

## Course Description

Standard microeconomic theory is based on two main assumptions: Rationality and selfishness. When actual behavior of economic agents - as observed in economic experiments or in the field - does not conform to economic theory, this behavior might either contradict the rationality assumption or the selfishness assumption (or both). The first part of the course is devoted to the analysis of non-selfish preferences. Based on experimental evidence, we present behavioral models of altruism, envy, fairness, and reciprocity, and show their impact on different economic problems. The second part of the course deals with boundedly rational behavior and its impact on markets.

**Prerequisites:** knowledge of game theory and general equilibrium theory (level of Graduate Microeconomics I and II, or equivalent)

## Reading List

### *Lecture 1: Introduction and Methodology of Experimental Economics*

- Davis, D. and Holt, C. (1993), *Experimental Economics*, Princeton, U.P.

\* Roth, Alvin E (1988), *Laboratory Experimentation in Economics: A Methodological Overview*, *Economic Journal*, 98(393), 974-1031.

- Friedman, D. and Sunder, L (1994), *Experimental Methods, A Primer for Economists*, Cambridge U.P.

\* Julian Jamison, J., Karlan, D., and Schechter, L., (2008), *To deceive or not to deceive: The effect of deception on behavior in future laboratory experiments*, *Journal of Economic Behavior & Organization* 68, 477-488.

Smith, Vernon (1976), *Experimental Economics: Induced Value Theory*, *AER (P&P)*, 66, 274-279.

\* Smith, Vernon (1982), *Microeconomics as an Experimental Science*, *AER (72)*, 923-955.

\* Roth, Alvin E (1994), *Lets Keep the Con out of Experimental Economics: A Methodological Note*, *Empirical Economics*; 19(2), 279-89.

### *Lectures 2 and 3: Distributional Concerns and Other Regarding Preferences in General Equilibrium*

\* Akerlof, George (1982), *"Labor Contracts as Partial Gift Exchange"*, *Quarterly Journal of Economics* 97, 543-569.

\* Akerlof, George, and Jane Yellen (1990), *"The Fair Wage-Effort Hypothesis and Unemployment"*, *Quarterly Journal of Economics* 105, 255-283.

\* Andreoni, James (1990), *"Impure Altruism and Donations to Public Goods: A Theory of Warm Glow Giving"*, *Economic Journal* 100, 464-477.

\* Berg, Joyce, Dickhaut, John & McCabe, Kevin (1995), *"Trust, Reciprocity and Social History"*, *Games and Economic Behavior* 10, 122-142.

\* Binmore, K., Shaked, A., Sutton, J. (1985): *"Testing Noncooperative Game Theory: A preliminary study"*; *American Economic Review*, 75, 1178 - 1180.

\* Bolton, G. (1991), *"A Comparative Model of Bargaining: Theory and Evidence"*, *American Economic Review*, 1096-1136.

Bolton, Gary E. & Ockenfels, Axel (2000) "ERC—A Theory of Equity, Reciprocity and Competition", *American Economic Review* 90, 166-193.

Dufwenberg, M., Heidhues, P., Kirchsteiger, G., Riedel, F., and Sobel, J. (2011), Other-regarding preferences in general equilibrium, *Review of Economic Studies*, Vol. 78(2), 613-639; DOI: 10.1093/restud/rdq026

\* Engelmann D., Strobel M. (2004): "Inequality Aversion, Efficiency and Maximin Preferences in Simple Distribution experiments", *American Economic Review*, vol 94 (4, September), pp 857-869.

\* Fehr, E. and Gächter S. (2000), "Cooperation and Punishment in Public Goods Experiments", *American Economic Review*, 980-994.

Fehr, E., Kirchsteiger, G. & Riedl, A. (1993), "Does Fairness Prevent Market Clearing? An Experimental Investigation", *Quarterly Journal of Economics* 108, 437-460.

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

\* Fehr, Ernst, Gächter, Simon & Kirchsteiger, Georg (1997), "Reciprocity as a Contract Enforcement Device: Experimental Evidence", *Econometrica* 65, 833-860.

Fehr, Ernst, Kirchsteiger, Georg & Riedl, Arno (1998), "Gift Exchange and Reciprocity in Competitive Experimental Markets", *European Economic Review* 42, 1-34.

Forsythe, R., Horowitz, J., Savin, N., and Sefton, M. (1994), "Fairness in Simple Bargaining Experiments", *Games and Economic Behavior*, 347-369.

Güth, W., Schmittberger, R., Schwarze, B. (1982): "An Experimental Analysis of Ultimatum Bargaining"; *Journal of Economic Behaviour and Organisation*, 3, 367 - 388

Güth, W., Tietz, R. (1990): "Ultimatum Bargaining Behaviour: A Survey and Comparison of Experimental Results"; *Journal of Economic Psychology*, 11, 417 - 449.

\* Kahneman, Daniel, Knetsch, Jack L. & Thaler, Richard H. (1986), "Fairness as a Constraint on Profit Seeking: Entitlements in the Market", *American Economic Review* 76, 728-741.

Kirchsteiger, Georg (1994), "The Role of Envy in Ultimatum Games", *Journal of Economic Behavior and Organization* 25, 373-390.

Ledyard, J. (1995), "Public goods; A Survey of Experimental Results", in Kagel, J. and A. Roth (eds), *The Handbook of Experimental Economics*, Princeton University Press.

Ochs, J., Roth, A. (1989): "An Experimental Study of Sequential Bargaining"; *American Economic Review*, 79, 355 - 384.

- Sobel, J. (2005), Interdependent Preferences and Reciprocity, *Journal of Economic Literature* 43, 392 - 436.

\* Thaler, R. (1988): "Anomalies: Ultimatum Game"; *Journal of Economic Perspectives*, 2, 195 - 206.

#### *Lecture 4: Reciprocity and the Impact of Beliefs*

\* Aldashev, G., Kirchsteiger, G., and Sebald, A. (2017), "Assignment procedure biases in randomized policy experiments", *Economic Journal*, Vol.127, June 2017, 873–895

\* Blount, Sally (1995), "When Social Outcomes Aren't Fair: The Effect of Causal Attributions on Preferences", *Organizational Behavior & Human Decision Processes* 63, 131-144.

\* Bolle, Friedel & Kritikos, Alexander (1999), "Approaching Fair Behavior: Self-Centered Inequality Aversion versus Reciprocity and Altruism", *Diskussionspapier Nr. 143*, Europa-Universität Viadrina, Frankfurt/Oder.

Charness, Gary (2004), "Attribution and Reciprocity in an Experimental Labor Market", *Journal of Labor Economics* 22, 665-688.

\* Charness, Gary & Matthew Rabin (2002), "Understanding Social Preferences with Simple Tests", in *Quarterly Journal of Economics* 117, 817-869.

\* Conconi, P., DeRemer, D., Kirchsteiger, G., Trimarchi, L., and Zanardi, M. (2017), "Suspiciously timed trade disputes", *Journal of International Economics*, Vol. 105, March 2017, 57-75

Dufwenberg, M. & Kirchsteiger, G. (2004), "A Theory of Sequential Reciprocity", *Games and Economic Behavior*, Vol. 47, Issue 6, May 2004, 268-298.

Dufwenberg, M. & Kirchsteiger, G. (2000), Reciprocity and wage undercutting, *European Economic Review* 44, 1069-78.

\* Dufwenberg, M. & Kirchsteiger, G. (2018), "Modelling Kindness", *Journal of Economic Behavior & Organization*, 2018, <https://doi.org/10.1016/j.jebo.2018.07.014>

\* Falk, Armin & Fischbacher, Urs (1998), "A Theory of Reciprocity", Working Paper No. 6, University of Zurich.

\* Gneezy, Uri, Güth, Werner & Verboven, Frank (2000), "Presents or Investments? - An Experimental Analysis", *Journal of Economic Psychology*, 21, 481-493.

\* Rabin, Matthew (1993), "Incorporating Fairness into Game Theory and Economics", *American Economic Review* 83, 1281-1302.

#### *Lecture 5: The Impact of Beliefs on Payoffs - Psychological Game Theory*

Battigalli, Pierpaolo, and Martin Dufwenberg (2009), Dynamic Psychological Games, *Journal of Economic Theory* 144, 1-35.

Battigalli, Pierpaolo, and Martin Dufwenberg (2007), Guilt in Games, *American Economic Review* 97 (P&P), 170-176.

\* Caplin, Andrew, and John Leahy (2001), Psychological Expected Utility: Theory and Anticipatory Feelings, *Quarterly Journal of Economics*, 116(1): 55–79.

\* Caplin, Andrew, and John Leahy (2004) The Supply of Information by a Concerned Expert, *Economic Journal*, 114(497): 487–505.

\* Charness, Gary, and Martin Dufwenberg (2005), Promises and Partnerships, mimeo.

\* Dufwenberg, Martin (2002), Marital investment, time consistency & emotions. *Journal of Economic Behavior and Organization* 48, 57-69.

Geanakoplos, John, Pearce, David & Stacchetti, Ennio (1989), "Psychological Games and Sequential Rationality", *Games and Economic Behavior* 1, 60-79.

\* Kreps, D. and Wilson, R. (1982), Sequential Equilibrium, *Econometrica* 50, 863-894.

#### *Lecture 6: The Indirect Evolutionary Approach and the Endowment Effect*

\* Güth, W., and Yaari, M. (1992), "An Evolutionary Approach to Explain Reciprocal Behavior in a Simple Strategic Game", in: *Explaining Process and Change - Approaches to Evolutionary Economics*, ed. U. Witt, Ann Arbor, 23-34.

Huck, S., G. Kirchsteiger, and J. Oechssler (2005), "Learning to Like What You Have - Explaining the Endowment Effect", *Economic Journal*, Vol. 115, July 2005, 689-702.

\* Huck, S. and Oechssler, J. (1999), "The Indirect Evolutionary Approach to Explaining Fair Allocations", *Games and Economic Behavior* 28, 13-24.

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\* Kahneman, D., Knetsch, J. and Thaler, R. (1991), "The Endowment Effect, Loss Aversion, and Status Quo Bias", *Journal of Economic Perspectives* 5, 193-206.

\* Kahneman, D. and A. Tversky (1979), "Prospect Theory: An Analysis of Decision under Risk", *Econometrica* 47, 263-292.

\* Knetsch, J. (1989), "The Endowment Effect and Evidence of Nonreversible Indifference Curves", *American Economic Review* 79, 1277-1284.

\* Knetsch, J. and Sinden, J. (1984), "Willingness to Pay and Compensation Demanded: Experimental Evidence of an Unexpected Disparity in Measures of Value", *Quarterly Journal of Economics* 99, 507-521.

### *Lecture 7: Non-equilibrium Strategic Thinking*

\* Breitmoser, Y. (2012), Strategic reasoning in  $p$ -beauty contests, *Games and Economic Behavior* 75, 555-569.

Camerer, C., Ho, T., and Chong, J. (2004), A Cognitive Hierarchy Model of Games, *Quarterly Journal of Economics* 119(3), 861-898.

- Crawford, V., Costa-Gomez, M., and Iriberry, N. (2013), Structural Models of Nonequilibrium Strategic Thinking: Theory, Evidence, and Applications, *Journal of Economic Literature* 51(1), 5-62.

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Ho, T., Camerer, C., and Weigelt, K (1998), Iterated Dominance and Iterated Best Response in Experimental  $p$ -Beauty Contests, *American Economic Review* 88(4), 947-969.

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Nagel, A. (1995), Unraveling in Guessing Games: An Experimental Study, *American Economic Review* 85(5), 1313-1326.

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

### *Lecture 8: Learning Models*

\* Alós-Ferrer, C. (2003), Finite Population Dynamics and Mixed Equilibria, *International Game Theory Review* 5 (3), 263-290.

Ellison, G. (2000), Basins of Attraction, Long Run Stochastic Stability, and the Speed of Step-by-Step Evolution, *Review of Economic Studies* 67, 17-45.

- Fudenberg, D., and D. Levine (1998), *The Theory of Learning in Games*. The MIT Press, Cambridge, Massachusetts.

Huck, S., H. Normann and J. Oechssler (1999), Learning in Cournot Oligopoly - An Experiment. *Economic Journal* 109, C80-95.

\* Kandori, M., G. Mailath, and R. Rob (1993), Learning, Mutation, and Long-Run Equilibria in Games. *Econometrica* 61, 29-56.

\* Kandori, M., and R. Rob (1995), Evolution of Equilibria in the Long Run: a general theory and applications. *Journal of Economic Theory* 65, 383-414.

- Samuelson, L. (1997), *Evolutionary Games and Equilibrium Selection*. The MIT Press, Cambridge, Massachusetts.

Vega-Redondo, F. (1991), "The Evolution of Walrasian Behavior", *Econometrica* 65, 375-384.

Young, P. (1993), The Evolution of Conventions. *Econometrica* 61, 57-84.

### *Lecture 9: Experimental Comparisons of the Learning Models*

Huck, S., H. Normann and J. Oechssler (1999), "Learning in Cournot Oligopoly - An Experiment", *Economic Journal* 109, C80-95.

Offerman, T., J. Potters, and J. Sonnemans (2002), "Imitation and Belief Learning in an Oligopoly Experiment", *Review of Economic Studies*, 973-997.

### *Lecture 10: Market Experiments and Competition between Trading Institutions*

Alós-Ferrer, C. and G. Kirchsteiger (2015), Learning and market clearing: Theory and experiments, *Economic Theory*, Vol. 60(2), 203-241; DOI: 10.1007/s00199-015-0885-

\* Ariely, D., A. Ockenfels, and A. Roth (2003), An Experimental Analysis of Ending Rules in Internet Auctions, mimeo.

\* Ausubel, L. and P. Cramton (2002), Demand Reduction and Inefficiency in Multi-Unit Auctions, mimeo.

\* Budish, E. and L. Takeyama (2001), Buy Prices in Online Auctions: Irrationality on the Internet, *Economic Letters* 72, 325-333.

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

\* Anke Gerber and M. Bettzuege (2007), Evolutionary Choice of Markets, *Economic Theory*, 30, 453-472.

- Holt, C. (1995), *Industrial Organization: A Survey of Laboratory Research*. in: Kagel, J. and A. Roth: *Handbook of Experimental Economics*. Princeton University Press, Princeton.

\* Neeman, Z. and N. Vulkan (2005), Markets versus Negotiations: The Predominance of Centralized Markets, mimeo.

\* Ockenfels, A., and A. Roth (2002), Last-Minute Bidding and the Rules for Ending Second-Price Auctions: Evidence from eBay and Amazon on the Internet, *American Economic Review* 92, 1093-1103.

Plott, C. (1982), *Industrial Organization Theory and Experimental Economics*. *Journal of Economic Literature*, 20, 1485-1587.

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

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

### *Lecture 11: Learning and the Creation of Trading Platforms*

Alós-Ferrer, C, G. Kirchsteiger, and M. Walzl (2010), On the Evolution of Market Institutions: The Platform Design Paradox, *Economic Journal*, Vol. 120(543), March 2010, 215-243.

\* Caillaud, B. and B. Jullien (2002), Chicken and Egg: Competition among Intermediation Service Providers, mimeo.

\* European Commission, Enterprise Directorate General (2003), Report of the Expert Group on B2B Internet Trading Platforms, Final report, mimeo.

\* Rochet, J. and J. Tirole (2003), Platform Competition in Two-sided Markets, *Journal of the European Economic Association* 1, 990-1029.

- Rochet, J. and J. Tirole (2004), Two-sided Markets: An Overview, mimeo.

\* UNCTAD (2002), e-Commerce and Development Report 2002, mimeo.

### *Lecture 12: The Emergence of Trading Institutions*

\* Easley, David, and Ledyard, John O. (1993), Theories of Price Formation and Exchange in Double Oral Auctions, in: D. Friedman and J. Rust (eds.), *The Double Auction Market. Institutions, Theories, and Evidence*, Reading: Addison-Wesley.

\* Friedman, Daniel (1991), A Simple Testable Model of Double Auction Markets, *Journal of Economic Behavior and Organisation*, 15, 47-70.

\* Gjerstad, Steven, and Dickhaut, John (1995), Price Formation in Double Auctions, *Games and Economic Behavior* 22, 1-29.

\* Gode, Dhananjay K., and Sunder, Shyam (1997), What Makes Markets Allocatively Efficient, *Quarterly Journal of Economics* 102, 603-630.

Kirchsteiger, G., M. Niederle and J. Potters (2005), Endogenizing Market Institutions: An Experimental

Approach; *European Economic Review* Vol. 49(7), 1827-1853.

\* Kranton, R. and D. Minehart (2001), A Theory of Buyer-Seller Networks. *American Economic Review* 91, 485-508.

references without a mark: discussed in some detail in the lecture

references with \*: additional reading

references with :: overview literature