reputation: Evidence From An Online Field Experiment, *RAND Journal of Economics*, Winter 2006, Vol. 37 No.4.

\* Jennifer Brown and John Morgan, "How much is a Dollar Worth? Tipping versus Equilibrium Coexistence on Competing Online Auction Sites," *Journal of Political Economy*, 2009, 117(4), pp. 668-700.

### **Lecture 9 (March 16): Field Experiments – Incentive Effects and Charitable Giving**

\* John A. List and David Lucking-Reiley, "The Effects of Seed Money and Refunds on Charitable Giving: Experimental Evidence from a University Capital Campaign," *Journal of Political Economy*, (2002), 110(1), pp. 215-233.

Dean Karlan, and John A. List, "Does Price Matter in Charitable Giving? Evidence from a Large-Scale Natural Field Experiment," *American Economic Review*, (2007), 97(5), pp. 1774- 1793.

\* Uri Gneezy and John A. List, "Putting Behavioral Economics to Work: Testing for Gift Exchange in Labor Markets Using Field Experiments," *Econometrica*, (2006), 74(5), pp. 1365- 1384.

\* Uri Gneezy and Aldo Rustichini, "Pay Enough or Don't Pay At All," *Quarterly Journal of Economics*, (2000), 115 (3), 791-810.

\* Tanjim Hossain and King King Li, "Crowding Out in the Labor Market: A Pro-Social Setting is Necessary," *Management Science*, May 2014, 60 (5), 1148-1160.

Nicola Lacetera, Mario Macis, and Robert Slonim, "Rewarding Volunteers: A Field Experiment," *Management Science*, May 2014, 60 (5), 1107-1129.

### **Lecture 10 (March 23): Field Experiments – Development / Policy/ Others**

\* Marianne Bertrand and Sendhil Mullainathan, "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination," *The American Economic Review*, September 2004, 94(4), pp. 991-1013

Nava Ashraf, Dean Karlan, and Wesley E. Yin, "[Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines](#)" (May 2006) *Quarterly Journal of Economics*, 121(2), pp. 635-672

\* Dean Karlan and Jonathan Zinman, "Observing Unobservables: Identifying Information Asymmetries with a Consumer Credit Field Experiment," (November 2009) *Econometrica*, 77(6), pp. 1993-2008

Raj Chetty, Adam Looney, and Kory Kroft, "Salience and Taxation: Theory and Evidence," *American Economic Review*, September 2009, 99 (4), 11145-11177.

Esther Duflo, Rema Hanna, and Stephen Ryan, "Incentives Work: Getting Teachers to Come to School," *American Economic Review*, June 2012, 102 (4), 1241-78.

\* Supreet Kaur, Michael Kremer, and Sendhil Mullainathan, "Self-Control at Work," December 2015, *Journal of Political Economy*, 123 (6), 1227-1277.

G. Bryan, S. Chowdhury and A. M. Mobarak. "Under-Investment in a Profitable Technology: The Case of Seasonal Migration in Bangladesh," *Econometrica*, 82(5): 1671-1748 (September 2014)