University of Reading

# *PRESENTATION. Experimental and behavioral economics. Theory, tools and topics*

Article

Published Version

Creative Commons: Attribution-Noncommercial 3.0

Branas-Garza, P. and Georgantzis, N. (2012) PRESENTATION. Experimental and behavioral economics. Theory, tools and topics. Revista Internacional de Sociología, 70 (Extra_1). pp. 9-13. ISSN 0034-9712 doi: 10.3989/ris.2011.04.15 (special issue: Experimental and Behavioural Economics) Available at https://centaur.reading.ac.uk/35825/

It is advisable to refer to the publisher's version if you intend to cite from the work. See Guidance on citing.
Published version at: http://dx.doi.org/10.3989/ris.2011.04.15
To link to this article DOI: http://dx.doi.org/10.3989/ris.2011.04.15

Publisher: CSIC Spain

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the End User Agreement.

www.reading.ac.uk/centaur

University of Reading

**CentAUR**

Central Archive at the University of Reading

Reading's research outputs online

**Revista Internacional de Sociología (RIS)**
Special Issue on Behavioral and Experimental Economics
Vol. 70, extra 1, 9-13, marzo 2012
ISSN: 0034-9712; eISSN: 1988-429X
DOI 10.3989/ris.2011.04.15

# PRESENTATION
# Experimental and behavioral economics
# Theory, tools and topics

# PRESENTACIÓN
# Economía experimental y del comportamiento
# Teoría, herramientas y temas

**Pablo Brañas-Garza** pbg@ugr.es
*Granada Lab of Behavioral Economics (GLOBE). Universidad de Granada. Spain*

**Nikolaos Georgantzís** ngeorgantzis@ugr.es
*Granada Lab of Behavioral Economics (GLOBE). Universidad de Granada. Laboratorio de Economía Experimental (LEE). Universitat Jaume I. Spain*

## Abstract
This note presents the special issue on Experimental and Behavioral Economics. The volume includes some recent contributions from these correlated disciplines –empirical the former and theoretical the latter– and their potential contribution to the intersection of Economics with Psychology and Sociology. The project "*El papel de la comparación social en las decisiones económicas bajo incertidumbre*" (Junta de Andalucía, P07-SEJ-03155)" provided us with inspiration and financial support to publish this volume.

## Keywords
Decision making; Experimental economics; Markets.

## Resumen
Este trabajo presenta el número especial de *Revista Internacional de Sociología* dedicado a la Economía Experimental y del Comportamiento. El volumen se compone de una serie de trabajos tanto teóricos como empíricos ubicados en la intersección de la Economía con la Psicología y la Sociología. El proyecto "*El papel de la comparación social en las decisiones económicas bajo incertidumbre*" (Junta de Andalucía, P07-SEJ-03155)" nos proporcionó inspiración y financiación para publicar este volumen.

## Palabras clave
Economía experimental; Mercados; Toma de decisiones.

This special issue on Experimental and Behavioral Economics reviews some recent contributions from these correlated disciplines —empirical the former and theoretical the latter— and their potential contribution to the intersection of Economics with Sociology and Psychology.

The first two papers are examples of how Game Theory helps us study human behavior. The basic ingredients of game theory is rationality (subjects choose their best option) and common knowledge of rationality (everybody knows that everybody is rational and everybody knows that everybody else knows that... and so on *ad infinitum*). A key concept is the solution known as Nash equilibrium.

The first paper, "Strategic Interaction and Conventions" (Espinosa, Kovárík & Ponti, 2012), illustrates how social norms and conventions emerge as coordination devices in games with multiple Nash equilibria. However, the paper also shows that a "nice" (efficient) equilibrium is not always achieved, that coordination failures are common and the relevance of new concepts (for instance, framing, labels, etc.) arising from cognitive psychology in this field. As Schelling (1963) noted, some conventions are selected due to their *intrinsic magnetism*, and without any economic justification.

The second paper deals with "Bounded Rationality" in individuals' choices (Ballester & Hernández, 2012). It focuses on two main (computational) problems: backward induction and common knowledge of rationality. To explore the difficulty of computing backward induction solutions, they use a spatial segregation game where heterogeneity among players, in terms of ability, may have critical effects on the final configuration. The second issue (common knowledge of rationality) is explored by the Beauty Contest Game (BCG in short) introduced by Nagel (1995). This paper highlights the difficulty for players to put themselves "in the shoes of their rival" (Theory of Mind, see Baron-Cohen, 1995). They show that this lack of empathy has clear implications for the final equilibrium and how subjects converge to it.

Following the previous paper on the lack of empathy, the third paper "The neural basis of bounded rational behavior" (Coricelli & Nagel, 2012) uses functional magnetic resonance imaging (*fMRI*) to study the neural correlates of human mental processes in BCG. This new discipline, Neuroeconomics (see Glimcher, P.W., C. Camerer, R.A. Poldrack & E. Fehr, 2008), may help to understand the mental process underlying (bounded) rationality and (out-of) equilibrium behavior. This paper reports correlation between activities in a neural network related to mentalizing (empathy) and levels of strategic reasoning.

The fourth paper "The lottery-panel task for bi-dimensional parameter-free elicitation of risk attitudes" (García-Gallego, Georgantzís, Jaramillo-Gutiérrez & Parravano, 2012) proposes a simple task for the elicitation of risk attitudes. This tool captures the two essential dimensions of individual decision making under uncertainty: subjects' average willingness to choose risky projects and their sensitivity towards variations in the return to risk. This study reports results from a large dataset (mostly Spanish data) and most importantly, it provides a parametric statistical approach to estimate both dimensions of behaviour.

The fifth paper "Time discounting and pain anticipation: Experimental evidence" (Brañas-Garza, Espinosa & Repollés, 2012) applies experimental techniques to medical issues. This paper shows that anticipatory pain is related to time discounting. They rationalize pain anticipation considering that subjects value not only their present wellbeing but also their future health status. It shown that some individuals' weight mainly the prospect of pain associated to a medical procedure and discount heavily the future benefits, while others have a higher discount factor ($\delta$) and weight highly the future benefits.

The paper "When obese people are more patient than non-obese people: a study of post-surgery individuals in a weight loss association" (Budría, Lacomba, Lagos and Swedberg, 2012) investigates the rates of delay discounting among obese people treated surgically and belonging to an association of those interested in controlling their weight. The authors show that obese people display lower discount rates than the reference group, while differences cannot be attributed to the personality traits available. In fact, awareness and commitment, rather than their actual body mass index play a more important role in determining delay discounting.

The last block of papers is devoted to special and rather novel topics. After the decisive paper of Gneezy et al. (2003) on differences in competition by sex, Gender Economics has become a sound discipline (see Croson & Gneezy, 2009). The other emerging topic is, without any doubt, social preferences, that is, the study of how people cares about other people (see Fehr & Fischbacher, 2003). The paper "Gender differences in economic experiments" (Ergun, García-Muñoz & Rivas, 2012) reviews the experimental economics literature on gender differences. They focus on four central topics: risk aversion, trust, deception and leadership. They find that an important part of the documented "gender-bias" could be explained by sex-role stereotypes however, hormonal differences might also have a critical effect.

The paper "The puzzle of Social preferences" (Brandts & Fatas, 2012) provides a summarizing review of this emerging discipline. They show that individuals are maximizers (they choose their best option) but at the same time they are concerned about relative payoffs and fairness (comparison of own earnings of *i*-subject versus *j*-subject) in both dimensions (envy and guiltiness), about procedures (not only the payoff but also the way how the money was earned), reciprocity, guilt aversion, etc. A large set of social attributes of the game that may change subject's valuation and achieved outcomes.

Finally, three papers on electricity, water and general oligopolistic markets remind us of the importance of behavioral considerations when studying these settings of interaction among economic agents.

In the paper "Demand response in experimental electricity markets" (Barreda, García-Gallego, Pavan, & Sabater, 2012) the authors study subjects' decisions on the electric energy they consume. They confirm that, from a social perspective, a dynamic pricing system is more efficient than a static one. Moreover, a dynamic scheme with sanctions, although less preferred by consumers, is more effective than the one with bonuses in order to reduce peak consumption. Finally, dynamic pricing with bonuses reaches a good balance between efficiency and consumer acceptance.

The paper "Competitiveness, cooperation, and strategic interaction. An oligopoly classroom experiment" (García-Martínez, Gutiérrez-Hita & Sánchez-Soriano, 2012) uses classroom data to prove the interesting idea that competition among groups favors within-group collusion. Based on an intuitively appealing behavioral argument, the result calls for a reconsideration of market theory, as real-world business are often exposed to competition among firms from different sectors. In such cases, collusion may emerge among potential competitors.

In the paper "Managing a duopolistic water market with confirmed proposals: An experiment" (García-Gallego, Georgantzís, Hernán & Kujal, 2012) the authors show the collusive potential of a novel market clearing mechanism inspired by *games with confirmed strategies*. This finding implies that the rule of thumb used by competition authorities against anti-competitive strategies in static contexts is also valid when market mechanisms are used to allocate water in complex markets like the one studied here.

## References

Ballester, C. and P. Hernández 2012. "Bounded Rationality." *Revista Internacional de Sociología,* Extra 1:27-38.

Baron-Cohen, S. 1995. *Mindblindness. An Essay on Autism and Theory of Mind*. Brandford Books: MIT Press.

Barreda, I., García-Gallego, A., Pavan, M. and Gerardo Sabater 2012. "Demand response in experimental electricity markets." *Revista Internacional de Sociología,* Extra 1:127-165.

Brandts, J. and E. Fatás 2012. "Social preferences." *Revista Internacional de Sociología,* Extra 1:113-126.

Brañas-Garza, P., Espinosa, M.P. and M. Repollés 2012. "Time discounting and pain anticipation: Experimental evidence." *Revista Internacional de Sociología,* Extra 1:73-81.

Budría, S., Lacomba, J.A., Lagos, F. and P. Swedberg 2012. "When obese people are more patient than non-obese people: a study of post-surgery individuals in a weight loss association." *Revista Internacional de Sociología,* Extra 1:83-98.

Coricelli, G and R. Nagel 2012. "The neural basis of bounded rational behavior." *Revista Internacional de Sociología,* Extra 1:39-52.

Croson, R. and U. Gneezy 2009. "Gender Differences in Preferences." *Journal of Economic Literature* 47:1-27.

Ergun, S., García-Muñoz, T. and M. F. Rivas 2012. "Gender Differences in Economic Experiments." *Revista Internacional de Sociología,* Extra 1:99-111.

Espinosa, M.P., Kovárík, J. and G. Ponti 2012. "Strategic Interaction and Conventions." *Revista Internacional de Sociología,* Extra 1:15-26.

Fehr E. and U. Fischbacher 2003. "The Nature of Human Altruism." *Nature 425*:785-791.

García-Gallego, A., Georgantzís, N., Jaramillo-Gutiérrez, A. and M. Parravano 2012. "The lottery-panel task for bi-dimensional parameter-free elicitation of risk attitudes." *Revista Internacional de Sociología,* Extra 1:53-72.

García-Gallego, A., Georgantzis, N., Hernán, R. and P. Kujal 2012. "Managing a duopolistic wáter market with confirmed proposals: An experiment." *Revista Internacional de Sociología,* Extra 1:189-213.

García-Martínez, J.A., Gutiérrez-Hita, C. and Sánchez-Soriano, J. 2012. Competitiveness, cooperation, and strategic interaction. An oligopoly classroom experiment. *Revista Internacional de Sociología* Extra 1:167-187.

Glimcher, P.W., C. Camerer, R.A. Poldrack and E. Fehr 2008. *Neuro-economics: Decision Making and the Brain*, Academic Press 2008.

Gneezy, U., M. Niederle, and A. Rustichini 2003. "Performance in competitive environments: Gender differences." *Quarterly Journal of Economics* 118:1049-1074.

Nagel, R. 1995. Unraveling in Guessing Games: An experimental Study. The *American Economic Review* 85:1313-1326.

Schelling, T. 1963. *The Strategy of Conflict.* New York: Oxford University Press.

**Pablo Brañas-Garza** is Professor of Economics at Universidad de Granada. His research interests include experimental economics, decision-making and economics of religion. He has published his research in *Games & Economic Behavior, Journal of Conflict Resolution, Experimental Economics, Journal of Economic Behavior and Organization, Journal of Money, Credit and Banking* or *Journal of Economic Psychology.*

**Nikolaos Georgantzís** is Professor of Economic Theory and Experimental Economics at the Universitat Jaume I (Castellón-Spain), where he founded the Laboratorio de Economia Experimental (LEE). Since 2008, he holds a Research Chair financed by the Junta de Andalucía at the Universidad de Granada, where he founded the experimental economics laboratory EGEO. His research interests include experimental economics and industrial organization.

**RECEIVED: 12 December 2011**
**ACCEPTED: 01 February 2012**