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Social influence in gain, loss and mixed domain

May Attallah * ¹

¹ Centre de Recherche en Economie et Management (CREM) – CNRS : UMR6211, Université de Rennes 1 – 7 Place Hoche, France

The impact of social influence on decision making under risk has only been recently explored in economics (Rohde and Rohde, 2011; Linde and Sonnemans, 2012; Schmidt *et al.*, 2015). From prospect theory we know that people evaluate their payoffs relative to a reference point. Translating this to a social context, we expect payoffs of others to serve as a reference point for individual choice. Much of the existing empirical evidence on risk attitudes is concentrated on gains. This paper aims to fill some of this gap in empirical information. I conducted an experiment based on Linde and Sonnemans (2011) to observe choices under risk in three types of prospects: gain, loss, and mixed prospects (outcomes can be gains or losses) in an individual and social context. Each participant made 21 choices between two urns each containing 3 balls. In gain (loss) prospects, all balls in the urn have a positive (negative) value. In mixed prospects, balls in the urn can have a positive or negative value. In the individual treatment, subjects faced a private lottery. In social treatment, subjects were matched with two others who chose the same urn in a randomly selected choice situation. The urn represented a within group distribution of earnings. Each subject participated in both treatments. The results show that risk attitudes vary across treatments and domains. There is a significant difference in attitudes towards risk between individual and social treatments in the gain and mixed prospects. In gain domain, subjects are more risk averse in social treatment. However, in mixed prospects, subjects are more risk averse in individual treatment. In loss domain, no significant difference arises in attitudes towards risk. I also investigate the factors that affect the probability of choosing a safe urn over a risky one. An increase in the difference in skewness between the safe and the risky urn made it less likely that a participant would choose the safe urn. Also, the safe urn is chosen less in loss situation. In social treatment, the safe urn is chosen less in mixed domain and more in gain domain.

Keywords: Decision making under risk, Social Comparison, Loss aversion, Correlation of risks, Experiment

*Speaker

The Effects of Policy Pledges on Voting Decisions Based on Income Groups : An Experimental Analysis on Vote Buying

Ceren Ay * ¹, Bilge Ozturk Goktuna * ^{† 2}

¹ Istanbul University Department of Public Finance – Turkey

² Galatasaray University Department of Economics (Galatasaray University Department of Economics)
– Turkey

Government and citizens are connected through income taxation and public good provisions. As the government is a vehicle of income distribution, voting decisions are based on expected income generated with a particular selection of political party. For candidates in the elections, on the other hand, being elected represents implementing the ideology and benefiting from the perks of office. Elections, in this context, are a means of screening and sanctioning, as politicians who do not keep their promises will have to face their electorate for the following elections. There may also be the non-pecuniary cost of lying at the campaigns; the disturbance of not keeping promises, the responsibility of satisfying expectations.

In this study, we will investigate how voters react to income distribution and corruption in a voting experiment. In the experimental design, subjects will be assigned randomly to the role of politicians and voters. For every group of 7, 2 subjects will be identified as politicians and the rest voters. Politicians will propose a specific income distribution when they are campaigning. Voters with heterogeneous initial incomes, on the other hand, will vote given the income distribution policy proposal of each politician. And mainly there will be 2 rounds including several periods. For both of them in the 1st period Politicians will be given an endowment to distribute among voters. By implementing a second election period in the 1st round, we aim to see if voters will punish politicians who does not fulfill pledges or not. That mechanism make us able to observe if the campaign promises are cheap talk as rational choice scholars argue or they really are the components make elections more than a lottery. In the 2nd round, politicians will be provided with a second instrument at the election campaigns: vote buying. They will be given the information about the ratio of income groups within subjects. And every period that ratio will be changed, differing number of subjects will be assigned to one of the 3 income groups; High, Medium and Low.

This information will enable Politicians to make income pledges based on majority of income groups. We intend to analyze politicians' incentive to win the elections through median voter policies and vote buying. And again in the 2nd round there will be a second election period to analyze voters' reactions as they face with the income group based policy pledges.

*Speaker

[†]Corresponding author: goktunabilge@gmail.com

Keywords: Political Pledges, Voting Behavior, Median Voter Policies, Vote Buying

NO MORE EXTRA MILES: EXPERIMENTAL EVIDENCE ON THE CRITICAL ROLE OF TIME AUTONOMY FOR PROCESSES OF INNOVATION AND PRODUCTION

Benjamin Bajmel * ¹, Stephan Lengsfeld *

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¹ University of Freiburg [Freiburg] – Friedrichstr. 39 79098 Freiburg, Germany

Innovation (e.g. the rigorous development and exploration of new methods, products and technologies) is widely considered as being one of the main drivers of long term success and as a necessary condition for the survival of businesses in today's globalized world. Moreover, following a report of Bosten Consulting Group published recently, innovation seems to rise in perceived importance for decision makers in many companies over the past years. Some authors even claim the development of innovative new products as a firm's top priority. To foster the development of new ideas many companies need to rely on the specific capabilities of their employees and pursue to form a 'culture of innovation'. Empowerment of the respective employees is deemed as a key concept for the possibility to extract and promote innovation from the workforce. This involves such aspects as decentralization of decision-making, the promotion of decision-making autonomy or participative leadership. Theory suggests that giving greater situational control to the workforce in charge can encourage the development of innovation by a more efficient allocation of resources than a top-down structured stipulation can provide. In contrast, successful companies such as 3M, Facebook, LinkedIn, Apple, or Google seem to target their efforts at strictly creating pre-defined open spaces for their staff's allocation of time, very often a critical resource for innovation, towards innovation activities, thereby clearly differentiating between daily routine business and innovation. These companies, to a greater or lesser extent, expect their employees to devote a certain amount of their time at work solely to innovation activities, often unrelated to their own daily routine tasks. There is also evidence that employees in general respond to the existing incentive systems, i.e. they will optimize their own payoffs in a specified period irrespective of the company's long-term goals. Such a behavior can lead an organization to specific actions to retrieve control over the workforce, which in turn can put tremendous pressure on their employees by restricting their otherwise discretionary resources. This raises the question, if and how much sovereignty over the critical resource 'time' should be given to the workforce and how much should be left to the organization itself. Is the development of innovation more supported by forcing the staff to allocate a certain (fixed) amount of time to innovation activities (e.g. try to steer the innovation process from top-down) or should

*Speaker

this consideration be left to the workforce in charge (e.g. let innovation evolve from bottom-up)?

To further clarify this question we conducted a real-effort experiment and explored subjects' allocation of time and the respective outcomes associated herewith in the context of a production process with monetary incentives for innovation activities. Innovation in our context can be divided into product innovation and process innovation. Subjects in our setting financially profit from both types of innovation. We observed subjects' behavior over four periods, each lasting for 12 minutes and involving two phases. In phase one of each period, the 'planning phase', subjects first had to construct and/or further develop a prototype of a circuit board made from Lego® bricks which had to feature several specifications in order to be deemed as valid. Production was only possible in phase two, the 'production phase', which started after the experimenter checked the validity of the prototype constructed. The production phase was solely reserved for producing output precisely resembling the prototype constructed. Subjects received a fixed amount of money for every piece of valid output constructed in this phase. Our treatments were specifically constructed to compare two situations: Participants in the first treatment, which we label 'no time autonomy', had 4 minutes of compulsory time pre-specified as their planning phase in every period. The remaining eight minutes were reserved for production only. The second situation was characterized by 'time autonomy'. Here subjects had complete sovereignty over the allocation of their time, i.e. they decided themselves how much time to invest in the planning phase which in turn determined the remaining time for producing output. Our objective was to find out how subjects' behavior related to search, learning and innovation differed between these two treatments.

The first result we observe is that groups under 'time autonomy' allocate a substantial amount of their time to planning activities in early periods, while they shift their allocation to production activities during the further course of the experiment. Their strategy seems to be to first optimize their products and thereby to deliberately accept the fact to forgo payoffs in early periods in order to obtain larger benefits in later periods. In other words: participants seem to anticipate that it is of value to trade-off earnings in the first period by investing time and effort in thinking about the optimization of their products. In later periods, after several optimizations took place, this value seems to diminish and it appears to be more appropriate for groups under 'time autonomy' to invest in 'making money' i.e. to allocate time to activities that produce output and gain returns. In contrast, groups under 'no time autonomy' had a fixed structure of time allocation of four minutes in every period for planning activities with in general no other outside option, i.e. there was no other activity for them to perform during this phase. On average, groups in the 'time autonomy' treatment invested 13.45 minutes over all four periods in their planning phases while groups under 'no time autonomy' had a fixed amount of 16 minutes in total for their planning activities. We find that groups under 'time autonomy' innovate faster at the beginning, but then stop innovating to incorporate the benefits of their innovation, which results on average in less successful innovations in terms of costs of their prototypes in period 4. Since these groups were not forced to 'go the extra mile' they choose not to do so. Here, a certain satisficing behavior in terms of cost-efficiency in the context of product improvements seems to drive the actions of groups under 'time autonomy'. In contrast, groups under 'no time autonomy' innovate slower but more rigorously and in the end they outperform groups with 'time autonomy' in terms of costs of prototypes developed. In our 4-period setting, on average groups under 'no time autonomy' exhibit larger profits and are on average more profitable in terms of production time per minute than groups under a less restrictive time schedule, i.e. they exhibit a higher 'production efficiency'. However, groups under 'time autonomy' apply their planning time more efficient than their counterparts. Referring the costs of their prototypes to their accumulated planning time over four periods shows that they exhibit a higher 'planning efficiency' than groups under 'no time autonomy'. In summary, we find substantial differences in behavior related to strategies of innovation, search and production depending on the degree

of time autonomy in place.

Keywords: Innovation, time autonomy, production process

Do the right thing: But for how long?

Cécile Bazart* ¹, Julie Rosaz[†] ¹, Rustam Romaniuc ^{‡§} ²

¹ Laboratoire Montpellierain d'Economie Théorique et Appliquée (LAMETA) – University of Montpellier – Av. Raymond Dugrand CS 79606, France

² Laboratoire d'Anthropologie Expérimentale – Lille Catholic University – 60 bis, rue du port, France

The social norms literature generally distinguishes between two types of social information used to motivate people to do "the right thing": descriptive and normative information. Descriptive information refers to situations when people look up at what others do. It has been shown that people value conformity with how others behave. Normative information refers to situations when people believe they are expected to behave in a certain way or else they will be the target of social disapproval. We experimentally investigate (i) how time that elapses between seeing a social information and taking a decision - to be generous or not - might impact the effectiveness of descriptive and normative information, and (ii) how these two types of social information affect generosity over time in repeated dictator games.

Keywords: social norms, moral appeals, social information, dictator game

*Corresponding author: cecile.bazart@lameta.univ-montp1.fr

†Corresponding author: julie.rosaz@lameta.univ-montp1.fr

‡Speaker

§Corresponding author: rustam.romaniuc@gmail.com

Spatial Competition with Demand Uncertainty: A Laboratory Experiment

Aurélie Bonein * ¹, Stéphane Turolla *

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¹ Centre de Recherche en Economie et Management (CREM) – CNRS : UMR6211, Université de
Rennes 1, Université de Caen Basse-Normandie – France

² INRA – Institut national de la recherche agronomique (INRA) – 4 Allée Adolphe Bobierre CS61103
35011 Rennes, France

This paper is part of a long line of works in spatial economics that aims to elicit the underlying reasons of location decisions. Since the seminal work of Hotelling (1929), it is now well established that location choices result from a trade-off between the market area effect and the competitive effect. Different spatial configurations, ranging from a central location at the urban center of the market to a maximum differentiation are likely to arise, depending on the nature of the decisions (i.e., with or without price decision), their timing (sequential or simultaneous) or assumptions regarding transportation costs, demand elasticity, number of firms, etc. However, in most cases, results cannot perfectly explain the observed location decisions. One of the explanations of such discrepancy relies to the available information about demand location. While initial works account for complete information about demand location, one can argue that, conversely, when entering a new market, firms face uncertainty about demand. The degree of uncertainty may vary depending on previous market researches, the nature of the product (i.e., if it is a new product or not), for instance. In this spirit, Meagher and Zauner (2004, 2005) have theoretically examined the effect of demand uncertainty on location decisions in a location-then-price game à la Hotelling (1929) in which firms choose their location simultaneously. They show that in equilibrium, increases in the variance of the uncertainty lead to greater location differentiation, higher expected equilibrium prices and profits, and a greater welfare loss. To our knowledge, no study so far experimentally investigates the effect of demand uncertainty on location decision. It is all the more an interesting issue that the framework of incomplete information opens a window for behavioral determinants in the location choices such as risk attitudes. We aim to participate filling this gap in the literature by implementing a laboratory experiment that analyzes the effect of demand uncertainty on location choices.

To this end, each subject plays a duopoly location-then-price game and interacts repeatedly with rival firms over 30 periods. In order to allow subjects to adapt their equilibrium strategies in the price subgame, we introduce a series of periods during which firms can only modify their prices, taking location decisions as given. Precisely, the timing of the decisions in the first period of the market is as follows: first the two firms choose simultaneously their location, then rival's location is revealed and firms thus compete simultaneously in prices; finally each simulated consumer decide to buy or not at the cheapest firm. At the end of the period, each firm learns

*Speaker

(i) its demand level, (ii) its profit and (iii) the price of its rival. Therefore 4 periods of price competition follow. Once past the 5 periods, a new market begins where firms are randomly reshuffled, under the constraint that each firm is matched exactly once with the same rival. Overall, the experiment simulates 6 markets of 5 periods each.

We run three experimental treatments in a between-subject design. In the first treatment, firms know with certainty the location of consumers. In the other two treatments, uncertainty about the location of consumers is introduced. In the second treatment, a low-level of uncertainty is introduced. The intensity of the uncertainty is increased in the third treatment.

Because risk aversion may affect decisions, the subjects participate in a second experiment to elicit their individual levels of risk aversion. To this end, we follow the experimental design implemented by Drichoutis and Lusk (2012).

Experimental sessions were conducted at the LABEX-EM, University Rennes 1. The experiment was programmed and conducted using the software Z-tree (Fischbacher, 2007). Participants were invited using Orsee (Greiner, 2015). A total of 6 sessions were conducted, with 18 participants per session. No subject had previously participated in a similar experiment and no one participated in more than 1 session, resulting in 324 participants.

Looking first at location choices, we find that the center of the linear city is the most frequent location choice whatever the level of uncertainty: subjects locate at the center of the segment in over 55% of all cases without uncertainty, and the prevalence of the central position is still confirmed in the low and high level of uncertainty with 36% and 24%, respectively. Overall, few people decide to settle at the edges of the city. However, we observe an increase in the level of the differentiation (measured through the distance between the two firms) with the increase in the level of demand uncertainty. This last result is in line with the conclusions drawn by previous theoretical works (Meagher and Zauner, 2004, 2005). Because risk attitude may come into play when choosing its location, especially under demand uncertainty, we explore whether risk attitude impacts both location choice and differentiation level. In this respect, we find that a high level of demand uncertainty acts as a differentiation force, regardless of the risk profile considered. While this result may appear, at first glance, surprising, especially for risk averse firms, we find that, on average, a lower level of differentiation is observed when both firms express strong risk aversion, compared with firms exhibiting a low level of risk aversion. Finally, regarding price competition, we observe that uncertainty about consumers location hardens price competition for relatively low differentiation levels.

Keywords: Laboratory experiment, Demand uncertainty, Location, Differentiation, Price competition

REDUCING GENDER BIASES IN PERFORMANCE EVALUATIONS BY SPREADING RESULTS OF PAST RESEARCH

Anne Boring ^{*† 1,2}, Arnaud Philippe ^{*}

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¹ OFCE (OFCE) – Sciences Po – 69, quai d’Orsay,FR-75340 Paris Cedex 07, France

² Développement, institutions et analyses de long terme (DIAL) – Institut de recherche pour le développement [IRD] – DIAL - 4 rue d’Enghien - 75010 Paris, France

³ Institute for Advanced Study in Toulouse (IAST) – TSE – France

Can biases in performance appraisals be reduced if evaluators are informed of the existence of scientific evidence for these biases in past evaluations? This paper explores this question in the context of student evaluations of teaching (SET), using a randomized controlled trial. We test the impact of two different e-mail messages sent to students on the SET scores filled by students of a French university for their three mandatory fundamental fall semester courses (approximately 4,200 SET for 1,400 students). In a previous study, Boring (2015) had found that SETs completed by the students of the same university displayed strong gender biases in favor of male teachers.

We take advantage of the existence of several independent campuses to test two different treatments. In two campuses, half of the students (approximately 175 students) received a ”normative” e-mail which includes the following paragraph: ”Considering the importance of these evaluations, we would like to remind you that your evaluations must exclusively focus on the quality of the teaching and must not be influenced by criteria such as the instructor’s gender, age or ethnicity. We ask you to pay close attention to these discrimination issues when completing your student evaluations. The goal is to avoid a situation in which, for instance, gender-based biases or stereotypes would systematically generate lower evaluations for women instructors compared to their male colleagues.”

In two other campuses, half of the students (app. 400 students) received the same normative statement combined with a positive statement describing the main findings of the Boring (2015) study. The message included precise results as well as the statement that ”that students tend to give lower ratings to their female instructors despite the fact that students perform equally well on final exams, whether their seminar instructor was a man or a woman. Male students in particular tend to rate male instructors higher in their student evaluations, although a slight bias by female students also exists. The differences in SET scores do not appear to

*Speaker

†Corresponding author: anne.boring@sciencespo.fr

be justified by other measures of teaching quality, such as an instructor's ability to make their students succeed on their final exams".

Two additional campus were not treated at all (235 students). In the treatment groups, e-mails were sent when around 25% of the SET scores were already completed. We therefore have two different "pure" control groups: SET scores of the non-treated campus and SET scores of the treated campus filled before the mailing. In addition to those groups, SET scores filled by un-treated students of the treatment groups offer the possibility to measure spillover effects.

Our preliminary results suggest that the normative message ("do not discriminate") seems to have a negative impact on the overall satisfaction scores of both male and female instructors. The bias in favor of male instructors remains. However, the normative message combined with the positive message appears to eliminate the gender bias in favor of male instructors. Gender stereotypes on specific questions on different teaching dimensions (such as the instructor's "contribution to intellectual development") also seem to be reduced. Students who are part of this second treatment group appear to rate female instructors as high as how they rate male instructors. Finally, in this second treatment group, male students reduce their bias in favor of male instructors while increasing the scores they give to female instructors. Female students in this second treatment group appear to give higher evaluations to female instructors and maintain the way that they rate male instructors.

This research is important because evaluators in general tend to ignore the fact that they may have cognitive biases when making performance appraisals. Even when they are told not to discriminate against a certain category of the population, evaluators are likely to inadvertently apply biases. Here, in our second treatment, we inform evaluators that other evaluators whom they can identify with have discriminated in the past. By doing so, our results suggest that it is possible to reduce biases when evaluators receive the information that these biases exist, precisely in the context in which they are asked to make a performance appraisal.

Keywords: Gender biases, student evaluations of teaching, performance appraisal

Leadership Effectiveness: Communication, Transparency, and Skin-in-the-Game

Béatrice Boulu-Reshef * ¹, Jeremy Hutchison-Krupat ²

¹ Université Paris 1 Panthéon-Sorbonne – Université Paris 1 Panthéon-Sorbonne – France

² University of Virginia – United States

To lead teams, leaders are expected to do more than offer financial incentives. In this paper, we study the effect of "skin in the game" on leader's effectiveness in mitigating free-riding in teams. We compare the effectiveness of leaders in mitigating free-riding in settings with varying degrees of "skin in the game" and in settings in which the performance of the group determines the earnings of leaders. In the "No skin" treatment, the leader has no endowment and cannot contribute to the group account. In the "Skin and No visibility" treatment, the leader has an endowment that can be allocated to the group account; but the leader's contribution decisions are not advertised distinctively to the followers. In the "Skin and Visibility" treatment, the leader's contributions are made visible to the followers. To increase external validity and account for the effect of leadership styles, we ask leaders to choose from a set of messages that induce two leadership styles. Across all treatments, we find that leaders endowed with group oriented-leadership messages perform better at enlisting the support of the followers in their teams than those who are endowed leader-oriented messages. Across both leadership styles, we find that "skin in the game" (the presence of an endowment) increases cooperation compare to no skin in the game and that making the leaders' contributions visible does not increase the contributions of the followers but increases the contributions of the leaders. The results of the paper challenge the conventional wisdom on leading by example and contribute to our understanding of the role of visibility of actions in cooperative settings.

Keywords: leadership, public good game, communication, skin in the game, transparency

*Speaker

Precise versus imprecise datasets: revisiting ambiguity attitudes in the Ellsberg paradox

Roxane Bricet * ¹

¹ Théorie économique, modélisation et applications (THEMA) – CNRS : UMR8184, Université de Cergy Pontoise – 33, boulevard du Port 95011 Cergy-Pontoise Cedex, France

Research Question

The famous Ellsberg paradox (1961) was a first experimental attempt to illustrate the failure of the expected utility hypothesis to predict individual behavior in an uncertain environment. Consider two urns: one urn is filled with 50 red and 50 black balls while the other urn is filled with 100 balls in an unknown composition of black and red balls. Whether the bet is on black or on red, most people prefer betting on the known urn. It is then impossible to infer additive probabilities from these choices. This behavior provides evidence of ambiguity aversion since decision makers are reluctant to bet on events with unknown probabilities. While the classic Ellsberg thought-experiment has been replicated several times (Camerer and Weber, 1992 provide an overview), this research deals with the question of decision making in ambiguous situations when the information is provided in the form of datasets. In the classic version of the experiment, exact probabilistic information is provided for one of the urns whereas no information is given for the other urn. However, this type of information might not be readily available in real-life situations. Indeed, decision makers usually observe data generated by the process at hand and have to make a decision based on more or less precise data sets (e.g. new technology adoption, financial trading). Therefore, in our attempt to describe decision making in ambiguous environments, we draw on the Ellsberg experiment with two urns and two colors of balls and we describe both urns by sets of data. Individual decisions in such realistic frameworks have been modelled by Gilboa and Schmeidler, 2001, and Manski, 2000.

We investigate the Ellsberg paradox in this set-up of "partial ambiguity". In particular, we would like to know whether there is still a sizeable proportion of ambiguity averse decision makers in our context of partial ambiguity. Consider for instance the following set-up: there are two urns containing 200 balls each. Each of the urns contains an unknown proportion of blue and red balls. In urn 1, 5 blue balls and 5 red balls have been randomly drawn with replacement. In urn 2, 49 blue balls and 51 red balls have been randomly drawn with replacement. Which urn is preferred when betting on blue? On red? A frequentist (or a Bayesian with a prior $1/2, 1/2$) would choose the urn with the highest frequency of desirable outcomes for the respective bet. In contrast, a pessimist (i.e. an ambiguity-averse subject) might prefer to bet on the urn with more draws regardless of the color of the ball, suggesting that the difference in frequencies does not compensate for the precision of the datasets. Similarly, subjects who choose the less precise urn for both bets exhibit an optimistic (i.e. ambiguity-loving) attitude. Such preferences are axiomatized in Eichberger and Guerdjikova, 2013. The slight difference between the frequencies of the two urns serves as a robustness test for these preferences.

*Speaker

We conducted a lab experiment to give insights into the individual decision making in such situations. In this respect, we draw upon recent experimental research suggesting that decision makers are ambiguity averse when faced with imprecise information (Arad, Gayer, 2009 ; Bailon, Bleichrodt, Keskin, L'Haridon, Li, 2013 ; Chew, Miao, Zhong, 2013). Our goal is two-fold: first, we describe individual decision making in our context of partial ambiguity: specifically, we want to know if individual choices can be reconciled with the expected utility model or whether optimism and pessimism are needed to explain preferences for data-sources with various degrees of precision. Second, we aim at defining an interpersonal measure of pessimism for our sample of participants in the experiment.

Methodology

For our purposes, we design a short experiment of simple binary questions on preferences over pairs of bags containing balls. Every bag in the experiment contains 200 balls which can be either blue or red and each bag is described by a dataset. The dataset consists of previous draws with replacement from the bag and is either relatively precise (100 draws) or relatively imprecise (10 draws). The participant is asked to choose his preferred bag to bet on blue and to bet on red. The questionnaire consists of 10 pairs of questions, for which the proportions of blue balls in the available datasets range approximately from .1 to .9.

We ran 6 experimental sessions in the LEEP (Laboratoire d'Economie Expérimentale de Paris). The experiment was computerized using the Z-tree program (Fischbacher, 2007) and the script was written in french. We recruited 91 participants and the average payment was above 13 euros for a 30 minutes experiment.

Preliminary Results

Globally, we distinguish between neutral and non-neutral ambiguity attitudes. Ambiguity-neutral attitude is revealed when the answers of a subject can be explained by the expected utility theory. On average, 87% of answers satisfy the standard property of monotonicity. Among them, 2/3 of choices are ambiguity-neutral. They are distributed among frequentist answers (frequentists prefer the dataset which gives the most advantageous proportion of balls whatever the precision of the dataset) and bayesian answers (bayesian decision makers prefer the longer (shorter) dataset when the frequency in the dataset is higher (smaller) than the prior). The remaining 1/3 of answers satisfying monotonicity contradict the expected utility hypothesis and can be interpreted as an expression of non-neutral ambiguity attitude. Among them, 2/3 displays ambiguity-aversion (pessimism) and only 1/3 of answers can be classified as ambiguity-loving (optimism).

From a within-subject perspective, we calculate an individual score of ambiguity-aversion: for a particular pair of questions, it takes the value +1 if the DM exhibits pessimistic preference, 0 if neutral and -1 if optimistic. The total score for a given individual is obtained by summing up the scores for the 10 pairs of questions. While in theory, the individual score can take on values between -10 and +10, in the data, scores range from -4 to +10. 43% of participants have a positive score, 38% have a null score and the remaining 19% have a score below 0. The average score in the experiment is .78 (including non-monotonic answers) and 1.04 (excluding non-monotonic answers). Although our results suggest a significant bias towards ambiguity-aversion, it is weaker than in the relevant experimental literature.

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Keywords: Ellsberg paradox

Deterrence and the Timing of Punishment – An Experimental Assessment

Johannes Buckenmaier ¹, Eugen Dimant ^{*† 2,3}, Ann-Christin Posten ^{1,3},
Ulrich Schmidt ⁴

¹ University of Cologne – Germany

² University of Pennsylvania, Behavioral Ethics Lab PPE (University of Pennsylvania) – United States

³ Harvard University, Edmond J. Safra Center for Ethics (Harvard) – United States

⁴ Kiel Institute for the World Economy (IfW) – Germany

Reducing criminal acts in society is a crucial goal of governments all over the world. Establishing punishment structures to attain this goal typically involve high costs. Typically, both theorists and practitioners resort to the adjustment of severity and/or certainty of punishment as effective measures to deter criminal behavior. One less costly mechanism to affect a punishment's impact is the swiftness of its execution (celerity). However, evidence is mixed regarding both its effectiveness and the direction of influence. To address these shortcomings, we investigate the effect of punishment on misconduct under two cases: 1) punishment for misconduct is certain, and 2) punishment for misconduct is uncertain. Our results indicate that the swiftness of punishment and the uncertainty about punishment interact: when the offenders are certain (uncertain) about the punishment, offenses significantly increase (decrease) with delayed punishment. Our results yield strong policy implications in terms of designing effective institutions in mitigating misconduct and reducing recidivism.

Keywords: Deterrence, Punishment, Swiftness, Celerity

*Speaker

†Corresponding author: edimant@sas.upenn.edu

Bribery and cooperation within a centralized sanctioning system

Justin Buffat ^{*† 1}, Julien Senn ²

¹ University of Cologne – Germany

² University of Zurich – Switzerland

Abstract:

Despite centralized sanctioning institutions have many advantages over decentralized systems (e.g. cost effective and immune to coordination failure), one downside of centralized authorities is their potential sensitivity to bribery. We propose a novel experimental design to study this question and the channels through which bribery and institutions affect cooperation. In our experiment, groups of four, 3 contributors and 1 monitor, played a modified public-good game where the rights to punish others are delegated to the monitor. In treatment BRIBE, contributors could make a transfer to the monitor after the contribution stage, while this was not possible in the NO BRIBE treatment. Our results suggest that cooperation does exist in the presence of bribery, but is drastically decreased. Low contributors were able to tame the sanctioning authority with higher bribes. Furthermore, we provide evidence that history of past cooperation plays a significant role in shaping current cooperation.

These preliminary findings might lay the basis for a new research area aimed at designing institutions that could foster cooperation in a corrupted environment.

Extended abstract: see PDF

Keywords: Bribery, cooperation, centralized sanctioning, punishment

*Speaker

†Corresponding author: justin.buffat@uni-koeln.de

Financial literacy and bank runs: an experimental analysis

Eloisa Campioni ¹, Vittorio Laroocca * ², Loredana Mirra ¹, Luca Panaccione ¹

¹ Università degli studi di Roma "Tor Vergata", Dipartimento di Economia e Finanza – Italy

² ESSEC Business School, Department of Economics – ESSEC Business School – France

In this research work, we study the determinants of bank run equilibria in strategic contexts in which bank depositors possess financial knowledge. We question whether and how the financial and economic knowledge accumulated by agents who interact in complex financial markets affects their decisions, and whether financially sophisticated depositors may make profitable use of the information they may have about their counterparts. Hence, in the first part of our experiment we test the financial literacy and the general knowledge of the experimental subjects involved.

As for the analysis of bank runs, we follow the Diamond and Dybvig (1983) approach, in which a run on a bank results from the fundamental coordination problem among depositors who are taking simultaneous decisions. In a coordination game with multiple equilibria, bank run is an equilibrium outcome of individually rational players based on the belief that all other depositors will withdraw. Our experiment features two possible equilibrium outcomes, that are Pareto ordered, one of which corresponds to a run on bank's deposits. Experimental subjects anonymously interact within an experimental bank and are asked to take a withdrawal decision. The simultaneous withdrawal choices of all depositors in a given bank determine the individual payoff.

We let the dimension of the experimental bank vary in different treatments, to measure the complexity of the coordination problem in groups of different sizes.

We also use information as a treatment variable of our study. We provide the depositors of every bank with some statistics on the financial literacy of the group they are interacting with, and test whether this has an effect on the individual withdrawal decision and on the equilibrium outcome of the group.

Keywords: financial literacy, bank runs, experiments, coordination games.

*Speaker

Democracy for polarized committees: The tale of Blotto's lieutenants

Alessandra Casella ¹, Jean-François Laslier ², Antonin Macé * ³

¹ Columbia University – Columbia University in the City of New York 2960 Broadway New York, NY 10027-6902 USA, United States

² Ecole d'Économie de Paris - Paris School of Economics (EEP-PSE) – Ecole d'Économie de Paris – 48 boulevard Jourdan 75014 Paris, France

³ Aix-Marseille School of Economics (AMSE) – Ecole Centrale Marseille (ECM), Ecole des Hautes Etudes en Sciences Sociales (EHESS), Centre national de la recherche scientifique (CNRS) – GREQAM, Centre de la Charité, 2 rue de la Charité, 13236 Marseille Cedex 02, France

In a polarized committee, majority voting disenfranchises the minority. By allowing voters to spend freely a fixed budget of votes over multiple issues, Storable Votes restores some minority power. We study a model of Storable Votes that highlights the hide-and-seek nature of the strategic game. With communication, the game replicates a classic Colonel Blotto game with asymmetric forces. We call the game without communication a decentralized Colonel Blotto game. We characterize theoretical results for this case and test both versions of the game in the laboratory. We find that, despite subjects deviating from equilibrium strategies, the minority wins as frequently as theory predicts. Because subjects understand the logic of the game - minority voters must concentrate votes unpredictably - the exact choices are of secondary importance. The result is an endorsement of the robustness of the voting rule.

Keywords: Storable Votes, Polarization, Colonel Blotto, Tyranny of the Majority, Committees

*Speaker

Escape Poverty Trap with Trust? An Experimental Study

Kenneth Chan ¹, Vivian Lei * ², Filip Vesely ²

¹ McMaster University – Canada

² University of Wisconsin-Milwaukee – United States

In this study, we introduce an experimental approach to study the causal impact of trust on economic performance. We design a decentralized laboratory economy that has the structure of an optimal growth model in which output is allocated between consumption and investment over a sequence of periods. A threshold externality in which a "big push"—agents coordinate their investment decisions to push the aggregate capital stock above the threshold—is required for the economy to utilize a more efficient technology. There exist two Pareto rankable equilibria where the Pareto-inferior equilibrium is considered as a poverty trap. Groups with various trust levels are formed before they participate in our dynamic, decentralized market economy. We find that high-trust economies tend to accumulate more capital and produce more output than their low-trust counterparts. As a result, they are also more likely to surpass the threshold and escape the poverty trap. That being said, we also find that trust has much weaker effects on the initially poorer economies. The heterogeneous impact of trust suggests that formal institutions and policy would be needed to further promote economic success in least developed economies.

Keywords: trust, poverty trap, growth, experiment

*Speaker

Good News and Bad News are Still News: Experimental Evidence on Belief Updating

Alexander Coutts * ¹

¹ Nova School of Business and Economics (NovaSBE) – Portugal

Bayesian updating remains the benchmark for dynamic modeling under uncertainty within economics. Recent theory and evidence suggests individuals may process information in a biased manner when it relates to personal characteristics or future life outcomes. Specifically, updating has been found to be asymmetric, with good news receiving more weight than bad news. I put this theory and evidence to the test, by examining information processing across multiple domains with varying stake conditions. I do not find that good news is over-weighted relative to bad news, but in fact, I find the opposite asymmetry. However the same updating patterns are present in domains that have no scope for the type of psychological bias discussed in the literature. As in previous research, I also find gender differences in updating behavior, however these differences are similarly present across domains. Despite deviations from the mechanics of Bayes' rule, posterior beliefs are well approximated by Bayesian posteriors. The results suggest caution about interpreting asymmetric updating or other deviations from Bayes' rule as motivated by psychological biases.

Keywords: Updating, Overconfidence, Asymmetric updating, Bayes' rule, Beliefs

*Speaker

Is there a social multiplier? Measuring the impact of social norms on policy interventions about food consumption

Paolo Crosetto * ¹, Laurent Muller ²

¹ INRA, GAEL, University of Grenoble – INRA, GAEL – France

² Laboratoire d'économie Appliquée de Grenoble (GAEL) – Institut national de la recherche agronomique (INRA), Université Pierre Mendès-France - Grenoble II – France

The growing awareness about the ill effects of unhealthy diets has led to the development of policy measures to incentivize healthy eating. These policies have traditionally been led from the *supply* side, by banning certain ingredients, mandating the content of sugar, salt, and other *bad* nutrients in recipes, and by regulating the producers. More recently, policies have also impacted the *demand* side of the economy, both through economic incentives (taxes and subsidies) and, more recently, through behavioral interventions, as the introduction of front-of-pack color labels, or campaigns like the five-a-day rule in the UK.

The impact of these policies has been measured in several dozens studies, usually using self-reported answers by consumers, and, in some cases, using incentivized designs to elicit the willingness to pay of subjects under different conditions. A classic design in experimental economics is to expose the subjects to a product, elicit the willingness to pay for it through an incentive compatible mechanism as the Becker-DeGroot-Marschak random price mechanism or Nth-price auctions, then reveal information on the product, e.g. by adding a nutritional label, or revealing its fair trade or organic nature, and then asking for the WTP again.

These experimental designs allow the researchers to properly measure preferences in different information contexts, and can give clear results as to the marginal value consumers attach to non-hedonic characteristics of the food being investigated, like its origin, the processes employed to produce it, the welfare of the workers and/or animals involved in its production, etc. At the same time, though, they rely on the tacit assumptions that preferences are of a fixed and individual nature. That is, by following the traditional assumption in economics of methodological individualism, they exclude *by design* the possible social, collective formation of food preferences.

But food preferences are eminently socially constructed. Society and culture define what is edible, what is appropriate, what is available and what is perceived as *tasty*. Moreover, peer effects play an important role in shaping food choices. Consumers might make different choices if they eat on their own or in a social context, or if their choices are or not observed by their peers. Irrespective of the mechanism followed to impact choices, a literature on peer effect in food choice has recently emerged. For instance, social image concerns have been shown to influence the WTP for fair trade chocolate (Teyssier et al. 2014). Moreover, consumers' WTP might be influenced by the will to conform to a social norm and/or to imitate other members

*Speaker

of a group (Salazar and Oerlemans 2015).

In this paper we go one step further: we investigate if the presence of peers in food choices can have a multiplier effect on food policies. Policies do not happen in the void, but in a structured social context, in which peer effects are likely to play a role. The introduction of a policy – say, a nutritional label – in the lab might have different measured impact if the change in WTP is measured in isolation, or if subjects are made aware of the reaction of others to the policy. Via repeated interaction, a *social norm* can appear in the laboratory, and this norm can shape behavior and alter the effects of the policy.

Methodologically, we merge in this paper two different strands of applied experimental economics. On the one hand food policies are traditionally evaluated using repeated WTP elicitation; on the other hand, the effect of peer effects on WTP is investigated using minimal group paradigms and exposure of one’s choice to the peers. In this paper we expose subjects to a product and elicit their WTP (using BDM) first in isolation, and then allowing the subjects to observe the (real) decision at $t-1$ of a randomly created group; we let subjects repeat the task for 4 periods, in order to leave room for a social norm to emerge. We then introduce a policy – in the form of an information shock – and repeat the procedure once more.

This design allows us to observe how the policy affects WTP in a richer way than with traditional designs. As in standard WTP experiments, we observe the *level* shift in WTP, by computing the difference between the WTPs stated before and after the information shock. But we can also measure the *convergence* of the WTP within the group, both before and after the shock. The *slope* of this convergence gives us the *speed* with which a consensus is formed within the group. This speed can be different before and after the introduction of the policy. We can hence measure the degree of *conformism* of each group – the degree of convergence to a common WTP within the group, as well as how this degree of conformism interacts with the policy to generate the final WTP.

We compare this ‘social’ treatment with an isolated situation. Comparing the effects of the policy between the isolated subjects and the ones exposed to peers gives us a measure of the *social multiplier effect* of the policy – that is, how much more (or less) effective is an information policy on a food item if we take into account social interactions or not.

We apply this method to a dark chocolate bars, largely consumed product that is usually liked by most people, and, if not, has a high exchange value. Subjects repeatedly state their WTP for the bar in a social context, and then receive a *positive* or *negative* information shock, in the form of information on the bar being (or not) labeled ‘AB’, the French label for *organic* food. We use an incentivized design, in which, according to their bid and the randomly determined price, subjects actually buy the chocolate bar at the end of the experiment.

Preliminary results show that conformism is rather strong, and stronger before than after the exposure to the information shock, showing that consumers 1) rely on the peers mainly when they lack relevant information about the product, and 2) have strong priors about the premium they give to organic food, and tend to stick with them. The impact of *positive* information about the organic nature of the product is, in line with the literature, positive.

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Keywords: willingness to pay, peer effect, social multiplier, food consumption

Endogenous Crackdowns: Theory and Experimental Evidence

Zhixin Dai * ¹

¹ CNRS, GATE Lyon Saint-Etienne – Université de Lyon – 93 Chemin des Mouilles, 69130 Ecully, France, France

We present a simple model to analyze the efficacy of endogenous crackdowns, i.e., sudden and dramatic increases of audit probability triggered by a low level of compliance. We test this model experimentally. Our results show that: (a) compliance reacts quickly to the occurrence of crackdowns; (b) subjects report more than half of their income even during non-crackdown periods; (c) announcements of crackdown increase significantly tax compliance both when crackdowns are pre-announced and when they are announced ex post; (d) subjects are able to coordinate quickly to end crackdowns. Our results have important implications for policy-makers in terms of designing more effective crackdown policies.

Keywords: Crackdown, strategic interdependence, announcement, tax evasion, experiment.

*Speaker

Testing fare evasion in the lab: the moral cost of dishonesty

Zhixin Dai * ¹, Fabio Galeotti ², Marie Claire Villeval[†] ³

¹ CNRS, GATE Lyon Saint-Etienne – Université de Lyon – 93 Chemin des Mouilles, 69130 Ecully, France, France

² CNRS, GATE-LSE – CNRS, GATE-LSE – France

³ CNRS, GATE Lyon Saint-Etienne – Université de Lyon – France

We study the impact of the size of deception on cheating behavior for various probabilities of detection and various amounts of fine in risky or ambiguous environments. We combine the control offered by the laboratory environment with the realism from using a diversified sample of the adult population using public transportations in a big French city. For this sample, we are able to identify actual cheating behavior in public transportations. In this artefactual field experiment, subjects make successive decisions between buying and not buying a ticket for various distances, a longer distance without a ticket representing a bigger deception than a short distance fare dodging. Our results show that: (1) Both fare-dodgers and non-fare-dodgers in real life respond to changes in the certainty, the detection probability, and the severity of punishment. (2) Actual fare-dodgers cheat significantly more in the game than non-fare-dodgers. (3) The cheating rate is significantly lower for longer distances even in the common knowledge absence of control, suggesting that even actual fare-dodgers experience moral costs of lying.

Keywords: Moral cost, fraud, monitoring, transportation, experiment.

*Speaker

[†]Corresponding author: villeval@gate.cnrs.fr

Self-confidence and unraveling in matching markets

Marie-Pierre Dagnies * ¹, Dorothea Kuebler , Rustamdjan Hakimov

¹ Dauphine Recherches en Management Finance (DRM Finance) – Université Paris IX - Paris Dauphine – Place du Maréchal de Lattre de Tassigny 75775 Paris Cedex 16, France

Markets unravel when contracts are formed earlier and earlier in time. Inefficient matching can be the result if less information about the quality of the match is available. We design a labor market where the preferences of workers and firms are fully correlated. In the first period firms have the possibility to make an early offer. However the productivity of workers becomes known only after the first stage. In the baseline setup, productivities of the workers are randomly generated and unraveling is predicted to occur, i.e., offers are made and accepted at the first market stage before the firms' preferences over workers become known. Our main interest is in the case where workers can form beliefs about their relative productivity which is determined by a real-effort task they have worked on. Thus, we create a situation of asymmetric information between workers and firms by determining the workers' productivity rank with the help of a real task in the experiment. In order to exogenously manipulate the self-confidence of workers, we use two different tasks in two separate treatments. One task is relatively easy while the task in the other treatment is hard. We expect the simple task to generate overplacement, i.e., an overly optimistic belief about one's rank, and the hard task to lead to underplacement. Our first finding is that in the treatment with randomly determined ranks, subjects reject 92% of offers that should be rejected in the equilibrium while they accept only 65% of offers that should be accepted in equilibrium. This behavior can be explained by over-optimism about the outcome of the random draw. We also find that subjects are on average overconfident in the easy-task treatment and on average underconfident in the hard-task treatment, which leads to more frequent rejections of early offers in the easy task treatment. The difference in acceptance decisions is even stronger if we compare overconfident subjects to underconfident subjects across both treatments. Our third finding is that women are less confident than men, but do not accept early offers more often than men. Furthermore, we find that low and medium-quality firms are more likely to make early offers, as predicted. Also, the less self-confident firms believe workers to be, the more likely they are to make early offers. Underconfidence is a source of unraveling, leading to inefficient matching and increased profits of lower-quality firms. Over-optimism and overconfidence limit unraveling.

Keywords: matching markets, unraveling, self, confidence

*Speaker

Public goods provision and solidarity: Does voice matter?

Gregory Deangelo , Dimitri Dubois* ¹, Bryan Mccannon , Rustam Romaniuc †‡ ²

¹ Laboratoire Montpelliérain d'Économie Théorique et Appliquée (LAMETA) – Centre international de hautes études agronomiques méditerranéennes [CIHEAM], Institut national de la recherche agronomique (INRA) : UR1135, CNRS : UMR5474, Université Montpellier I – 34960 Montpellier cedex 2, France

² Laboratoire d'Anthropologie Expérimentale – Lille Catholic University – 60 bis, rue du port, France

Recently European countries had to welcome populations that left their countries because of a complicated homeland situation (Syrians, Afghans). The International Organization for Migration estimates that around 1 million migrants arrived in Europe in 2015. Welcoming refugees implies to share public goods provided by local citizens with "others" who have zero-income and cannot contribute (e.g. roads, schools, hospitals, public transportation). For example, the German newspaper *Bild* reveals that the Hamburg transit authority has ordered ticket inspectors to "look the other way" whenever they encounter migrants who are using public transportation without a ticket.

If migrants benefit from public goods provided by the local citizens, will this impact the subsequent contribution choices of local citizens - will they contribute more or less to the production of public goods? Risks are that openly permitting zero-income individuals to benefit from public transportation/hospitals/etc. without paying may lead local citizens to reduce their own contributions to the provision of public goods.

Could this kind of outcome be changed by giving local citizens the possibility to vote on whether they want to welcome zero-income individuals who are going to freely consume local public goods?

These are the two questions that we investigate using laboratory experiments. Specifically, we employ the experimental method to study how having zero income people (group A) benefit from contributions by high-income people (group B) will affect the contribution decisions of group B individuals under different procedures: when group B people have the free choice, by voting, to host group A individuals vs. when they do not have the choice and group A automatically benefit from the contributions of group B.

Keywords: public goods, inter, and intra, group cooperation, voting, solidarity

*Corresponding author: dimitri.dubois@lameta.univ-montpl.fr

†Speaker

‡Corresponding author: rustam.romaniuc@gmail.com

Are Compact Cities Really Greener? A Laboratory Experiment

Laurent Denant-Boèmont * ¹, Carl Gaigné * † ²

¹ University of Rennes 1 and CREM CNRS – université Rennes 1 – France

² SMART LERECO INRA – Institut National de la Recherche Agronomique - INRA – France

A major consequence of urban sprawl is the increase of average travel distances by urban households (Anas et al., 1998; EEA, 2006). As transport is one of the main contributors of local polluting emissions as well as a major emitter of greenhouse gases (GHGs) (EPA, 2013), urban sprawl is a real matter of concern for many policy-makers. Over recent years, a remarkable consensus among international institutions as well as local or national governments has emerged towards the development of compact cities. This 'compact city' requirement is one key component of what had been called smart growth (see Downs, 2001, 2005). One possible way for obtaining a more compact city is to implement policies aiming at increasing urban residential densities. Such policies mainly consist in either putting some 'green belts' or to set regulations/incentives in order to reach minimal urban densities (For a review, see OECD, 2012). From a theoretical point of view, it has been shown by Gaigne et al. (2012) that policies aiming at increasing population densities could have detrimental effects by leading to higher pollution levels when considering the possible relocation of activities and households.

In this paper, we investigate this question by implementing an economic experiment where households compete for residential location, being possibly constrained by regulations over maximum housing demand. To this aim, a theoretical model is built that assumes a Monocentric city (Alonso, 1964; Fujita, 1989) where homogeneous households should make a trade-off between commuting costs and land-rent costs. Housing demand is endogenously determined by households' preferences as well as location places and, consequently, urban boundary and commuting costs for reaching the CBD (i.e., the Central Business District, which usually denotes the place where all firms are exogenously located). One key element in this model is to consider a negative externality that depends on the total distance travelled by all households within the city. Our policy tools consists either in setting exogenously urban boundary or by putting a maximum housing demand per household in an environment where total housing space per unit of land is exogenously constrained. As a consequence, these regulations might lead to higher urban densities as any increase in the regulatory constraint will cause the population density to rise. The main impacts of increasing regulation levels for housing demand is to decrease commuting distances, as well as city boundaries and land rents. Of course, the decrease of commuting distances leads to a mechanical effect that consists in lowering polluting costs.

The experimental design consists of having a situation game where 15 participants compete for housing

*Speaker

†Corresponding author: carl.gaigne@rennes.inra.fr

in a simultaneous generalized second-price auction market where a maximum of 15 slots – depending on our experimental treatments – of space are available. For each slot, thus in all treatments, the total housing space is fixed at the same level. Participants could gain more payoff by achieving higher levels of space consumption, but should bear private and external costs regarding their commuting distance. They should also pay land rents as the outcome of auction competition. Four different experimental treatments are considered. The first one is considered as a benchmark treatment, where no regulation exists - i.e., called the Business-As-Usual (BAU) treatment -. The other treatments consist either in a Green Belt (GB) regulation, where the total number of slots that are available is less than the total number of bidders or in regulations over the maximum housing demand that could be made by bidders. For these latter treatments, we investigate either a strong and a weak housing-size regulation. The former one corresponds to a situation where maximum housing size regulation is lower than the minimum housing demand that would be chosen by households for any slot as a location place. The latter one consists in an intermediate situation, regulatory constraint over the maximum housing demand being more than the minimal one, but higher than the maximum demand that would be chosen at the (endogenous) city boundary.

The theoretical predictions show that the effect of housing-size regulation is mixed. If the regulation is strong, commuting costs will decrease compared to a BAU situation, as well as the size of the city. But if regulation is weak, then commuting costs could increase compared to BAU situation. This is due to a population-size effect. As the number of households that succeed to locate within the city is higher under the Weak Regulation scenario, the total commuting distance is increasing. Nevertheless, any regulation of housing-size should increase households' welfare, as the possible detrimental effects of higher transportation costs are more than offset by decrease in land-rents due to regulation. In order to test these theoretical predictions, we chose to implement a within-subject design where 255 participants were confronted successively to two treatments, either to a sequence "Strong + GB", to a sequence "Strong + Weak", to a sequence "GB + Strong" or, finally, to a sequence "BAU + GB". Each treatment was repeated during 7 rounds, after achieving a first set of 3 trials at the beginning of the experiment. The main experimental results are the following. The first one is that housing bids decrease with distance to the CBD, as predicted by our monocentric theoretical model. Regarding land prices, the effects of regulation are mixed: Average land prices tend to be higher compared with the BAU scenario, particularly in the 'Green Belt' scenario, but with a noticeable exception in the 'Strong' treatment, where regulation over maximum demand is very tough. Regarding commuting costs - and therefore transport pollution levels -, evidence is also mixed. Comparing with the benchmark treatment (BAU), total commuting distances are decreasing in all treatments that simulate policy regulations. Nevertheless, in the 'Weak' treatment, commuting distances and transport costs are higher compared to the other regulated treatments. Finally, as it was brought forward by Downs (2005) in the debate about compact city, our experimental results underline the trade-off that regulators aiming at having higher densities and more compact cities are to face between land prices levels for households and transport social costs.

Keywords: Urban Economics / Land Prices / Auctions / Transport Emissions / Urban Sprawl

The costs of discrimination

David Dickinson* , David Masclet^{† 1}, Emmanuel Peterle^{‡§}

¹ CNRS-CREM – Université de Rennes I – France

Since the publication of Gary Becker’s *The Economics of Discrimination* in 1957, the issue of discrimination has drawn particular attention from labor economists. Because it could prevent the hiring of productive workers, discriminatory practices can be costly for employers. For that reason, standard economic theories rely on the tension between profit-maximizing and perfect information to explain the existence of labor market discrimination. Economists have also developed alternative models of discrimination in which the cost of discrimination typically stems from a failure to recruit productive workers from the discriminated group. This observation also applies to wage discrimination, as lower wages may fail to satisfy the participation constraint of productive workers from the discriminated group.

In this study, we argue that discrimination involves several distinct types of cost. More precisely, we consider three potential costs of discrimination. The aforementioned opportunity cost relates to the fact that employers may hire less productive workers if they avoid hiring from the discriminated against group. Employer may also face reciprocity costs, which is where setting different wages or unequal promotion opportunities to employees may lead discriminated individuals to provide less effort. Finally, we also consider a cost for society. Exclusion of social groups from the labor market may hinder social cohesion and create costly tensions between groups (e.g. riots).

In our experimental setting, we induce identity by matching participants to groups based on movie taste. To increase the saliency of this identity, matched participants choose together a group name among a predefined list. We have chosen to use induced identities over natural identities (e.g. gender, ethnicity or social background) to ensure a maximal control on the determinants of individuals’ decision. Throughout the experiment, participants are assigned to a *society* including two different *identity groups*. The baseline treatment of our experiment includes three main stages.

In the first stage, every participant takes the role of employer. Employers have to hire two workers who will provide an effort for their firm. They rank other participants in the room from the most preferred to the least preferred. To do so, they are provided with certain information, including *identity group* membership. This ranking is then used to form firms. At the end of this stage, each *society* includes two employers, four workers, and two unemployed participants.

The second stage consist in a gift-exchange game between employers and workers. Participants in the role of employer assign (potentially unequal) wages to the workers of their firm. We use

*Corresponding author: dickinsondl@appstate.edu

†Corresponding author: david.mascret@univ-rennes1.fr

‡Speaker

§Corresponding author: emmanuel.peterle@univ-fcomte.fr

the strategy method to elicit employers' decision for each potential *identity group* composition of the firm. Workers then choose a monetary effort for each potential wage distribution in the firm and employer's identity. Unemployed participants do not participate to this stage.

In the third stage, unemployed participants take part in a money-burning game. They can either target single players in the *society* (for a relatively high cost) or burn money of both employers and workers without distinction (for a relatively low cost).

We implement four treatments in a 2x2 factorial design. In the *ranking* treatments, participants take part in the ranking stage as described above. In the *random* treatments, firms are formed randomly. We compare these two treatments to identify how hiring discrimination affects individual behaviors of employed and non-employed participants. In the *homogenous cost* treatments, all workers face the same effort cost structure when choosing a level of effort. In the *heterogeneous cost* treatments, *society* are divided in highly productive (low effort cost) and lowly productive (high effort cost) workers. Comparing individual decisions in *homogenous cost* and *heterogeneous cost* treatments, we investigate whether productive individuals who face discrimination are willing to retaliate by providing less effort (if employed) or burning money (if unemployed).

Our data show evidence of strong in-group favoritism. In the presence of homogenous cost of effort, employers are more willing to hire participants from their own group. When cost structure of worker's effort is heterogeneous, discriminatory behaviors decrease only to a small extent. A significant proportion of employers are willing to hire low productivity in-group members rather than high productivity out-group members. Employers who do so face an *opportunity cost*. The strategic nature of our experimental setting allow us to quantify this cost.

We also find evidence of discrimination in the wage-setting decision. In average, employers offer in-group members higher wages than outgroup members. We observe that wage inequality within the firm lead disadvantaged workers to provide less effort. As a consequence, employers that tend to discriminate in the wage-setting process incur a *reciprocity cost*. When employers are not provided with the ability to select their workers (*random* treatments), the extent of wage discrimination is higher.

Finally, we observe that unemployed participants in our experiment burn money. This behavior is almost exclusively observed in treatments where employers could hire workers by ranking participants. Unemployed participants tend to target employers more often, suggesting that this behavior reflects direct retaliation rather than non-specific punishment towards all others.

Employing the strategy method allows us to compare all potential combinations of outcomes, leading to a clear measure of the loss incurred by employers' discriminatory behavior. Overall, we find discrimination to be costly for the employer. This cost is, however, offset to some extent by increased effort (i.e., positive reciprocity) from the favored in-group workers. This finding suggests that there may exist a tradeoff between the benefits of favoring in-group members to trigger effort reciprocity and the multiple dimensions of discrimination costs.

Keywords: Discrimination, Experimental Economics, Social identity, Conflicts

On Peer Effects: Behavioral Contagion of (Un)Ethical Behavior and the Role of Social Identity

Eugen Dimant ^{*† 1,2}

¹ University of Pennsylvania, Behavioral Ethics Lab PPE (University of Pennsylvania) – United States

² Harvard University, Edmond J. Safra Center for Ethics (Harvard University) – United States

Social interactions and the resulting peer effects loom large in both economic and social contexts. This is particularly true for the spillover of (un)ethical behavior in explaining how behavior and norms spread across individual people, neighborhoods, or even cultures. Although we observe the outcomes of such contagion effects, little is known about the drivers and the underlying mechanisms, especially with respect to the role of social identity with one's peers and the (un)ethicality of behavior one is exposed to. We use a variant of a power-to-take dictator game to shed light on these aspects in a controlled laboratory setting. Our experiment contributes to the existing literature in two ways: first, using a novel approach of inducing social identification with one's peers in the lab, our design allows us to analyze the spillover-effects of (un)ethical behavior under varied levels of social identity. Second, we study whether contagion of ethical behavior differs from contagion of unethical behavior. Our results suggest that unethical behavior is more contagious than ethical behavior, especially for initially unethical individuals, and that the extent of social identification to one's peers particularly drives the contagion of unethical behavior. Our findings yield strong policy implications with regards to nudging both more pro-social and less anti-social behavior.

Keywords: Behavioral Contagion, Conformity, Peer Effects, Social Identity, Unethical Behavior

*Speaker

†Corresponding author: edimant@sas.upenn.edu

Tax Evasion Revised: Surprising Experimental Evidence on the Role of Principal Witness Regulations

Eugen Dimant ^{*† 1,2}, Johannes Buckenmaier ³, Luigi Mittone ⁴

¹ University of Pennsylvania, Behavioral Ethics Lab PPE (University of Pennsylvania) – United States

² Harvard University, Edmond J. Safra Center for Ethics (Harvard University) – United States

³ University of Cologne – Germany

⁴ University of Trento [Trento] – via Belenzani, 12 I-38122 Trento, Italy

Although tax compliance in the form of income tax evasion has been widely studied from the experimental perspective, indirect taxes collected through an intermediary have been widely neglected by the experimental literature. This study explores the effectiveness of the introduction of a principal witness regulation as a means to facilitate tax compliance when taxes are indirect. Reactions

show a significant drop in tax compliance that, surprisingly, is vastly different across gender with the effect being mainly driven by women. The results of our laboratory experiment provide empirical evidence that women decrease their tax compliance significantly reaching an even lower level than men who in turn do not react to the institutional change, thus emphasizing the importance of the contextual frame for tax compliance.

Keywords: Corruption, Gender, Principal Witness Regulation, Tax Evasion

*Speaker

†Corresponding author: edimant@sas.upenn.edu

The effects of short selling and borrowing on traders' expectations and market outcomes

Sébastien Duchêne * ¹, Nobuyuki Hanaki ², Eric Guerci ^{1,3}, Charles
Nousair ⁴

¹ Groupe de Recherche en Droit, Economie, Gestion (GREDEG) – CNRS : UMR7321 – 250 rue Albert Einstein - Batiment 2 06560 Valbonne, France

² Groupe de Recherche en Droit, Economie et Gestion (GREDEG) – CNRS : UMR7321, Université Nice Sophia Antipolis (UNS), Université Nice Sophia Antipolis [UNS] – 250, Rue Albert Einstein 06560 Valbonne, France

³ Institut Supérieur d'Économie et Management (ISEM) Université de Nice-Sophia Antipolis – Institut Supérieur d'Économie et Management (ISEM) – France

⁴ University of Arizona – University of Arizona Tucson AZ 85721 USA, United States

Dear Organizers,

As we have written the extended abstract in Latex (I cannot copy the lines), please find attached our extended abstract.

Best regards.

Sébastien Duchêne

Keywords: experimental finance, markets, bounded rationality, expectations, trading, borrowing, short selling

*Speaker

How Do Near-Miss Events Affect Inventory Decisions Under High Stockout Costs? A Behavioral Study

Jose Benedicto Duhaylongsod ^{*† 1}, Felix Papier ², Ayse Onculer ³

¹ PhD Program - Operations Management Department – ESSEC Business School – France

² Operations Management Department – ESSEC Business School – France

³ Marketing Department – ESSEC Business School – France

Operations in many sectors are optimized for speed and efficiency. In these sectors, the non-availability of critical components or products often has dramatic consequences. For example, a missing spare part of a manufacturing line in the automobile supply chain can lead to penalties of hundreds of thousands of Euros.

Operations managers have to regularly make stocking decisions to ensure the availability of critical parts. A key element of improving operational performance is learning. In our research, we analyze the role of learning from past decisions (and outcomes) for stocking decisions in situations with high stockout costs. We hypothesize that decision-makers do not learn appropriately, in particular from situations where the available supply exactly matched the demand. These situations are referred to as *near-miss events (NME)* in decision sciences, because they concern seemingly harmless outcomes where failure (in our case a stockout) was avoided only due to chance.

We design and conduct controlled laboratory experiments to examine NME, decision-makers' risk preferences and possible effects of corrective measures on NME perception. We hypothesize that (1) decision-makers rate the quality of ordering decisions that result in a near-miss as higher than those of ordering decisions that result in overstocks, because they avoid inventory costs; (2) the preference for near-miss outcomes leads decision-makers to maintain or even lower ordering quantities over time (i.e., a lack of learning among the decision-makers); and (3) implementing a corrective measure of outcome salience and safety environment attenuates the failure from learning after NME.

The result of our initial studies supports our hypotheses. In the base treatment, subjects perceived the quality of their own ordering decisions that led to near-misses as of higher quality than decisions that led to overstock or stockout. Out of all the viable data points, 65% of those who observed a near-miss retained or lowered their ordering quantity for the next period. This means, with the experience of a *failure that could have happened but did not* (i.e., NME), subjects preferred their current ordering quantity or a reduced one, potentially moving even closer to a failure in the next period. Lastly, the results indicate that decision-makers increased their ordering decisions after a near-miss more in the salience treatment than in the base treatment.

*Speaker

†Corresponding author: josebenedicto.duhaylongsod@essec.edu

Keywords: behavioral operations, near miss events, learning, inventory management

Individual preferences across contexts

Hande Erkut * ¹

¹ Maastricht University – Tongersestraat 53, 6211 LM Maastricht, Netherlands

Economists focus on Dictator Game giving in monetary domain rather than in non-monetary domain although investigation of giving in non-monetary domain has also economic value. This study aims to make a systematic comparison of generosity and rationalizability of individual preferences in a modified dictator game across monetary and non-monetary domains with positive and negative framing using laboratory experiments. The rationalizability of preferences is measured using the severity of Generalized Axiom of Revealed Preferences (GARP) violations as in previous studies (e.g. Andreoni and Miller, 2002; Davis et al. 2012). Results suggest that generosity and GARP violations (in amount and severity) are larger in non-monetary domain than in monetary domain and that the high level of generosity in non-monetary treatments cannot be fully explained by the high level of GARP violations.

Keywords: non, monetary domain, dictator games, revealed preferences, rationalizability

*Speaker

The influence of tax morality and others' income reporting behaviour on tax evasion: An experimental study

Nathalie Etchart-Vincent ^{*† 1}, Emmanuelle Taugourdeau ²

¹ CNRS Centre d'économie de la Sorbonne (CES) – Université Paris I - Panthéon-Sorbonne, CNRS : UMR8174 – Maison des Sciences Économiques - 106-112 Boulevard de l'Hôpital - 75647 Paris Cedex 13, France

² CNRS Centre d'économie de la Sorbonne (CNRS, CES, PSE) – CNRS : UMR8174 – ENS Cachan 61 avenue du president Wilson 94235 cachan Cedex, France

Short Abstract: Many variables are likely to affect a taxpayer's income reporting (thus tax compliance) behaviour. Beside standard factors such as the tax rate or probability of tax audit, more qualitative factors may affect the taxpayer's utility function, thus her decision to comply or not. In this paper, we are interested in the influence that social information, and more specifically information regarding the income reporting decisions of other members of the fiscal community, may have on a taxpayer's own income reporting decisions. A model and an artefactual field experiment based on that model are presented. Typically, the experimental subjects had to make tax reporting decisions in several informational contexts, namely 1) a context in which they were given no other information than the characteristics of the fiscal system, 2) a context in which they were given information about the average level of tax evasion among other members of her group, 3) a context in which they could i) decide to get information about the fiscal behavior of some subgroup of participants, and in that case, ii) choose the subgroup whose income reporting behaviour they wished to get information about. The criterion used to classify the participants into subgroups was their level of 'tax morality', assessed at the beginning of the experiment. The experimental design also allowed us to collect some peripheral information such as the subjects' attitude toward risk and their beliefs regarding others' reporting behaviour. Data analysis has just begun. First observations suggest that: 1) as regards the selection of information, subjects with a high (resp. low) level of tax morality tend to ask for information about those whose level of tax morality is low (resp. high), 2) subjects who adjust their level of tax evasion to information about others' behaviour do it *asymmetrically*: when they realize that other taxpayers are more compliant than them, they adjust their level of reporting upward to a significant extent, while they only marginally adjust it downward when observing that other people do evade more than they do.

Extended abstract: In the most recent years, several tax evasion cases have been causing a great deal of commotion in the media. Besides negatively affecting the credibility/sympathy capital of evading politicians, actors or sportsmen, publicized tax-evading behavior may also have a deleterious effect on taxpayers' fiscal compliance. They may think "why should I be more honest than these wealthy people who, while they should set an example, do not hesitate to cheat?". More generally, intuition suggests that taxpayers might be interested in knowing the level of

*Speaker

†Corresponding author: nathalie.etchart-vincent@ens-cachan.fr

tax evasion of some category of people they would consider as a kind of "reference group" (for instance, wealthier people, politicians, movie stars, or even people with the same occupation), be it because they expect irreproachable conduct from them, or because they are just curious of whether they cheat or not. In that respect, taxpayers might wish to get some information about the income reporting decisions of these people if they are given the opportunity to do so. Once taxpayers have obtained this kind of information, it is plausible that at least some of them will be sensitive to it and adjust their own income reporting behaviour, be it to make their level of tax evasion closer or more distant to that of the "reference group". Ultimately, there are actually two issues at stake: What kind of information may people wish to get? And how may they use this information once they have obtained it?

Based on Bouchardon (2014), our work precisely aims at investigating, first what kind of information (regarding the income reporting behaviour of a possible "reference group") taxpayers are willing to obtain, and, second, the influence that chosen information may have on taxpayers' tax compliance. Following Bouchardon (2014), taxpayers are classified depending on their level of tax morality (that is, depending on their positioning on a scale between "*fiscal compliance as the result of maximization of one's interest*" on the one hand and "*tax compliance as a moral/civic duty*" on the other hand). They are given the opportunity to get some information about the income reporting behaviour of taxpayers who are either lower, as high or higher than them on the 'tax morality' scale. To be more specific, they decide whether to get information, and in that case, on which category of taxpayers they wish to get information. The next step is to see whether their subsequent tax reporting decisions are affected by that information or not.

A model is first presented that (besides usual quantitative factors) introduces the possibility that the agent's utility (and consequently her fiscal decisions) depends on the information she gets about the reference group members' income reporting behaviour. Some comparative statics results and predictions are drawn from the model, and tested through an artefactual field experiment (following Harrison and List, 2004's typology).

The model

Our work is based on a theoretical framework that allows us to isolate the social norm effect. We develop a generalized version of Bouchardon (2014)'s model, using a general utility function rather than a linear one. Other aspects are as in Bouchardon (2014). The model is based on a standard framework "à la Becker" (Allingham and Sandmo, 1972). As in the basic version of the model, the agent chooses her optimal level of tax evasion, depending on several factors that affect her *pecuniary payoffs*, such as the tax rate, the probability of control, and the fine rate. For the sake of realism, we also introduce (as in Alm and Calvet, 2014), the possibility that taxes are redistributed through the provision of a public good. The public good captures the social interdependence between the members of the fiscal community; it provides an incentive both for paying taxes and for free riding. In the model, collected taxes are redistributed equally to all participants (which roughly captures the way utilities are financed and used, for instance) to make the free-rider issue more acute.

Then, unlike Allingham and Sandmo (1972), Fortin et al. (2007) or Alm and Calvet (2014), but quite accurately to what happens in real life, the probability of audit is made endogenous (instead of exogenous and identical for everybody). To be more specific, the probability of audit is a decreasing function of the taxpayer's reported income and an increasing function of the average reported income by other taxpayers. The idea is that a taxpayer who reports a very low income as compared to *similar* taxpayers (that is, taxpayers who have a similar professional position in a similar geographic area, for instance) is more likely to be audited since suspicion is high that low reported income may be due to underreporting. On the contrary, if the subject

declares more than the members of her community, this signals to the tax authority that she did not cheat. So her probability of being audited is low.

So strong underreporting may be profitable for the taxpayer if she is not audited, but this increases the probability of being audited.

As in the modified version of the basic model developed by Alm and Calvet (2014) on the one hand, and Fortin et al. (2007) on the other hand, the additional possibility that the subject's decision also depends on *non pecuniary* payoffs is introduced in the model. The taxpayer's utility depends on the discrepancy between her level of tax compliance and the level of tax compliance of people around her. She may wish to behave, either as others, or differently than others. Several comparative statics results are drawn from the model, the descriptive validity of which is to be investigated using experimental data.

Experimental design

Even though our main research question is whether information on others' income reporting behaviour is likely to affect one's income reporting behaviour, we wished to include this study into a more comprehensive project involving several other potential determinants of tax evasion, such as risk attitude, opinions as regards the functioning of economics, and features of the fiscal system. The experimental design was developed for this extended purpose. First, two fiscal settings were introduced. In both settings, the subjects were all given the same income, and their main task was to report their income, given the tax rate, probability of tax audit and level of the fine in case of audit and tax evasion. The only differences between the fiscal settings are as follows. In the first setting (the benchmark, denoted *NoPG-Exo* in the following), taxes were collected but not redistributed (there is no public good). Moreover, the probability of being audited was both exogenous and identical across subjects. By contrast, in the more realistic target fiscal setting (denoted *PG-Endo* in the following), a public good was introduced: as is actually the case in real life, collected taxes were then redistributed to all taxpayers (here, on an equal basis). Free-riding was thus made possible and profitable at the individual level. Moreover, the probability of being audited was made endogenous, depending on both the taxpayer's level of tax reporting and the average level of tax reporting in the fiscal community. For a given subject, the probability of being audited was a decreasing function of her own income reporting, and an increasing function of the average income reporting of other members of her group.

In each fiscal setting *NoPG-Exo* and *PG-Endo*, 4 experimental treatments A, B, C and D were introduced (details are given below). For each treatment, the computerized experimental design involved three parts and a post-experimental questionnaire.

The first part consisted in a Holt and Laury risk aversion measure and a 'tax morality' measure (using a 7-point scale) as well as in several fillers involving assertions about the functioning of economics, to prevent the subjects from guessing the purpose of the experiment (and provide us with some information about the subjects' view of economics).

The second and core part of the experiment consisted in a two- or three-step questionnaire involving tax reporting tasks. In the first step, after being given the characteristics of the fiscal system, the subjects were asked to declare their income, and to estimate the average reported income among her community, with no further information. This first step was the same in all the treatments and served as a benchmark (it will be denoted *No-info* in the following). In the second, and third steps, subjects were given information about i) the average reported income among the 20 member-community, and ii) the average reported income among the subgroup chosen by the subject (if she chose to get information). Subgroups were defined on the basis of

the ‘tax morality’ index assessed in the first part of the experiment: subjects were thus given the opportunity to learn the average reported income (in the first step of the 2nd part of the experiment) by group members who had reported a lower, equal, or higher level of tax morality than her. After receiving information i) or/and ii), subjects were asked to make a new income reporting decision. The difference between treatments A, B, C and D is in the *order* in which pieces of information i) and ii) were given, as well as in whether they were given *sequentially* (implying two successive income reporting decisions, in A and B) or *simultaneously* (implying a unique income reporting decision, in C and D). So the second part involved three steps (i.e. three income reporting decisions) in treatments A and B, and two steps (i.e. two income reporting decisions) in treatments C and D. The difference between treatments A and B is that average information was given before subgroup information in A (it will be denoted *Seq-AVER-SUB* in the following), while in B subgroup information was given before average information (it will be denoted *Seq-SUB-AVER* in the following). The difference between treatments C and D is that average information was given before subgroup information in C (it will be denoted *Sim-AVER-SUB* in the following), while in D average information was given before subgroup information (it will be denoted *Sim-SUB-AVER* in the following). The idea was to see whether information order affects income reporting behaviour, which would not be absurd, and would be interesting from a policy perspective.

The third part of the experiment consisted in choices between lotteries. These lotteries were built using the same mathematical components as the fiscal decisions in the second part. Indeed, the decision to evade taxes can be seen as a preference for a risky lottery (implying a risk of being caught) over the riskless lottery (of declaring one’s income with no cheating at all). But if a subject evades Y instead of $Y+e$, it is because she would not take the risk associated with $Y+e$. Our intuition is that people may take more risks when facing pure lotteries than the same (mathematically speaking) lotteries as soon as a tax evasion framing is introduced. So our idea was to see whether, for $Y+e$, people would not keep on choosing the risky lottery when in a context-free decision setting, while by definition choosing the riskless lottery in the context-rich (fiscal) setting. This would mean that fiscal decisions are not considered as pure gambles by the subjects (similarly to what Hershey and Schoemaker, 1980 showed regarding insurance decisions).

Finally, the subjects were asked to answer a post-experimental questionnaire, including socio-demographic questions as well as open-ended questions about the influence of recent tax evasion affairs.

Experimental procedures

The experiment was run at Ecole Polytechnique (France) between February and mid-March 2016. In each experimental condition, either 1 or 2 sessions were run with 20 subjects in each (to create the fiscal community required by the experimental design). *Seq-AVER-SUB* and *Seq-SUB-AVER* being our main treatments, they were run with 40 subjects each. *Sim-AVER-SUB* and *Sim-SUB-AVER* were run with 20 subjects each.

Sessions were conducted on Tuesdays and Thursdays, either at noon (during the lunch time) or in the evening, at 6:00pm. We were informed that the subject pool would be quite different depending on the time of day, as well as on the week day. So to prevent any ‘time of the day’ and ‘day’ effects, when the treatment required 2 sessions, we ran one at noon and one in the evening, and not on the same week day.

The subject pool mostly consisted of Polytechnique graduates and civilian and military Polytechnique staff, plus a strong minority of researchers and PhD students in diverse disciplines. The av-

average subject was 32 year-old, and the pool was perfectly gender-balanced on the whole. 240 subjects participated in the experiment. Depending on the fiscal setting (no public good/exogenous probability of audit vs. public good/endogenous probability of audit), the experiment lasted between 45 minutes and 1 hour.

The stimuli used in *NoPG-Exo* were as follows: the tax rate was 25%, the probability of being audited was 30%, and, when audited, the tax evader had to pay taxes on the non-declared part of the income, as well as a fine equal to that amount. Now, in *PG-Endo*, stimuli were as follows: the tax rate was 25%, the endogenous probability of being audited took values between 10% and 50%, and when audited, the tax evader had to pay taxes on the non-declared part of the income, as well as a fine equal to that amount. Each taxpayer also benefitted from a public good: the collected taxes were divided equally between the members of the fiscal community (that is, the 20 participants to a given experimental session).

Subjects were paid a flat-fee (5) as well as an additional amount depending on their income reporting decision in one of the two/three decision settings of the second part of the experiment. A decision setting was randomly chosen, and a random draw decided whether the subject would be audited or not. Given the introduction of tax redistribution in *PG-Endo*, the earnings were around 1.50 higher on average in *PG-Endo* than in *NoPG-Exo* (21 against 19.50). The maximum earnings were 20.50 in *NoPG-Exo* and 23.50 in *PG-Endo*.

Results

The data collection has been completed quite recently. Data analysis has just begun.

Regarding the nature of information the subjects are willing to get, preliminary results show that more than 70% of the subjects seek information about people who have an equal or lower level of tax morality than them. This is not surprising since most subjects (108 out of 240) declare the highest possible level of tax morality. The interesting point is that it does not necessarily prevent them from marginally evading taxes in the experiment. At a greater level of detail, it appears that subjects with a high (resp. low) level of tax morality rather wish to get information about those whose level of tax morality is low (resp. high).

Now, as regards the influence of obtained information on tax evasion behaviour, it seems that subjects who adjust their level of tax evasion to information about others' behaviour do it *asymmetrically*: when they realize that other taxpayers are more compliant than them, they adjust upward to a significant extent, while they only marginally adjust downward when observing that other people evade more than they do. It is also noteworthy that a number of subjects do not take social information into account: whatever they learn about the income reporting behaviour of other participants, they do not modify their own behaviour.

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Keywords: Tax compliance, tax evasion, social norms, free riding

Individual Reinforcement Learning in the context of a search task: An experimental perspective

Agnès Festré * , Imen Bouhleb *

, Eric Guerci *

^{1,2}, Corrado Lagazio

¹ Groupe de Recherche en Droit, Economie, Gestion (GREDEG) – CNRS : UMR7321 – 250 rue Albert Einstein - Batiment 2 06560 Valbonne, France

² Institut Supérieur d'Économie et Management (ISEM) Université de Nice-Sophia Antipolis – Institut Supérieur d'Économie et Management (ISEM) – France

The purpose of our paper is to investigate how consumers make choices in the context of an individual search task (e.g., searching for a restaurant in a city).

The search task relates to the consumption of an experience good that is, by definition, characterized by uncertainty as regards its quality. The nature of the search task is highly affected by the characteristics of the experience good. Some experience goods imply a varying number of trials – searching for a restaurant to have dinner as a tourist would usually imply only one trial whereas searching for a place to eat regularly at lunch time usually implies several trials. Nowadays it is true that consumers exploit more and more user-generated information that is shared on social media to make more informed and efficient decisions. By the way, an investigation on the role of network externalities is postponed to future research. The goal of this research is to give some predictions as to the behavior of the individuals in the context of a search task and to validate an analytical model that has been developed in parallel by the authors.

The model inspiring our experimental investigation is conceived as a series of n draws from an urn containing N balls numbered from 1 to N (like in the Bingo game). The utility of the search task is the sum of the stream of payoffs. The aim of the individuals is not to find the best restaurant but rather to maximize their utility defined as the overall satisfaction for every dinner or lunch. One specific characteristic of the search task in the context of experience goods is that the space of alternatives (restaurants for instance) is greater than the number of available trials (n). Individuals need to adopt a "satisficing" behavior. Analytically, it is proven that this is even rational to behave that way. Indeed, after k (with $k \leq n$) draws/trials the player can decide to stop and thus receiving the maximum utility value of the previous draws for the $n-k$ remaining trials (i.e., continue to go to the most appreciated restaurant for the remaining trials). Experimentally we test two cases of the probabilistic model: the ex-ante choice case where k needs to be fixed a priori by the individual, and the dynamic choice case where individuals are

*Speaker

allowed to be adaptive in the game.

We run a field experiment in order to test such probabilistic model. The protocol is a repeated game, which consists of a grid composed of patches with hidden payoffs. By clicking on a patch, the participant discovers and receives its payoff. Its objective is to maximize the sum of the stream of payoffs from the first to the last click.

The students can participate more than once since the experiment will be conducted for a few days in a row, allowing us to compare between and within-subject data. Experiments will be run with students at the CROUS cafeteria of the Saint-Jean d'Angely Campus of University of Nice Sophia Antipolis (Regal Market) in April 2016.

Keywords: reinforcement learning, search task, experience goods

Risk taking and competition: a reverse causality investigation

Antonio Filippin * ¹, Francesca Gioia ²

¹ University of Milan, IZA – Italy

² University of Edinburgh – United Kingdom

Motivation

It is often claimed in the literature that women are less willing to engage in competitive endeavours because they are more risk averse than men. The fact that risk attitudes and competition may be correlated is rather intuitive, as the latter typically implies uncertain outcomes. Moreover, risk preferences are often considered an innate behavioural trait, something that implicitly suggests a causality link going from attitudes towards risk to fondness for competition. In this paper we investigate the reverse causality link, namely whether the competitiveness of the environment in turns can shape subsequent decisions under risk.

Design and procedures

Our design entails two conditions: one in which the rewards in a real effort task are determined in a tournament between pairs of subjects (treatment), and another one where comparable pay-offs for the real effort task are instead predetermined (baseline). After the effort task we elicit subject risk preferences and then participants complete a short questionnaire. Both the treatment and the baseline account for gender composition of the subjects: in two conditions all participants are of the same gender (male and female, respectively) while in a third one males and females are equally represented.

The effort task used to introduce competition, named Coin Task (Gioia, 2016), consists in recognizing the value and the country of Euro coins. Participants see on the left-hand side of their computer screen a table with Euro coins of different values from several countries, and on the right-hand side a coin randomly drawn from the table. The task of the subjects is to identify the value and the country of this coin. Once they submit their answer, a new table and a new coin to identify appear on their screen. They have five minutes to recognize as many coins as they like. The score is the number of coins successfully recognized within this five-minute time period.

Before starting the coin task, students are randomly assigned to pairs. Treated participants are in competition with their peer: the member of the pair with the highest score obtains 8 while the member of the pair who loses the competition obtains 2. Ties are not allowed. If two competitors obtain the same score we look at the total number of attempts, i.e. we also consider wrong answers, and the winner is the participant who put in more effort trying to identify more coins. Students in the baseline receive the same monetary incentives but are not in competition with the assigned peer. Before the effort task, they are told that earnings are predetermined

*Speaker

within each pair: one member will earn 8 and the other 2. Monetary rewards in both treatments are conditional to identifying at least 5 coins, otherwise the payoff is zero. We do so for the effort task to be perceived as incentivized in both conditions.

Before performing the real task, subjects are given the chance to practice it for one minute to familiarize with the task. Coins identified during this minute do not add to the final score. At the end of the effort task, treated students are given information on their own score and the outcome of the competition while students in the baseline are only told their own score.

We then measure individual risk preferences by using the Bomb Risk Elicitation Task (Crosetto and Filippin, 2013), a simple elicitation method in which students have to choose how many boxes to collect out of 100, 99 of which contain 10 Euro cents while one contains a bomb. Earnings increase linearly with the number of boxes collected, but are zero if the bomb is collected.

Results

Preliminary results from a pilot experiment conducted in November 2015 do not show significant differences in risk taking across treatments. However, such a null result at the aggregate level seems to be a composition effect of interesting insights that emerge with a breakdown of the data by gender and outcome of the tournament. In fact, women make significantly more risk averse choices in the competition treatment than in the baseline. In contrast, males do not significantly change their decisions under risk across treatments. However, males react to the outcome of the tournament: losing the competition makes them significantly more risk averse than in the baseline, while the opposite occurs when they win the tournament. Summarizing, women's risk attitudes seem to be affected by the institution, i.e. the mere competition, while men react to the outcomes of the competition with an effect that goes in the opposite direction as compared to the 'keep up with the winner' effect emphasized by Fafchamps et al. (2015).

The experiment will take place in February 2016 at the behavioural laboratory of the University of Milan.

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Keywords: competition, risk attitudes

How Does Reciprocity Fare With A Long Time Delay?

Nickolas Gagnon ^{*† 1}, Charles Noussair^{‡ 2}

¹ Maastricht University (UM) – Universiteitssingel 40;6200 MD Maastricht, Netherlands

² University of Arizona – University of Arizona Tucson AZ 85721 USA, United States

We conduct three separate experiments that extend the Gift-Exchange paradigm for the study of worker-employer relationships. We focus on the effect of long time delays on the previously observed increasing relationship between wage and effort. We consider whether workers choose effort levels to reciprocate employers' wage decisions when wages were set one month previously. In our experiment, subjects are divided into groups of three, one employer and two workers. The employer chooses one wage level that applies to both workers. The first worker then chooses an effort after leaving the laboratory, but at most three hours afterward. The second worker submits the effort decision four weeks after the experimental session. At the time their decision is due, workers choosing four weeks later receive a reminder informing them of the wage they received and the payoff structure in effect. Two experiments were conducted in the Netherlands and one in the United States. Our results show that, for the three experiments, average effort is not different between those choosing within 3 hours after learning their wage and those who choose 4 weeks afterward. However, the picture for reciprocity is more complicated. First, a positive and significant relationship between wage and effort appears in the short-term for each experiment. Second, in the long term, the relationship is positive and significant in the experiment conducted with American students and not significant in the two experiments conducted with European students at a Dutch University. We elicit employers' beliefs about the effort of each worker and workers' beliefs about what constitutes a fair wage. In the Dutch university, employers' beliefs are consistent with the existence of a positive wage/effort relationship both in the short term and in the long term whereas, in the American university, beliefs are consistent with its existence in the short term and its absence in the long term. Whereas employers' beliefs in the short term are consistent with workers' effort, beliefs in the Dutch and American universities about reciprocity in the long term are both inconsistent with their respective workers' effort. We also provide evidence of non-linearities in the wage/effort relationship.

Keywords: Gift Exchange, Labor Relationship, Reciprocity, Time Delay

*Speaker

†Corresponding author: n.gagnon@maastrichtuniversity.nl

‡Corresponding author: cnoussair@email.arizona.edu

Legal spillovers in time and space: an experimental approach

Roberto Galbiati , Emeric Henry ¹, Nicolas Jacquemet * ²

¹ Département d'économie (ECON) – Sciences Po : EA4460 – 28, rue des Saints-Pères 75007 Paris, France

² Ecole d'Économie de Paris - Paris School of Economics (EEP-PSE) – Ecole d'Économie de Paris – 48 boulevard Jourdan 75014 Paris, France

Past exposure, or exposure in other domains, to strong legal enforcement, can affect current behavior in a given field. We conduct a laboratory experiment to study these spillovers in time and space, their persistence and the mechanisms underlying them. We show that being exposed to enforcement in the recent past has a strong positive effect on future cooperation. This is mostly due to an indirect behavioral spillover effect: facing penalties in the past increase past cooperation which in turn positively affects current behavior. However, for interactions that occur early on, we find a negative effect of past enforcement, which is mainly driven by learning.

Keywords: Prisoner's dilemma, repeated game, law and economics, social norms

*Speaker

Compromise and Attraction Effects in Bargaining

Fabio Galeotti ^{*† 1}, Maria Montero ², Anders Poulsen ³

¹ GATE – Groupe d’analyse et de Théorie Economique – 93 Chemin des Mouilles, France

² University of Nottingham – United Kingdom

³ University of East Anglia – United Kingdom

We report experimental data from bargaining situations where bargainers can make proposals as often and whenever they want, and can communicate via chat. We vary the set of feasible contracts in order to investigate the possible presence of compromise and attraction effects. Specifically, we compare situations with only two possible contracts and situations where a third contract is added. The third contract may have the effect of making one of the two original contracts appear as a compromise between two extreme options; alternatively, it may be Pareto dominated by one of the two original contracts but not by the other. If occupying a central position in the contract set significantly increases the frequency of agreements on a contract, we observe a compromise effect; likewise, if adding a dominated contract significantly increases the frequency of agreements on the contract that dominates it, we observe an attraction effect. Both effects are instances of violations of the independence of irrelevant alternatives axiom. Our main findings are the following. First, if there is a contract that is both equal and maximizes total earnings, nearly all agreements are on this contract. Making the other (unequal) contract a compromise has no effect. Second, if one of the contracts is equal and the other maximizes total earnings, making the unequal contract a compromise increases its frequency. Third, there is a clear difference between contract sets that contain an equal contract and contract sets that contain only an approximately equal contract. The approximately equal contract is chosen significantly less often than the perfectly equal contract. Since it is not chosen as often to begin with, there is more room for the frequency of this contract to increase when it is a compromise, and this is observed in our data. Finally, we observe attraction effects but they are not as robust as the compromise effects. The stronger attraction effects we observe occur when there are no equal contracts available (including the dominated ones).

Keywords: Bargaining, communication, compromise, attraction

*Speaker

†Corresponding author: galeotti@gate.cnrs.fr

Myopic punishment

Rémi Gaultier * ¹, Marc Willinger ¹

¹ Laboratoire Montpelliérain d'Économie Théorique et Appliquée (LAMETA) – Centre international de hautes études agronomiques méditerranéennes [CIHEAM], Institut national de la recherche agronomique (INRA) : UR1135, CNRS : UMR5474, Université Montpellier I – 34960 Montpellier cedex 2, France

This paper analyses responders' choice in a multi-period ultimatum game to investigate the rational nature of human punishment. We show that subjects determine their acceptance threshold regardless of whether rejection may affect or not the final outcome of the game. This finding challenges the canonical interpretation that punishers have either strategic or altruistic ends, which still gives a rational taste to punishment decisions. The concept of 'myopic punishment' is proposed instead to describe the lack of forward-looking motives driving punishment acts. Subjects' response time is used to link the so-called punishers' myopia to a backward inductive reasoning failure.

Keywords: experimental economics, game theory, punishment, rationality

*Speaker

Preferences for Redistribution in the US, Italy, Germany, Norway: An Experimental Comparative Study

Gianluca Grimalda * ¹, Francesco Farina , Ulrich Schmidt

¹ Kiel Institute for the World Economy (IfW) – Kiellinie 66 D-24105 Kiel, Germany

Developed countries vastly differ in terms of the amount of taxation, social spending, and redistribution operated by their governments. The literature originated by Esping-Andersen's (1990) "three worlds of the welfare state" claims that different "ideologies" underpinning states' redistributive models have a formative effect onto individuals' preferences. However, survey-based empirical research struggles to find clear-cut effects (Dallinger, 2010).

Economists, on the other hand, emphasize dissimilar beliefs over opportunities for socio-economic mobility as major drivers of preferences for redistribution. According to the equity principle (Konow, 2003), individuals are more inclined to redistribute towards the poor if the poor are seen as "deserving". However, deservingness is correlated with beliefs over opportunity for socio-economic mobility. In societies where citizens believe that opportunities are plentiful (scarce) for individual advancement, those who stay at the bottom of the income scale will be deemed as undeserving (deserving) of net income transfers through redistributive schemes. In fact, US citizens believe with considerably higher frequency than Europeans that their societies permit fair chances for economic mobility (Fong, 2001; Alesina and La Ferrara, 2005), although the direction of causation may be doubtful (Fong et al., 2005). Consequently, US citizens tend to see the poor as less deserving of redistribution than Europeans. Experimental evidence reproduces the existence of strong differences between belief systems in Europe and the US, but fails to find a direct link between beliefs and redistributive choices (Rey-Biel et al., 2011).

More generally, other differences in preferences or personality traits among citizens of different countries might explain differences in preferences for redistribution. People in some countries might, for cultural or ideological reasons, have an intrinsic greater distaste for inequality (Thurow, 1971), or have different degrees of risk tolerance, perhaps because welfare states act differently in different countries in creating safety nets against risk (Sinn, 1995). The attitudes towards future upward mobility (POUM) (Benabou and Ok, 2001) may differ across countries as a result of differences in personality traits such as optimism or self-confidence. Some cultures may be intrinsically more "meritocratic" and assign larger rewards to individual merit, in comparison with luck (Lipset, 1997). The relevance of social background might be judged differently in different countries.

This study aims at examining experimentally such possible mechanisms in the account of differences in preferences for redistribution. The study has been replicated at seven different Universities (Washington State and Mississippi in the US, Milan and Salerno in Italy, Bremen

*Speaker

and Munich University in Germany, and Oslo in Norway) to gauge between-country differences as well as within-country differences (in the three largest countries).

Participants in our experiments were summoned in groups of 21 and were awarded initial earnings on the bases of four different criteria in four different between-subject treatments. Two were based on luck – namely, a purely random procedure, or a biased random procedure where participants coming from more affluent areas were advantaged with respect to others. Two were based on individual merit – namely, an effort-based task or an abstract reasoning ability test. The distribution of such earnings was uniform (and therefore symmetric around the mean) in discrete units between the bottom and the top earnings. Participants had to make different decisions over how much earning redistribution they wanted to implement within their group. Their choice could vary from a 0% tax rate, in which case post-tax earnings inequality would be maximal, to a 100% tax rate, in which case everyone would earn the same. One of their decisions was randomly selected and applied to the whole group. The first decision was designed to measure preferences for inequality under a condition of impartiality, in that the "decisive individual" – i.e. the person whose tax rate was randomly selected – was allocated the median position of the earnings scale. This decision elicited preferences for redistribution independent from one's self interest. The second and third decisions were decisions behind a veil of ignorance, as subjects did not know which position they would occupy in the earnings scale when indicating their tax rate. In this way self-interest and risk aversion were possibly relevant motivations. In the third decision subjects received information over their initial earnings in the previous decisions, which could have been used as a signal of their relative ability in the merit treatments. The fourth decision took place "beyond the veil of ignorance", as subjects knew their own position in the earnings scale. Ambiguity and risk aversions were measured in independent sets of decisions. A questionnaire collected information on the subject's attitudes towards society and demographic information.

The main findings are:

A) No sizable within-country difference emerged in Italy and Germany, while some difference emerged across the US locations.

B) We find a clear divide between the US and Italy on the one hand, and Norway and German on the other, especially in the first decision (impartial spectator) and the fourth decision (decision beyond the veil of ignorance). Norwegian and German subjects demand significantly more redistribution than US and Italians subjects. No difference can be detected between German and Norwegian subjects across decisions, and only limited differences can be detected between Italians and US subjects. This suggests that differences in basic "distaste" towards inequality (Thurow, 1971) across countries do seem to exist.

C) Consistently with the theory, risk aversion is associated with higher demand for redistribution at the individual level. However, at the aggregate level, subjects coming from countries that are in reality more redistributive are on average *less* risk averse than others. A tentative explanation is that the safety net provided by stronger welfare state may spur individuals to get used to taking more risks (Sinn, 1995).

D) "Rich" subjects, i.e. those being informed that they have above-average initial earnings in the fourth decision, act in the same way across countries and locations.

E) The behaviour of "poor" subjects, i.e. those having below-the-median initial earnings in the fourth decision, vary significantly. Both Norwegian and German "poor" demand higher levels of redistribution than US and Italian "poor", the median demand being 100% redistribution

in the former set of countries. Interestingly enough, Italian subjects are the only sample who respond significantly to the merit manipulation. Italian poor involved in the merit treatments demand significantly less than Italian poor involved in the luck treatment. No difference emerges in the US. US poor demand less redistribution even when this is determined by luck. They thus seem to consider luck as legitimising the rich's entitlement to higher earnings, which can be construed in terms of libertarianism (Cappelen et al., 2007).

F) Beliefs over the fairness of the redistributive system in real life exert a differential effect in the two sets of countries. German and Norwegians are significantly more sensitive to their beliefs than Italian and US subjects.

Overall, this research shows the simultaneous existence of both differences and similarities across countries in preferences towards redistribution. Two "blocks" seem to emerge, with egalitarianism being largely dominant in Germany and Norway, while libertarianism prevails in the US and Italy. However, differences emerge within the libertarian blocks, specifically in the reward of individual merit. Although specific ideological and cultural differences can be perceived as being behind some of the observed behavioural variations, this research points both to a variety of causes being at work in moulding cross-country differences, and to the co-existence of explanatory factors acting separately at the aggregate level and at the individual level.

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Keywords: Preferences for redistribution, Cross, Country experiments, Meritocracy

Sustaining Cooperation: A Comparative Evaluation of Cooperative Preferences, Peer Pressure and Formal Punishment

Simon Gächter ¹, Till Weber * ¹, Ori Weisel ¹

¹ University of Nottingham – United Kingdom

Laboratory experiments have shown that cooperation in social dilemma games can thrive in the presence of cooperative preferences, informal punishment (i.e. peer pressure) or formal sanctioning mechanisms (i.e. law enforcement). In the real world, all three effects are present at the same time and might foster high cooperation rates. For example, lawbreakers might be fined by the police, but could also suffer from social stigmatisation by their peers. We conduct a laboratory experiment that enable us to disentangle and quantify the relative impact of punishment mechanisms.

To explore this question, we use repeated binary public good games with three variants of punishment mechanisms capturing essential properties of real world sanctioning: peer punishment, pool punishment and pool+peer punishment. The peer punishment treatment captures informal punishment and follows Fehr and Gächter (2000). This mechanism allows participants to punish their peers at a cost to themselves after observing their peers' cooperative efforts. The pool punishment treatment is inspired by Yamagishi (1986) and models a formal punishment mechanism. Participants make a costly contribution to a punishment pool which automatically punishes free riders. The pool+peer treatment is the most realistic treatment, permitting both formal and informal sanctioning. Although the punishment mechanisms vary across treatments, the individual payoff function is kept constant. Additionally, we conduct a baseline treatment without punishment in order to evaluate the efficiency of the punishment mechanisms.

The experimental results provide novel insights into effectiveness and efficiency of informal and formal punishment mechanisms. The informal sanctioning mechanism induces high and stable cooperation at low cost in the long run. Formal punishment leads to the lowest level of efficiency and the highest volatility in cooperation levels. A best reply analysis reveals crowding out of voluntary contributions under the formal punishment mechanism. Combining both mechanisms achieves the highest efficiency level although this is not significantly different from informal punishment. We conclude that informal punishment, like peer pressure, is important in stabilising cooperation levels in the long run. Formal punishment alone encourages best-reply reasoning and only induces cooperation when the monetary incentives are large enough.

Keywords: Cooperation, public good games, peer punishment, formal punishment

*Speaker

Not All Income is the Same to Everyone: Cognitive Ability and the House Money Effect in Public Goods Games

Julian Hackinger * ¹

¹ Technical University of Munich (TUM) – Technische Universität München Arcisstrasse 21 80333
München Germany, Germany

The provision of public goods often suffers from a social dilemma generating too little contributions. Yet, it remains an open question how positive contributions materialise. Existing studies suggest that individuals' decisions on how much to contribute depend on cognitive skills. Furthermore, mental accounting research indicates that the source of income matters for economic decision making. I show experimentally that subjects' contributions in a one-shot linear public goods game depend on an interplay of the two factors. While a house money effect exists for subjects with low cognitive skills there is no such effect for those with high cognitive skills. My findings have important implications for taxation, redistribution, and voting behaviour.

Keywords: Public Goods, Experiment, Cognitive Skills, House Money Effect, Mental Accounting, Endowment Source

*Speaker

Trust me, I Have a Conflict of Interest!

Testing the efficacy of disclosure in retail investment advice

Genevieve Helleringer * ¹

¹ Essec Business School / IECL, Oxford university – ESSEC Business School, University of Oxford (UK) – France

Retail investment is not a level playing field: advisors know more than investors. It is not necessarily an ethics-proof field either: advisors may be on remuneration schemes that create conflicts of interests. However retail investment is based on the investor's trust in the advice.

The paper explores the psychology advised financial investment decisions. It investigates how information about the financial advisor's potential conflict of interest impacts on the participants' judgement, whether as to attitudes or actions.

The paper is based on two experiments. The first experiment is based on self reports as to perceived trust and willingness to invest. Participants provided a rating of their trust in the advice out of a scale of one to seven after reading a financial advertisement that displayed a handwritten note making a recommendation to invest. The advertisement also set out the fee structure of the advisor. In half of the cases, the advertisement included an additional note, one version of which explained that the interests of the advisor were aligned with those of the participant, and the other version of which explained that their interests were not so aligned. The second experiment, which is currently being designed, is based on incentivised choices reflecting trust and willingness to invest in a financial product. There will be two players, advisor and investor. Advisor will have to recommend one of 2 financial product and will be offered a choice as to how to frame their fee disclosure (neutral or 'I' form). Investors will have to decide to follow, or not, the advice and will be asked questions about nature of the disclosure and their level of trust in the advice. Investors will be paid a fraction of the gain resulting from their investment choice, and advisors will be paid a fraction of the agreed upon fee. Conditions will combine (conflicted vs non-conflicted advisor) x (neutral disclosure vs 'I' form disclosure).

The results of the first experiment suggest, first, participants' willingness to invest was reliably affected by the presence of conflicts of interest only when the specific implication of the conflict was made explicit in the explanatory disclosure; and secondly, that their trust in the advice was in all cases affected by the presence of a known conflict of interest, but more strongly so when accompanied by an explanatory disclosure.

The implications of these findings for public policy are that, contrary to what is commonly suggested, problems of conflict of interest in the financial investment context may efficiently be

*Speaker

treated by means of disclosures, provided that such disclosures explicit the consequences of the conflict for the decision maker. It remains to analyse how explanatory disclosures can be drafted so that their influence on the trust in the advice also translates into modified action. The second experiment described above take up this issue.

Keywords: disclosure, advice, conflict of interest, decision, making, trust

How Do Asymmetric Outside Options Influence Behavior in Ultimatum Bargaining? A Systematic Experimental Analysis

Heike Hennig-Schmidt * ¹

¹ Bonn University and Oslo University – Germany

How Do Asymmetric Outside Options Influence Behavior in Ultimatum Bargaining?
A Systematic Experimental Analysis

Heike Hennig-Schmidt (University of Bonn and University of Oslo)

Bernd Irlenbusch(University of Cologne)

Rainer Michael Rilke (University of Cologne, and WHU - Otto Beisheim School of Management)

Gari Walkowitz (University of Cologne)

Keywords: Outside Options, Asymmetry, Ultimatum Bargaining

JEL-Classification: C71, C72, C78, C91, D63

Extended abstract

Motivation

The ultimatum game since its first experimental implementation (Güth et al. 1982) has become a valuable tool for experimental research. In the standard design, a proposer can decide on how to split a given amount of money (the cake) between herself and a responder. The responder can either accept or reject the proposal. In case of acceptance, both receive the amounts as allocated; in case of rejection, both players are treated in a symmetric way in that both receive the same disagreement payoff (outside option) of zero.

The ultimatum game is attractive for experimental research because the game is simple, easy to understand, straightforward to be implemented experimentally, parameters can easily be changed and extensions are possible in many directions (Güth and Kocher 2014). Moreover, it induced studying a multitude of different research topics in economics and other disciplines; for a recent overview see Güth and Kocher (2014). A huge amount of ultimatum game experiments

*Speaker

(UG in the following) with symmetric zero outside options have shown that individual proposers typically offer 40–50 percent of the cake with the modal equal split offer being a very robust phenomenon; proposers who offer the responders less than 20 percent face rejection with high probability (Roth 1995, Camerer 2003, G'uth and Kocher 2014).

Changing the symmetric design of the standard UG by positive and asymmetric outside options has not attracted much attention in the profession despite literally tens of thousands of UG experiments – notable exceptions are Knez and Camerer (1995), Hennig-Schmidt (2002), Schmitt (2004), Buchan et al. (2004), Kohnz and Hennig-Schmidt (2005), Fischer (2005), Fischer et al. (2007), Hennig-Schmidt et al. (2008, 2010). The lack of interest is surprising as such asymmetry inherits great potential for disagreement. For one thing, even though the ultimatum game is characterized by a natural asymmetry (G'uth and Kocher 2014) favoring the proposer (the responder in the standard UG could be viewed as less powerful in the sense that the threat to reject offers higher than his outside option – even if only slightly above – becomes incredible, once the proposer has made her decision), responders may neglect this role asymmetry – in particular if they are in an advantaged position by having the higher outside option (Fischer et al. 2007). Secondly, asymmetry creates focal points for dividing the cake that are different from the equal split, e.g. splitting the cake proportionally to outside options or dividing the surplus above the sum of outside options equally. When proposers and responders focus on different such allocations disagreement exists on what constitutes an acceptable offer.

A systematic analysis on how asymmetry in outside options affects behavior in UG is missing, also when compared to symmetric situations. This paper contributes towards closing this gap by extending the literature in several important ways. First, our experimental design uses a combination of within-subject and between-subject designs and thus allows both within- and between-subject comparisons of symmetric and asymmetric situations differing from previous studies, however, in key details. We apply a simple experimental design where each subject keeps his/her role during the experiment and participates in two games with different opponents to exclude across-game reciprocity. The games are either one of four asymmetric ones and a symmetric game with positive outside options, or two asymmetric games that differ only in which player receives the higher outside option. We exclude within-subject confounds by not having each subject to take many sequential decisions. Still we are able to study the systematic modification of outside options via between-subject analyses. The symmetric game cannot be dispensed with, as we need to account for the basic role asymmetry in UG.

Our second main contribution is that we analyze responder behavior the evidence on which is rare in other UG studies that mostly concentrate on proposer behavior; exceptions are e.g. Huck (1999), Hennig-Schmidt et al. (2008) and Costa-Gomez et al. (2013). The evidence is even less frequent in asymmetric situations. Third, we base our behavioral predictions on a model of inequity-averse players that – as an addition to the original model by Fehr and Schmidt (1999) – takes asymmetry in outside options into account. Finally, we provide new insights on within-subject behavioral consistency in asymmetric and symmetric or in different asymmetric situations. To the best of our knowledge, the latter topic has not been studied in the context of asymmetric outside options so far.

Our research interests are first how asymmetry in outside options affects proposers' and responders' behavior in ultimatum bargaining, in particular when compared to symmetric situations. Second, do we find behavioral (in)consistencies when a subject successively faces two different situations, either two asymmetric ones or one asymmetric and one symmetric condition?

Method

Our UG experiment comprises a fixed cake of size $a = 240$ and varying outside options o_P for the proposer and o_R for the responder. The proposer makes an offer $a_R < a$ to the responder, and the responder has to state his MAO, the minimal offer a_R he is willing to accept. If the responder accepts, i.e. if the offer a_R is equal to or larger than the responder's MAO, he receives a_R , and the proposer receives $a_P = a - a_R$. In case a_R is smaller than the responder's MAO the responder rejects the proposal and both players get their outside options o_P and o_R , respectively.

Each subject participates in two games: either the symmetric game with $(o_P, o_R) = (30, 30)$ and one of four asymmetric games with $(o_P, o_R) = (90, 30)$, $(150, 30)$, $(30, 90)$ or $(30, 150)$ or two asymmetric games that differ only in which player receives the higher outside option, i.e. $(o_P, o_R) = (150, 30)$, $(30, 150)$ or $(90, 30)$ or $(30, 90)$. Our parameterization constitutes several important features. Disagreement is inefficient as in all games $o_P + o_R < a$. One outside option is larger than the equal split in some of the games. In asymmetric games, three focal allocations provide three different point predictions – equal split, proportional split and equal split of the surplus. These allocations have been found in the literature to influence behavior in ultimatum and other allocation experiments, e.g. in studies on dictator games (Cappelen et al. 2007, Rodriguez-Lara and Moreno-Garrido 2012), claims problems (Gächter and Riedl 2005, 2006, Bosmans and Schokkaert 2009, Bolton and Karagozöglu 2013, Gantner and Kerschbamer 2013, Karag'ozöglu and Riedl 2014), distribution games (Ubeda 2014) and bargaining (Hennig-Schmidt 1999, 2002, Hennig-Schmidt et al. 2010, Hennig-Schmidt and Walkowitz 2015). Finally, outside options are different from zero, which enables applying the proportional split.

Results

Our main findings are that compared to the symmetric baseline games average offers (MAOs) decrease in proposers' and increase in responders' outside options. Average MAOs are lower than offers on average, except when $o_R = 150$. Average rejection rates are about 40% and are highest (more than 50%) when either the proposer's or the responder's outside option is larger than the equal split.

We find that 19% of proposers are consistent across games in that they offer the same amount in both games, the percentage of consistent responders being somewhat higher (22%). Consistency particularly applies to equal split offers or MAOs.

Average offers and MAOs do not coincide with point predictions neither of the Fehr-Schmidt model, nor of subgame perfect equilibrium or the focal divisions equal split, proportional split or split the difference. Each of these predictions does, however, explain substantial percentages of individual decisions, which indicates that different subjects are affected by different motivations.

Keywords: Outside Options, Asymmetry, Ultimatum Bargaining

Strategic Information Transmission with Uncertainty: An Experiment

Robert Hoffmann * ¹

¹ Royal Melbourne Institute of Technology (RMIT) – 445 Swanston Street Box 2476 Melbourne
Victoria 3000, Australia

In strategic information transmission games, a sender transmits private information relevant to a receiver's decision which determines both parties' payoffs. In theory, rational senders with motives not aligned to those of receivers will communicate strategically through cheap talk (Crawford and Sobel, 1982). However, in experiments senders tend to overcommunicate (Dickhaut, McCabe and Mukherji 1995; Cai and Wang 2006). In contrast to almost all existing studies we examine a version of this game where the sender is uncertain of their private information (Pitchik and Schotter 1987). In theory, unless the situation is repeated, any seller-side uncertainty regarding value is irrelevant to the game's outcome since cheap talking sellers have an incentive to exaggerate the value of the good (Chakraborty and Harbaugh 2010; Golosov et al. 2014). We report an experiment to assess the opposite notion that increasing uncertainty will lead to less persuasive information transmission. Because senders' private information uncertainty means uncertainty regarding to what extent their incentives are aligned with receivers we hypothesise that its exploitation is increasingly associated with lying cost (Abeler, Becker and Falk 2014). With greater uncertainty sellers may increasingly prefer not to exploit their private information due to an aversion to lying based on altruism, self consciousness, reputation or ethical principle. In this sense, talk is not cheap to the extent that deception entails a psychic cost. Our experiment uses a new persuasion task where participants can communicate freely rather than by selecting from a given set of messages. The results demonstrate that (and how) strategic information transmission falls with sender uncertainty.

Keywords: Strategic information transmission, experiment, cheap talk, uncertainty

*Speaker

Personality and inequality in public goods: An experimental study

Bereket Kebede * ¹, Nicole Gross-Camp ¹, Adrian Martin ¹, Shawn
Mcguire ¹, Joseph Munyarukaza ²

¹ School of International Development, University of East Anglia (UEA) – Norwich NR4 7TJ, UK,
United Kingdom

² ReDirect Research Project, Rwanda (ReDirect) – Rwanda

Extended abstract

The cross-fertilisation between economics and psychology has a long tradition. One strand of literature incorporated insights from psychology in the modelling of economic decisions and led to the birth of behavioural economics and its increasing integration into mainstream economics (Daniel Kahneman & Tversky, 1979; D. Kahneman & Tversky, 1992). A second strand, which gained real momentum only recently, uses personality psychology to better understand individual heterogeneity; Bowles & Gintis (1976) is an early example and Almlund, Duckworth, Heckman, & Kautz (2011) is a recent comprehensive review. To contrast with cognitive skills that depend on intelligence, the term ‘non-cognitive skills’ is widely used in economics as a synonym for personality characteristics (even though non-cognitive skills may also include other features that are not directly related to personality). While traditionally economics emphasised the role of cognitive skills, this recent literature highlights the importance of personality in human development, health, schooling and labour market outcomes. The early acquisition of cognitive and non-cognitive capabilities among children is crucial for adult welfare (Cunha & Heckman, 2007; Cunha & Heckman, 2009). Empirical research has also shown that in early childhood intervention programmes, such as the Perry Preschool Programme targeting low IQ African American children aged three to four in the US, improvements in personality skills had a more lasting effect than in cognitive skills (Heckman, Pinto, & Savellyev, 2013). Personality predicts many educational outcomes. For example, while Conscientiousness predicts overall achievement and college grades, Openness to Experience is a good predictor of educational attainment such as attendance and course difficulty (Almlund, et al., 2011). Similarly, the explanatory power of personality in labour market outcomes is strong. For example, Conscientiousness predicts performance and wages in a range of occupations and characteristics related to Neuroticism are good indicators of job search effort (Almlund, et al., 2011). The empirical literature also finds strong evidence that personality plays an important role in health-related behaviour. For example, Conscientiousness has better predictive power on longevity compared to intelligence or family background (Almlund, et al., 2011).

Similar to the above literature, the role of personality in experimental games is also increasingly scrutinised. For example, while altruism in the dictator game played with kin is not affected by personality, it has a strong effect when played with non-kin; the highest level of

*Speaker

altruism is exhibited by player high on Neuroticism and Extraversion and low on Conscientiousness and Agreeableness (Ben-Ner & Kramer, 2011). Cooperation in prisoners' dilemma game is higher among individuals that scored higher on the withdrawal aspects of Neuroticism and the enthusiasm aspect of Extraversion (Hirsh & Peterson, 2009). Interestingly, the effect of personality in experimental games may mainly be driven by the existence of incentivised decisions. L'onnqvist, Verkasalo, & Walkowitz (2011) found that personality predicted decisions only in incentivised games; they found, low Neuroticism and high Openness to Experience predicting more cooperation. These and similar recent literature highlight the importance of integrating personality into the analysis of experimental games.

Following the tradition of the above mentioned literature, this paper looks at the effect of personality on inequality aversion as captured by an experimental game. Using data from public goods games with inequality treatment collected from rural Rwanda, this paper analyses how inequality aversion is mediated by personality. As far as we are aware, this is the first paper looking at this research problem using incentivised experimental games.

Using the Fehr & Schmidt (1999) inequality aversion model, the paper finds that inequality reduces contribution. The reduction in contribution is accounted for the significant decline in contribution by lower income groups; higher income groups do not increase their contribution. In the terminology of Fehr and Schmidt (1999), we have envious poor but the rich do not feel guilt. The more novel contribution of the paper is related to how this change in contribution behaviour with inequality is mediated by personality.

The paper first examines how personality of players directly affects contribution under inequality. While there is evidence that players with higher Openness and Agreeableness significantly reduce their contribution in the inequality treatment, there is robust evidence that players with higher Conscientiousness scores do not do that. In other words, Conscientiousness has a dampening effect on the reduction of contribution with inequality; if not for Conscientious players, contributions would have been even lower with inequality.

The second novel aspect of the paper looks at the indirect (social) effect of personality. In addition to the direct effects of personality highlighted above, higher mean Openness and Agreeableness scores of the other players (excluding the player him/herself) increases the reduction in contribution in the inequality treatment. In contrast, higher Conscientiousness scores of others reduces the reduction.

In summary, Conscientiousness supports higher levels of cooperation even with inequality because more Conscientious players and players in groups with higher scores of Conscientiousness contribute relatively more. Both the direct and indirect (social) effects of Conscientiousness mitigate the effect of inequality on contribution. Agreeableness and Openness have just the opposite impact.

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Keywords: public goods games, inequality aversion, personality, social effects of personality, Rwanda

Measuring source-dependence, utility, loss aversion and event weighting for life duration

Olivier L'haridon * ¹, Han Bleichrodt , Arthur Attema

¹ CREM Université Rennes 1 – université Rennes 1 – France

It is well-known that expected utility has empirical deficiencies. Prospect theory has developed as an alternative with more descriptive validity. This study elicits utility of life duration in a framework that is robust to violations of expected utility. In addition, our method allows for a parameter-free measurement of loss aversion and probability weighting for both gains and losses. Finally, we are the first measure utility of life duration in the case of uncertainty.

We conducted individual experiments where respondents had to make choices using health outcomes, which included a treatment with known probabilities and treatment with unknown probabilities. First, when comparing these treatments, we found evidence for uncertainty aversion. Despite this, the two treatments showed the same general pattern: concave utility for gains, convex utility for losses, and steeper utility for losses than for gains. Hence, our findings confirm the S-shaped utility that has often been observed for monetary outcomes. The amount of loss aversion was not significantly different between the treatments, with median loss aversion coefficients varying between 1.3 and 1.8 (depending on the specific definition used). The probability weighting functions showed the usual inverse S-shape, indicating overweighting of small probabilities and underweighting of large probabilities, both for gains and for losses. In particular, our results suggest duality of the

*Speaker

probability weighting functions.

In conclusion, our data are supportive of prospect theory and source dependence in the health domain. However, our finding of convex utility for lost life years contradicts results of

previous studies that used a different elicitation method, and suggests this behaviour may be method-specific. More research is needed to settle this issue.

Keywords: Health, Risk, Ambiguity

Sharing liability under insolvency: an experiment

Eve-Angeline Lambert * ¹, Julien Jacob , Serge Garcia

¹ Bureau d'économie théorique et appliquée (BETA) – CNRS : UMR7522, Université de Lorraine – Faculté de Droit, Sciences Economiques et Gestion 13, place Carnot CO 70026 54035 Nancy cedex, France

Most environmental damages are due to multiple tortfeasors. The choice of prevention effort by potential tortfeasors depends notably upon the liability rule in force, the level of assets of each tortfeasors and how many they are. We investigate both theoretically and through lab experiments the incentives of firms to make efforts in order to reduce the size of a bilateral damage. In particular, we compare the efforts choices under two liability rules : non-joint liability and joint and several liability, and test for the impact of insolvency by varying the initial wealth of each firm.

Keywords: Environmental damages, multiple tortfeasors, liability rule

*Speaker

Risk, Ambiguity and Efficient Liability Rules: Evidence from a Laboratory Experiment

Nicolas Lampach * ¹, Kene Boun My ¹, Sandrine Spaeter ¹

¹ Bureau d'économie théorique et appliquée (BETA) – université de Strasbourg, CNRS : UMR7522,
Université Nancy II – P E G E 61 avenue de la Forêt Noire 67085 STRASBOURG CEDEX, France

This paper reports the results of a laboratory experiment designed to delve the incentive effects of strict liability by comparing both regimes, unlimited and limited liability in the domain of risk and ambiguity. We assume that the potential injurer (firm) whose activities cause a risk of environmental accident can reduce the probability of accident by investing in prevention. Contrary to the first intuition but in line with the theoretical predictions, our experimental results show that underinvestment in prevention under limited liability in the domain of risk is not systematically observed. However we do not find higher investment in prevention in the domain of ambiguity. In contrast with theory, subject's degree of optimism does not affect the decision choice albeit we demonstrate strong evidence in favor of inequity aversion, fairness preferences and degree of confidence

Keywords: Strict Liability, Experiment, Risk, Ambiguity, Optimism

*Speaker

‘Pricebo’ in the field? – Expectation-dependent preferences among cocaine users

Fabrice Le Lec * ¹, Christian Ben Lakhdar

¹ Université Paris 1 Panthéon-Sorbonne – Université Paris 1 Panthéon-Sorbonne, Université Paris 1 -
Panthéon-Sorbonne, Université Paris 1 Panthéon Sorbonne – France

One of the core assumptions of economic theory is that preferences for goods are independent of prices. Research in marketing and more recently in experimental economics and neuroeconomics suggests that prices could affect the hedonic experience of consumers and by extension their preference or subjective valuation of goods. There could be a ‘pricebo’ effect: as for the well-known placebo effect, a higher price could make a product more effective in achieving consumers satisfaction. We test this hypothesis in the field based on a survey among French cocaine users in 2006: For each drug user, the surveyor has to fill in a questionnaire and to purchase a small sample of the product. The questionnaire provides usual information about the users and the circumstances of the trade and consumption, as well as three post-consumption assessments of the quality of the drug. More crucially, it provides the toxicological composition of each drug sample that the surveyor experienced. Using this dataset, we assess the effect of price on satisfaction and quality assessment, controlling for the objective quality of the product (cocaine concentration). We find that the higher the price, the higher the perceived quality and performance. The effect is strongly significant and substantial, but not strictly linear: the marginal effect seems to decrease with the price. The result is robust to numerous controls and sensitivity checks and discuss a number of confound or limitations. We conclude that price impacts positively the hedonic experience of consumers, who may consequently prefer more expensive goods.

Keywords: preferences, pricebo, price, dependence, expectation, dependence, hedonic experience

*Speaker

Getting to the Top: affirmative actions in multi-stage tournaments

Valeria Maggian * ¹, Antonio Nicolò ^{2,3}, Natalia Montinari ⁴

¹ Groupe d'analyse et de théorie économique (GATE Lyon Saint-Étienne) – École Normale Supérieure (ENS) - Lyon, Université Lumière - Lyon II, Université Claude Bernard - Lyon I (UCBL), CNRS : UMR5824, Université Jean Monnet - Saint-Etienne, PRES Université de Lyon – 93, chemin des Mouilles 69130 Écully — 6, rue Basse des Rives 42023 Saint-Étienne cedex 02, France

² The University of Manchester [Manchester] – Oxford Rd, Manchester M13 9PL, United Kingdom

³ University of Padova (ITALY) – Italy

⁴ Lund University [Lund] – Paradisgatan 2 Box 117, SE-221 00 Lund, Sweden

Why are females underrepresented in top job positions? What are the effects of the policies implemented in order to restore equality at the top of the organizations? In this project we aim to study, both theoretically and experimentally, the long run effects of gender quota on women decision to apply for jobs. In particular, we want to investigate males and females decision to compete in a multi-stage environment, resembling a career ladder. Our goal is to evaluate the optimal timing for introducing a gender quota (at an early or late stage of career) and its impact on candidates' choice to compete, performance and beliefs about others' competitive attitude. Our results are relevant for designing policies aimed at increasing the labor force participation of women. Moreover, we will stimulate the debate about long-term effects of affirmative actions, a new and almost unexplored topic.

Keywords: Affirmative action, gender, competition

*Speaker

Choking Meets the Labor Market: Do High-Powered Incentives Harm Performance?

Rosario Macera * ¹

¹ Pontificia Universidad Catolica de Chile (Business School) (Business School UC) – Av. Vicuna Mackenna 4860. Macul. Santiago, Chile., Chile

There exist noteworthy examples of high-powered incentives in the labor market. For instance, among top paid CEOs, yearly cash bonuses can amount up to 90 million dollars, while some pink-collar jobs in sales or real state pay 100

Keywords: High, powered incentives, choking, reference, dependent utility, loss aversion

*Speaker

Disentangling commitment from social coordination in a voting experiment

Antoine Malezieux * ¹

¹ Bureau d'économie théorique et appliquée (BETA) – université de Strasbourg, CNRS : UMR7522, Université Nancy II – P E G E 61 avenue de la Forêt Noire 67085 STRASBOURG CEDEX, France

Endogenous institutional choice (or direct democracy) is one of the efficient tools to overcome freeriding in experimental economics (Tax Evasion Game, Public Good Game, Trust Game, Prisoner's Dilemma...). I.e, when participants have the possibility to vote on one aspect of a social dilemma in which they will play (e.g. voting for a vector of contributions in a PGG), the compliance in the social dilemma is higher. This result is also present in field settings (e.g. direct democracy on the tax submission of Swiss taxpayers). But what triggers this enhanced compliance? The three main reasons put forward in the literature are: first, social coordination, second, commitment and third, other marginal channels (legitimacy, fairness, etc.). To the best of our knowledge, no experiment tries to investigate these causes and to disentangle commitment from social coordination in a voting experiment.

Our evidence comes from a Tax Evasion Game where participants are asked to declare their income in favor of two different organizations. To determine which organization gets the tax payment, two different treatments are implemented: Vote and Choice. The Choice is exactly the same as a Vote, except that it is implemented alone, without any social interaction. The legitimacy, the fairness and the probabilities are held constant. Possible selection effect is also addressed.

Results show that there are no significant differences between the Choice and the Vote conditions. This result tends to invalidate social coordination as the main factor for compliance.

Keywords: commitment, voting, endogenous choice, social psychology, social dilemma, tax evasion game

*Speaker

In-play communication within team

Ludivine Martin *^{1,2}, Julie Rosaz³, Angela Sutan^{3,4,5}

¹ Luxembourg Institute of Socio-Economic Research (LISER) – 11 Porte des Sciences L-4366
Esch-sur-Alzette, Luxembourg

² Centre de Recherche en Economie et Management (CREM) – CNRS : UMR6211, Université de
Rennes 1 – France

³ Laboratoire Montpelliérain d'Économie Théorique et Appliquée (LAMETA) – Centre international de
hautes études agronomiques méditerranéennes [CIHEAM], Institut national de la recherche agronomique
(INRA) : UR1135, CNRS : UMR5474, Université Montpellier I – 34960 Montpellier cedex 2, France

⁴ Burgundy School of Business – Burgundy School of Business – France

⁵ Univ. Bourgogne Franche-Comté – Univ. Bourgogne Franche-Comté – France

Communication helps the horizontal collaborations between co-workers (Crawford, 1998) and is crucial in organizational behaviours (Ford and Ford, 1995; Kotter, 1996). Efficient communication is primordial for the success of team work. The place of communication, and especially of emails is growing in employees' work life and becomes an essential tool in the workplace. On the one hand, it renders communication quick, gives to employees flexibility and control by enabling them to communicate from anywhere at any time and can induce productivity gains. Communication improves cooperation, decreases free-riding and may improve efficiency (Isaac and Walker, 1988; Sutter and Strassmair, 2009; Cason et al., 2012). Nevertheless, on the other hand, communication becomes more and more invasive in work and private life, may have perverse effect such as communication overload, tasks interruption and be stressful for employees (Barley et al., 2011; Jerejian et al., 2013; Kushlev and Dunn, 2015; Reinke and Chamorro-Premuzic, 2014).

In the experimental literature, different means of communications have been tested. Brosig et al. (2013) find that unidirectional communication is ineffective; face to face or video communications are superior to audio-communication. Bochet et al. (2006) show that chat room is only little less efficient than face to face communication. The implementation of team work is done using one of the following four ways (Charness and Kuhn, 2011): (i) identification with individual payoffs, (ii) revenue sharing, (iii) VCM and (iv) weakest link.

The main achieved results about the effect of communication on team performance in the Lab are implemented via (i) pre-play communication and (ii) chosen number experiment.

Our research question in this context is the following: what is the impact of in-play communication on team performance?

Our hypotheses:

H1. Communication and team performance: no clear evidence. Following H'olmstrom (1982) no production whatever the communication is. But since Crawford (1998), we know that cheap talk communication may contain information and help coordination: free-riding decreases and

*Speaker

production increase but not always (Cason et al., 2012).

H2. Regarding in-play communication: No clear evidence. It improves cooperation but interrupts the task.

H3. Confidence, job satisfaction should increase with communication.

To test our hypotheses we design a ‘Between’ experiment with a real effort task (counting the number of ‘1’ in grids of ‘0’ and ‘1’ during a period of 12 minutes) and participants are matched in teams of four players. In the control treatment there is no communication between the four players of each team, and in the communication treatment the four players are free to communicate via a chat room during the whole period of time.

The procedures are the following: Part 1: real effort game 1; Part 2: real effort game 2 (perfect stranger); Part 3: measure of altruism (perfect stranger); Demographic questionnaire.

The data were recently collected in the new LISER-LAB set up in Luxembourg and using the LE2M software developed by the LEEM. The data are currently under analyse.

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Keywords: Communication, Team work, Real effort task

Do (un)Ethical Activities and Choices in Moral Dilemmas Obey the Law of Demand?

David Masclet *¹, David Dickinson

¹ CNRS-CREM – Université de Rennes I – France

In this paper we investigate whether (un)ethical activities or choices in moral dilemmas obey the law of demand. Specifically, we test the price responsiveness of demand in both an (un)ethical activity (i.e., money burning) and a moral dilemma (i.e., the Trolley Problem) choice environment. In the Money Burning game, two players are randomly matched together and one (or both) individual(s) has (have) the opportunity to costly reduce the other's payoff. The Trolley Problem is a hypothetical moral dilemma in which a decision maker is faced with two simple alternatives: (1) Do nothing, and a runaway trolley will kill several people on a main train track. (2) Pull a lever to divert the trolley to a different track, where unfortunately a single person on that side track will die. One key element to the Trolley Problem is that it involves a judgment of whether the utilitarian benefit of saving multiple individuals exceeds the perceived immorality of killing one person by deliberate choice. We test the price responsiveness of the demand in this moral dilemma by not only varying the number of lives saved by choosing to divert the trolley, but we also vary the number of collateral victims on the side track in the decision environment. We also test whether the price responsiveness of the demand in the trolley problem is affected by framing. This is done by comparing two variants of the trolley problem : a standard trolley problem, and a variant in which one must push a lone person onto the track to save five individuals (rather than pull a lever that diverts the trolley). While the Trolley Problem is inherently hypothetical, the Money Burning game allows us to test price responsiveness in an ethical choice environment where consequences are real. In the money burning game we vary the relative cost of reducing the real monetary earnings of others. Our findings indicate that both the money burning and trolley problem decisions obey the law of demand. Specifically, money burning decreases with the relative cost of money burning. In the Trolley Problem, individuals are less likely to sacrifice people when the number of victims increases and/or when the number of people saved decreases. In the Trolley Problem, we found that individuals were less likely to sacrifice the lone person in the second scenario, which is consistent with previous studies (Hauser, 2006). These findings suggest that an individual's death that saves others is more acceptable when the decision maker is one step removed from responsibility (i.e., pulling a lever that then diverts the trolley) compared to when the decision maker is most directly involved in the sacrificed individual's death (by directly pushing him/her). We also observe that males exhibit slightly stronger utilitarian inclinations than women. Finally, our data indicate that the slowest responses were judgements more consistent with utilitarianism.

Keywords: experiments, money burning, (un)ethical games, trolley problem

*Speaker

Overcoming coordination failure in a critical mass game: strategic motives and action disclosure

Aidas Masiliunas * ¹

¹ Groupement de Recherche en Économie Quantitative d'Aix-Marseille (GREQAM) – Université de la Méditerranée - Aix-Marseille II, Université Paul Cézanne - Aix-Marseille III, Ecole des Hautes Études en Sciences Sociales [EHESS], CNRS : UMR7316, Ecole des Hautes Etudes en Sciences Sociales (EHESS) – Centre de la Charité, 2 rue de la Charité, 13236 Marseille cedex 02, France

In situations that can be represented by coordination games with multiple Nash equilibria play may converge to an inefficient equilibrium. For example, an inefficient technology may become a standard or citizens may fail to take political action because they expect others to take no action. We study whether coordination failure in a critical mass game is more often overcome if players can easily disclose information about their actions. In the experiment subjects first choose their action and then choose whether to disclose this action to other group members, and disclosure costs are varied between treatments. We find that no group overcomes coordination failure when action disclosure costs are high, but half of the groups do so when the costs are low. Whether a group overcomes coordination failure depends on the number of group members who initially attempt to coordinate on the efficient outcome and disclose their actions. Simulations that use a belief learning model can predict which groups will overcome coordination failure, but only if it is assumed that players are either farsighted, risk-seeking or pro-social. To distinguish between these explanations, we collected additional data on individual preferences and the degree of farsightedness. We find that players classified as more farsighted are more likely to deviate from an inefficient outcome and disclose this action when the costs are low, while the effect of risk and social preferences is not significant.

Keywords: lock, in, learning, strategic teaching

*Speaker

Linear vs. non linear pricing: how does tariff complexity impact individual perceptions? Evidence from the lab

Anca Mihut ^{*† 1}, Stéphane Robin ², Carine Staropoli ^{3,4}, Valerie Lesgards

¹ Groupe d'analyse et de théorie économique (GATE Lyon Saint-Étienne) – Université Lumière - Lyon II – 93, chemin des Mouilles 69130 Écully — 6, rue Basse des Rives 42023 Saint-Étienne cedex 02, France

² Groupe d'analyse et de théorie économique (GATE Lyon Saint-Étienne) – École Normale Supérieure (ENS) - Lyon, Université Lumière - Lyon II, Université Claude Bernard - Lyon I (UCBL), CNRS : UMR5824, Université Jean Monnet - Saint-Etienne, PRES Université de Lyon – 93, chemin des Mouilles 69130 Écully — 6, rue Basse des Rives 42023 Saint-Étienne cedex 02, France

³ Chaire PPP – Institut d'Administration des Entreprises (IAE) - Paris – France

⁴ Ecole d'Économie de Paris - Paris School of Economics (EEP-PSE) – Ecole d'Économie de Paris – 48 boulevard Jourdan 75014 Paris, France

Consumers are often faced with tariff choices (mobile phone, electricity, train, airplane, gas etc.). It may be very complex to choose among these tariffs, notably because of the so-called cognitive biases that might distort consumers' perception. Typically, what should consumers choose between a simple flat tariff pricing and a more complex but also more advantageous non linear tariff structure? What are the determinants of the consumers choice? Behavioral economics and psychology literature have contributed to the identification and understanding of these cognitive biases. We address these issues through the lenses of behavioral economics, putting into discussion the impact of cognitive biases such as decision framing, risk attitude and focalization effects. We conduct laboratory experiments to gather data and our results confirm such biases. Typically we show that, in the lab, even when the more complex non linear tariff structures are 50% more advantageous, in terms of gain expectancy, consumers constantly stick to the tariff with the most simple structure. Subjects are reluctant to choose pricing instruments containing a fixed cost and increasing block pricing structures.

*Speaker

†Corresponding author: mihut@gate.cnrs.fr

Keywords: Linear and non linear tariffs, Fixed Cost, Consumer Bias, Experimental Economics

Status, Risk, and Catching Up

Pallab Mozumder * ¹

¹ Florida International University (FIU) – Florida International University, Miami, FL, United States

Other-regarding behavior in decision-making under risk remains relatively unexplored in experimental economics. To extend research in this particular direction, we focus on the role of other-regarding concern in making risky decisions which is captured through the effect of status, as defined by the relative distribution of wealth. We design an experiment to test whether individuals' risk preferences changes when their status (relative wealth distribution) varies. In a simple experimental design we study subjects' risk preferences where we vary subjects' status while keeping their absolute wealth unchanged. Findings from the experiment provide evidence that people behave differently in making decisions under risk when they are standing at different points in the relative distribution of wealth. The experimental evidence supports the behavioral argument that status affects willingness to bear risk.

Keywords: Status, Risk Preference, Relative Wealth

*Speaker

Environmental labelling and consumption changes: A food choice experiment

Laurent Muller * ¹, Anne Lacroix , Bernard Ruffieux ²

¹ Laboratoire d'économie Appliquée de Grenoble (GAEL) – Institut national de la recherche agronomique (INRA), Université Pierre Mendès-France - Grenoble II – France

² Laboratoire d'Economie Appliquée de Grenoble (GAEL) – Institut national de la recherche agronomique (INRA) : UMR1215, Université Grenoble Alpes - Grenoble II – UMR GAEL / INRA, Université Grenoble Alpes, 1241 rue des Résidences 38400 - Saint Martin d'Hères, France

Extended abstract:

The objective of this research is to assess how front-of-pack environmental label could change food consumption patterns towards greater sustainability. These changes were apprehended in a laboratory experiment. Participants shopped for food before and after the systematic implementation of one labelling system. The label impact is thus measured through the within-subject distance between the control cart (*before*) and the treatment cart (*after*). Those distances are then compared between formats in order to assess the relative performance of labels.

Context

Food systems contribute 19%–29% of global anthropogenic greenhouse gas (GHG) emissions (Vermeulen et al., 2012). While public interventions have mainly focused on supply, policy makers are now considering the opportunity to influence demand by promoting sustainable consumption. Such intervention is legitimated by the fact that consumers have a low awareness of environmental issues as hedonic considerations, price and, at a lesser extent, nutrition remain the key determinants of food purchase. Nevertheless, consumers are expressing in the opinion polls a strong request for environmental information. Furthermore, intervention on demand is also assumed to stimulate eco-design by forcing food industries to adapt to new consumption pleas. Shift towards sustainability will benefit from such complementary effects on either side of the final market.

Many environmental labels have emerged worldwide. Most of them are based on carbon footprint and stem from private initiatives (Ernst & Young, 2010). As part as the second *Grenelle of Environment*, France has set up an original approach of environmental labelling experiment. The results of this campaign (Errante et Saddier, 2013) reveal that the simplification and the harmonization of European environmental labels are essential to avoid the proliferation of environmental claims that could undermine the credibility of the process. The European Commission has launched another experiment on the display and communication of the environmental footprint of products; it has been extended to food products in 2014 (Barreau et Vielliard, 2014). In addition to these many initiatives, abundant scientific literature is devoted to consumer attitudes towards green issues and specifically with regard to eco-labels. However, few studies focus

*Speaker

solely on environmental labels and the evaluation of the label impact on food purchase remains largely unexplored.

Method

275 participants were asked to shop for food in order to feed their household for two days. They could choose among 282 food items in our 'e-shopping' grocery store that has been specially designed for that experiment. Each product was described with its name, front photography, weight or volume, price (as observed in the local supermarket) and, upon request (*i.e.* with an additional 'click') with its ingredients (calories, salt, free sugars, saturated fatty acids) and its environmental impacts (release of greenhouse gases, eutrophication potential, equivalent sulfur dioxide).

The experiment consisted of two main periods in which a participant elaborated successively two shopping carts: The "reference cart" where only the aforementioned default information were provided and the "labelled cart" where one of the three environmental label were systematically and exhaustively applied to food items. Participants were bound to buy one-fourth of the products they have selected in one of the two carts (carts and products were randomly chosen at the end of the experiment).

Three labeling formats were tested; they differed mainly in their degree of synthesis of information and level of directiveness. The label formats tested were the following:

- a synthetic and non-directive format reporting the CO₂ impact expressed as Km driven by a common motor vehicle ;
- a synthetic directive format (one traffic light which aggregated the three environmental criteria) ;
- a analytic and directive format (three traffic lights, one for each environmental criteria).

Results

Some determinants have been pointed: the presence of minor children in the household and being a man tend to increase the environmental impact; Conversely, being older than 50 years and having a higher degree and/or a higher standard of living tend to reduce it. Whereas the personality traits we have tested like risk and time preference have not affected the environmental impacts of shopping carts, declarative proclivity towards environmental issues had a slight positive influence.

Overall, the food purchasing behavior proved to be virtuous: the average food item picked by our participants is cheaper, healthier and more environmental friendly than the average food item of our food supply.

Environmental labeling further improved those purchasing behaviors: All label formats have had positive impacts on the environment (compared to the control treatment) without negatively affecting the cost or the nutritional quality.

The most effective format is that of traffic lights, with an advantage for analytical formats (a color spot for each of environmental indicator).

Keywords: Food choice experiment, Environmental labeling

Strategic Behavior: A key to Understand How Cheap Talk Works

Laurent Muller *¹, Stéphane Bergeron , Maurice Doyon[†]

¹ Laboratoire d'économie Appliquée de Grenoble (GAEL) – Institut national de la recherche agronomique (INRA), Université Pierre Mendès-France - Grenoble II – France

Cheap talk scripts have received much attention in the stated preference literature, and are viewed as a tool for mitigating hypothetical bias. However, the effects of cheap talk scripts are heterogeneous, and there is no consensus on why this is so. In this study, using an experiment involving a private good not yet available in the market, we demonstrate that understanding the underlying sources of hypothetical bias may be the missing link to identifying the mechanisms through which cheap talk scripts operate. We find that, in the absence of cheap talk, responses are influenced significantly by beliefs that stated valuations can impact the price of the good, whether it will be introduced to the market, or both. In turn, we find that cheap talk largely counteracts these influences, and – as an interesting counterfactual – has no effect for those who do not hold these beliefs.

Keywords: Hypothetical bias, Cheap talk, Stated preference, Beliefs

*Speaker

[†]Corresponding author: maurice.doyon@eac.ulaval.ca

Experimental evidence on bank runs under a partial deposit insurance

Peia Oana * ^{1,2}, Radu Vranceanu ²

¹ Université de Cergy-Pontoise – Université de Cergy Pontoise, Université de Cergy-Pontoise – France
² ESSEC Business School – ESSEC Business School – France

This paper uses a bank run experiment to study the impact of partial deposit insurance schemes on the risk of deposit withdrawals. Depositors in our experiment decide whether to leave their money in a bank or withdraw them, triggering a bank run when too many subjects choose to withdraw. When bank runs occur, the amount of wealth depositors can recover depends on a deposit insurance fund whose size is stochastic. We consider two treatments: (i) a perfect information case when depositors learn the size of the insurance fund and (ii) an imperfect information setting when they only observe noisy signals about the true size of the fund. Our results show that runs occur rather often in both settings, with an increased frequency in the imperfect information condition. A cut-off level of deposit insurance corresponding to the pay-off dominant equilibrium of the game exists, in line with a global game equilibrium selection mechanism.

Keywords: bank runs, coordination games, global games, deposit insurance

*Speaker

When Two Negatives Make an Intertemporal Choice Positive

Ayse Onculer * ¹, Yuanyuan Liu ¹, Timothy Heath ²

¹ ESSEC – ESSEC Business School – France

² University of South Florida – United States

This study examines how ambiguity in future payoffs (payoff ranges) can increase the appeal of future payoffs and thus makes decision makers more patient. Because ambiguity in present payoffs generally reduces payoff appeal (ambiguity aversion), and because delays to payoffs also reduce payoff appeal (intertemporal discounting), adding ambiguity to a delayed/future payoff might be expected to reduce the future payoff's appeal by adding one risk to another: the risk of receiving a smaller payoff within the range being added to the future's risk of not paying off due to mortality, bankruptcy, etc. In contrast, however, we report a preliminary demonstration plus five studies showing that payoff ranges commonly increase the appeal of future payoffs in what we dub a *positive compound risk effect*. Tests of potential underlying processes fail to support future-optimism and range effects, though they do support two others: (1) risk reduction, partially from the range's explicit-but-less-critical risk of receiving a small value within the range overshadowing (distracting from) the future's implicit-but-more-critical risk of receiving nothing, and (2) the excitement and mystery inherent in payoff ranges. Mapping these simultaneous and sometimes countervailing risk and excitement outcomes helps account for positive compound risk effects and why payoff ambiguity reduces present payoff appeal while increasing future payoff appeal.

Keywords: intertemporal choice, ambiguity, decision, making under uncertainty

*Speaker

Persistence of the effects of monetary and non-monetary incentives: an experimental approach

Benjamin Ouvrard * ¹

¹ Bureau d'économie théorique et appliquée (BETA) – université de Strasbourg, CNRS : UMR7522, Université Nancy II – P E G E 61 avenue de la Forêt Noire 67085 STRASBOURG CEDEX, France

Monetary incentives are well-known to be responsible for a crowding-out effect once they are removed. Thus, during the two last decades, there has been a growing interest in the study of non-monetary incentives - the so-called nudges - as an alternative, or a complement, to such monetary incentives. In this paper, a public goods experiment is presented to compare the persistence effects of non-monetary incentives (nudges) and monetary ones (tax). The nudge consists of the announcement of the optimal contribution. In the tax treatment, subjects are taxed on the difference between their contribution and the optimal one. Lastly, a mix tool (tax/nudge) is considered. The first result is that subjects contribute the most under the implementation of the mix tool. Thus, from a public policy perspective, nudges may be considered as a complement rather than as an alternative to monetary incentives. Second, once incentives are removed, subjects under the implementation of the tax contribute less than those under the baseline in the first ten periods. These findings provide evidence for the presence of a crowding-out effect. The last result shows that it is possible to reduce this crowding-out effect through the implementation of the mix tool.

Keywords: incentives, nudge, tax, public goods experiment

*Speaker

The nudge approach as a way to improve web opinion polls quality through an increase in the number of e-mail addresses collected

Matthieu Plonquet * ¹, Etienne Bressoud ²

¹ Centre d'Economie de la Sorbonne – Paris 1 - Panthéon Sorbonne – France

² BVA – BVA – France

Web surveys are an increasingly popular way of interviewing a population. Quality of data collected this way is a major issue. Among other elements, this quality depends of the response rate: the higher it is, the less there is a risk of selection bias. Even if citizens wish to participate in opinion polls, response rates to web opinion polls is lower than other modes. To enhance their quality it becomes important to find new ways to encourage citizen who wants to participate to do so. Relying on the principles of behavioral economics theory and nudges, we tested several ways to encourage participants who want to give their opinion for future web polls to leave their email address at the end of a phone survey. We find that thanking the respondent before making the request does not have a significant effect on the decision to leave one's email address. However, having a formulation that relies on default effect has a strong positive impact on the decision to leave one's email address.

Keywords: Nudge, survey, framing

*Speaker

Antisocial punishment in second-party and third-party cooperation games: Experimental evidence from a small-scale society of Papua New Guinea

Andreas Pendorfer * ¹, Gianluca Grimalda , David Tracer

¹ Kiel Institute for the World Economy – Kiellinie 66 D-24105 Kiel, Germany

Antisocial punishment is widespread in some societies but not in others (Herrmann et al., 2008; Beckmann et al., 2002). The underlying motivations for antisocial punishment are not clear. They may range from spitefulness, rejection of anti-conformist behaviour, or (in repeated interactions) vengeance (for more details see Jensen, 2010). Existing studies in evolutionary theory even show that costly punishment no longer promotes cooperation when anti-social punishment is present (Rand et al., 2010; Rand and Nowak, 2011). In a cross-cultural study using economic experiments, Herrmann et al. (2008) find that the existence of antisocial punishment is correlated with the lack of norms of civic-oriented behaviour. Antisocial punishment may then be widespread in small-scale societies where norms of civic cooperation are weak, and thus, should be considered when investigating the effectiveness of altruistic punishment in maintaining cooperation. Moreover, the interplay between second-party and third-party punishment, and their psychological underpinnings, are still largely unexplored topics. The empirical evidence is limited to virtually one study (Fehr and Fischbacher, 2004).

The present study compares patterns of antisocial punishment between second-party punishment (punish as active party) and third-party punishment (punish as by-standers). In doing so, we implemented a series of anonymous, one-shot, prisoner’s dilemma (PD) games among the Teop, a small-scale society located in Bougainville, Papua New Guinea (PNG). Centralized institutions for the enforcement of legal rules are largely absent in PNG, meaning that social norms almost exclusively regulate social life (Bernhard et al., 2006). In addition, PNG societies more closely resemble the human societies under which our social preferences evolved than the modern, complex societies in which most people at present live (Herich et al., 2010). Therefore it is an ideal environment for studying the mechanisms of second-party punishment and third-party punishment in the context of a collective action problem.

We find that antisocial punishment is endemic in second-party punishment and third-party punishment. Defectors are significantly more punished than cooperators in the second-party punishment treatment, while third-party punishment is clearly selective across the different PD outcomes and directly proportional to the PD-player’s payoff. The experimental design and the use of extensive comprehension checks leaves spite as perhaps a likely candidate to explain antisocial punishment.

*Speaker

Keywords: Antisocial punishment, oneshot prisoner's dilemma, second party punishment, third party punishment, cooperation, small scale society

Memory vs mental picture : Can learning be quantum ? An experimental study

Ismaël Rafai ^{*† 1}, Sébastien Duchêne^{‡ 2}, Eric Guerci ^{2,3}, Ariane Lambert-Mogiliansky ⁴, Fabien Mathy ⁵

¹ Groupe de Recherche en Droit, Economie et Gestion (GREDEG) – CNRS : UMR7321, Université Nice Sophia Antipolis (UNS), Université Nice Sophia Antipolis [UNS] – 250, Rue Albert Einstein 06560 Valbonne, France

² Groupe de Recherche en Droit, Economie, Gestion (GREDEG) – CNRS : UMR7321 – 250 rue Albert Einstein - Batiment 2 06560 Valbonne, France

³ Institut Supérieur d'Économie et Management (ISEM) Université de Nice-Sophia Antipolis – Institut Supérieur d'Économie et Management (ISEM) – France

⁴ Paris School of Economics (PSE) – PARIS SCHOOL OF ECONOMICS – 48 bd Jourdan, France

⁵ Bases, Corpus, Langage (BCL) – CNRS : UMR7320, Université Nice Sophia Antipolis (UNS) – Laboratoire BCL - UMR 6039 Université de Nice - Campus Saint-Jean d'Angely 3 24, avenue des Diables bleus 06357 Nice Cedex 4, France

In this paper, we propose an original experiment to reveal new empirical "anomalies" in the process of acquisition, elaboration and retrieval of information in the context of reading. That is the existence of an asymmetry between the information contained in the memory and the one contained in the mental picture.

We propose a description about a real but unnamed country through three different perspectives (Economic, Demographic and Climatic). We ask a specific question ("in average, does an inhabitant of the described country earn more money than an inhabitant of France") for which individual should combine some economic ("Gross National Income") and demographic ("Population") information they have memorized.

By eliciting the country the subjects was thinking and by controlling for memory, we find that the acquisition of information lead to the formation of a mental picture, which is potentially inconsistent with the information stored in the memory. We show that most individuals answer according to the mental picture instead of a rational combination of their memorized information. In particular, subjects who remembered the information don't have an higher probability of answering correctly to the question whereas those with a rich country mental picture have higher probability of answering correctly.

Furthermore, we provide evidence that individuals with low cognitive abilities (a low score in Cognitive Reflexion Test) exhibit the most frequently such irrational behavior. Our hypothesis is that the theory of quantum-like cognition provides a fruitful interpretative framework to account for these anomalies. The experiment was conducted on computer (z-tree) from December 14th to 18th, 2015, at the Laboratory of Experimental Economics of Nice (LEEN, France) with 320 incentivized subjects.

*Speaker

†Corresponding author: ismael.rafaï@gredeg.cnrs.fr

‡Corresponding author: sebastien.duchene83@gmail.com

Keywords: learning, quantum cognition, memory, mental picture, bounded rationality, cognitive ability

The formation of partnerships in social networks

Stéphane Robin *¹, Francis Bloch , Bhaskar Dutta , Min Zhu

¹ Groupe d'analyse et de théorie économique (GATE Lyon Saint-Étienne) – École Normale Supérieure (ENS) - Lyon, Université Lumière - Lyon II, Université Claude Bernard - Lyon I (UCBL), CNRS : UMR5824, Université Jean Monnet - Saint-Etienne, PRES Université de Lyon – 93, chemin des Mouilles 69130 Écully — 6, rue Basse des Rives 42023 Saint-Étienne cedex 02, France

This paper analyzes the formation of partnerships in social networks. Agents randomly request favors and turn to their neighbors to form a partnership where they commit to provide the favor when requested. If favors are costly, agents have an incentive to delay the formation of the partnership. In that case, we show that for any initial social network, the unique Markov Perfect equilibrium results in the formation of the maximum number of partnerships when players become infinitely patient. If favors provide benefits, agents rush to form partnerships at the cost of disconnecting other agents and the only perfect initial networks for which the maximum number of partnerships are formed are the complete and complete bipartite networks. The theoretical model is tested in the lab. Experimental results show that a large fraction of the subjects (75%) play according to their subgame perfect equilibrium strategy and reveals that the efficient maximum matching is formed over 78% of the times. When subjects deviate from their best responses, they accept to form partnerships too early. The incentive to accept when it is optimal to reject is positively correlated with subjects' risk aversion, and players employ simple heuristics – like the presence of a captive partner – to decide whether they should accept or reject the formation of a partnership.

Keywords: social networks, partnerships, matchings in networks, non, stationary networks, laboratory experiments

*Speaker

Does Rawls' 'Original Position' Induce Fairness? Experimental Findings on Selection Criteria in a Discrete Nash Demand Game Played from Behind the 'Veil of Ignorance'

Sumit Sarkar * ¹, Soumyakanti Chakraborty ¹

¹ XLRI - Xavier School of Management – C. H. Area (East) Jamshedpur - 831001 Jharkhand, India

Rawls (1958) suggested that it is possible to arrive at a fair allocation in a 2-player Nash demand game by granting equal gains to both players. Rawls theorized that players themselves would select this allocation if they bargain from the 'original position'. Harsanyi (1958) suggested the utilitarian solution, wherein rational players playing the Nash demand game from behind the 'veil of ignorance' should maximize the aggregate payoff instead of equalizing the gains vis-à-vis endowment. Harsanyi (1975) shows that the utilitarian solution generates the fairest allocation. In this paper we experimentally examined whether subjects select the utilitarian solution while playing a Nash demand game from behind the 'veil of ignorance'. For the purpose of the experiment we used a Nash demand game with discrete strategies. We found that subjects without any exposure to game theory found it difficult to identify the utilitarian solution. Subjects having exposure to basic game theory could identify the utilitarian solution when it was one of the Nash equilibria of the Nash demand game. However, only a few could identify the utilitarian solution when it was not a Nash equilibrium.

Keywords: Nash demand game, coordination game, 'veil of ignorance', utilitarian solution, egalitarian solution, focal point, equilibrium selection, experimental game theory

*Speaker

Risk, Ambiguity, and Diversification

Santiago Sautua * ¹

¹ Universidad del Rosario, Department of Economics – Colombia

Attitudes toward risk influence the decision to diversify among uncertain options. Yet, because in most situations the options are ambiguous, attitudes toward ambiguity may also play an important role. I conduct a laboratory experiment to investigate the effect of ambiguity on the decision to diversify. I find that diversification is more prevalent and more persistent under ambiguity than under risk. Moreover, excess diversification under ambiguity is driven by participants who stick with a status quo gamble when diversification among gambles is not feasible. This behavioral pattern cannot be accommodated by major theories of choice under ambiguity.

Keywords: risk, ambiguity, inertia, diversification, reference, dependent preferences, indecisiveness, ambiguity aversion

*Speaker

Piece rate vs. team rewards in interdependent tasks: Evidence from a real-effort experiment

Julien Senn * ¹, Lorenz Goette

¹ University of Zurich – Switzerland

How should a company reward its workers in the presence of effort complementarities? We address this question both theoretically and experimentally. We consider a model in which workers can affect each other's payoff. An agent can exert productive effort, which creates revenue for the company, or poaching effort, which allows her to steer part of the revenues towards her. The first best solution is predicted to be attained when the firm contracts upon team performance: the workers' productivity is the highest, and the incentives to exert poaching effort are null. If the firm contracts upon individual performance, the exertion of poaching effort is predicted to undermine productivity. This inefficiency is predicted to increase as the monetary rewards increase. We test our predictions using a novel real-effort task in a two (individual-based vs. team-based incentives) by three (levels of monetary rewards) design. We show that participants' productivity is on average 20 percent higher under team-based incentives than under individual-based incentives, and that the level of poaching effort is the highest under individual-based incentives. We also show that additional behavioral forces are at work: In contradiction to our model, the level of poaching effort prevailing in our treatment with minimal monetary rewards is already large, and does not significantly rise as the monetary rewards increase. We interpret this result as evidence that competitive environments favor poaching effort at the expense of productive effort, independently of the size of the monetary stakes. A possible interpretation of this result is that individual incentives create an excessive focus on one's own actions or payoffs, which tends to trigger unproductive behavior. Finally, we provide evidence of choking under pressure under individual incentives.

Keywords: incentives, productivity, compensation scheme, piece, rate, team reward.

*Speaker

Attention and awareness as a source of preference reversals: a model and eye-tracking experiment

Eli Spiegelman * ¹, Raul Lopez-Perez

¹ Tilburg University [Tilburg] – PO Box 90153, 5000LE Tilburg, Netherlands

Abstract: We present a model of attention-based awareness. States are described by attributes, some subset of which may be forgotten at the moment of choice. A fixed attention budget is allocated to the attributes to reduce the probability of this forgetting. The model predicts (1) people focus on attributes that essentially agree with their vision of the world; (2) people focus on attributes that are unfamiliar; (3) those with a larger attention budget will make fewer mistakes. These predictions are applied to a classical preference reversal experiment. The data from the experiment include eye-tracking information that measures attention directly, allowing us to test the model's predictions. Results support the model.

Keywords: Eye, tracking, attention, preference reversals

*Speaker

Gender effect and psychological traits analysis in a double sequential dictator game

Sylvie Thoron ¹, Eric Guerci *

¹ Laboratoire Interdisciplinaire d'étude du Politique Hanna Arendt (LIPHA Paris-Est) – UPEC – France

Motivation

We propose a series of experiments in order to study the potential effect of a subject's past experience, bad or good, as a recipient, when he has to act as a dictator in a dictator game. To investigate this question, we designed a protocol based on a sequential dictator game in which the recipient in a first dictator game becomes the dictator in a second game. More precisely, the first step game is a double dictator game, in which dictator A decides how to share a fixed amount X in two separate pairs with two different recipients B and C. He decides on a single amount to keep $X - Y$, which applies to each pair. Therefore, his payoff is $2x(X-Y)$ while each recipient B and C receives payoff Y . In a second step, the game is a regular dictator game in which player B becomes a dictator for the C recipient.

We want to investigate whether a first interaction can have an effect on a subject's subsequent decision as a dictator. In our protocol, the first dictator game involves three subjects, one dictator and two recipients. The question is to understand whether, in the second dictator game, the dictator takes into account his previous experience as a recipient when deciding about how to share the amount and if he does, what is the direction in which the decision is influenced. In order to analyze the precise nature of this decision, at the end of each session, we asked the subjects to answer a series of questionnaires to understand whether differences in individual characteristics, psychological traits and gender, could explain differences in generosity and reaction.

Sequential dictator games have already been used in the experimental literature (see Ben-Ner et al. 2004, Diekmann 2004, Herne 2013 among others) to study, in particular, reciprocity. In most of the cases studied in this literature, the recipient of the first stage is the dictator of the second stage. When the second dictator's decision is close to the first dictator's decision, this behavior is interpreted as a consequence of direct reciprocity. However, in some of these experiments on reciprocity, three subjects are involved: the first dictator, the first recipient who becomes a dictator in the second stage and the recipient of the second stage who is a third party who has not been engaged in the first interaction. In that case, the literature speaks about general reciprocity when the dictator of the second stage seems to take a decision close to the first dictator's decision. However, while direct reciprocity is a fairly convincing interpretation of the results obtained when there are only two subjects involved, general reciprocity is more controversial (see Ben-Ner et al. 2004 and Herne 2013).

*Speaker

Design of the experiment

We ran a first series of experiments in October 2014 and January 2016. We organized six sessions that took place simultaneously at the LEEM in Montpellier and the LEEP in Paris, with 36(or 30) subjects participating in each session, 18(or 15) in Montpellier and 18 (or 15) in Paris. We organized this double location in order to increase anonymity among subjects. Subjects were given a type at the beginning of the experiment, A or B. They knew that they would keep this type for the whole duration of the experiment. They were randomly matched in groups of three people, one A and two B. In fact, the program matched each A with two types of subjects who are designated by B and C in what follows. The subjects knew that the group was fixed for the whole duration of the experiment.

First stage

The first stage was a simultaneous double dictator game. Subject A was a dictator and subjects B and C were two recipients. Subject A had to decide how to share 12 with each recipient B and C (two B according to the instructions) but she had to take only one decision. When she decided to keep $(12-Y)$, her payoff was $(24-2Y)$ and each recipient's payoff was Y . Subjects B did not have anything to do but we asked subjects C to forecast the dictator's decision. We did not try to elicit subject B's beliefs because we did not want this answer to interfere with subject B's decision in the second stage.

Second stage

In the second stage, each subject B was now a dictator and player C her recipient. We told them that the role was chosen at random and this is indeed what we did at the beginning of the session. B had to decide how to share 12 with C. When she decided to keep $(12-Y)$, her payoff for this stage was $(12-Y)$ and player C's payoff was Y . Again, we asked subjects C to predict the dictator's decision.

Questionnaires

At the end of each session, we asked the subjects to answer a series of questionnaires. These questionnaires were composed of three psychological tests: the Toronto empathy questionnaire which gives a measure of empathy (Spreng et al. 2009), the BIS/BAS scales which measures affective responses to reward and punishment (Carver and White 1994) and the Dark triad (Jones and Paulhus 2014) which is a personality questionnaire. These three tests are based on the assumption that there exist individual differences in empathy, psychological traits and sensitivities to reward and punishment.

Hypothesis and first results

The dictator's choice in the first double dictator game

First, we have to analyze the dictator A's decision in the first step double dictator game, to understand whether his behavior is different from a regular dictator's behavior. Does the dictator's decision depend on the fact that there are one or two recipients? However, we do not have a treatment in which the first step is a regular dictator game with only one recipient. Nevertheless, we could compare the A dictator's behavior in the first step of our experiment with the stylized facts of dictator games that we can find in the literature. Our first conclusion is that the dictator's behavior in the double dictator game is very close to what can be found in the literature on the regular dictator game. In particular, the average decision is, for the

dictator in the double dictator game, to keep 66% of the amount in each pair against 80% on average in a regular dictator game. Interestingly, this means that the ratio of the dictator's to the recipient's payoffs is almost identical in both games. In order to confirm this result, we plan to run additional sessions based on a new treatment with a regular dictator game.

We also try to detect any relationship between the first dictator's choice and his answers to the series of questionnaires. We found that one psychological trait, Machiavellianism, is highly significant in explaining the first dictator's choice.

The second dictator's choice

Of course, the main objective of the series of experiments is to understand whether B subjects' past experience as a recipient has an influence on his decision as a dictator and to determine the nature of this influence. We want to test the assumption that a past experience as a recipient has or does not have an impact on the B dictator's decision. Strangely enough, a plot of B's decisions on their A dictator's decisions does not show any clear relationship. At first sight, we cannot reject the assumption that a past experience as a recipient has no impact on the B dictator's decision. This means that, at this stage of the analysis, neither reciprocity, mimicry nor any other behavior that takes into account the past experience, is revealed.

However, a first analysis of the answers to the questionnaires shows that a deeper investigation is necessary.

We observe no difference in the distribution of scores, to the different tests, between A and B dictators. Our conclusion is that the results of the psychological tests are robust and do not depend on the subjects' recent past experience. This does not mean that these psychological traits are perfectly stable but just that they do not change radically with the recent past.

Gender effect

We find strong evidence of a gender effect. First, the difference between women and men's scores in the psychological questionnaires is highly significant. In particular, women are more empathetic and men are more narcissistic. Second, B proposals as a function of A proposals is increasing for women and decreasing for men. This result suggests that women, but not men, reciprocate. Indeed, a gender effect appears when men and women's *reactions* measured by the difference between B and A proposals, are compared (cf. Histogram below).

However, and this is also an interesting negative result, there is no clear relation between the gender difference in psychological traits and the gender effect in B proposals in reaction to a proposition.

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Keywords: dictator game, reciprocity, gender effect, psychological traits

Impact of Incentives and Motivation on Attention Allocation, An Experimental Study

Mira Toumi * ¹, Ismaël Rafai ¹

¹ Groupe de Recherche en Droit, Economie et Gestion (GREDEG) – CNRS : UMR7321, Université Nice Sophia Antipolis (UNS), Université Nice Sophia Antipolis [UNS] – 250, Rue Albert Einstein 06560 Valbonne, France

This paper investigates experimentally the effect of incentives and motivation on the allocation of attention for micro-prosocial behaviors. Prosocial behaviors are usually modeled using Public Good Games, where individuals choose how much they want to contribute to a public good. As contributing is costly for them - but socially optimal -, economists explain positive contributions introducing social preferences. In these frameworks, the effects of the contribution is always assumed to be salient : individuals choose according to an optimal tradeoff as if they evaluate (effort) costs and benefits of their contribution.

However, in real world, various micro-prosocial behaviors consume attention rather than "salient effort cost" (e.g. paying attention to turn off the light, to put waste in the right dustbin). Because of consuming itself attention, the attention allocation process does not perfectly fit a traditional optimal cost/benefit trade-off (Lipman, 1991), so we argue that some micro)prosocial behaviors should be studied through the prism of attention allocation. Empirically, it has been observed that extrinsic incentives can harm motivation decreasing the contributions (Ariely et al., 2009). This effect is traditionally explained

by interferences between incentives and motivations (e.g. reputational or self-regarding preferences, Benabou and Tirole 2003), but the effects of incentives and motivation on attention allocation process have not been studied *per se* in economics.

We propose an original experiment able to fill this gap in the literature. In our experiment, subjects face an hundred repeated task which consume attention : they have to choose the dominant color of a box composed of 49 random black or white balls. To study attention allocation process, we measure attention through two dimensions: the "allocated attention" (time allocated in the task) as an input and the "effective attention" (probability to choose the dominant color) as an output. The same level of effective attention can be linked to different levels of allocated attention. According to the treatment, subjects have: (0) no incentive; (1) a self-interest incentive (good choices give money to the player); (2) a prosocial incentive (good choices give money to the other players). 45 minutes are given to participants to complete the task of classifying the balls, but as soon as someone finishes, he has the possibility to navigate freely on internet during the remaining time.

So, subjects can allocate their time between the task and the free-time.

*Speaker

Incentives and motivation can impact on the two dimensions of attention. In the experiment, we measure subject's intrinsic motivation in the task using Intrinsic Motivation Inventory, (Deci and Ryan, 2003), then we estimate the impact of motivation and three different incentives on attention allocation. As incentives can impact motivation, we propose a regression model able to extract the direct and indirect (through motivation) effect of self-interest and prosocial incentives on the attention allocation process. Moreover, we control for risk-aversion (Holt and Laury, 2002) and social preferences (SVO measure, Murphy et al. 2011).

Preliminary results suggest that prosocial and self-interest incentives have nearly the same positive effect on allocated attention if compared to the baseline, (i.e. in both treatments, subjects spend more time to classify items than in the baseline). To what concern effective attention, we find that self-interest incentives have a greater effect than prosocial incentives and the baseline. To confirm these results, and test the interferences between incentives and motivation, the full lab-experiment will be conducted on z-Tree (Fischbacher, 2007), in April, 2016 with around 200 participants.

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Keywords: Limited Attention, Attention allocation, Incentives, Intrinsic motivation

An Experimental Study of a Common Property Renewable Resource Game in Continuous Time

Dina Tasneem ^{*† 1}, Jim Engle-Warnick ², Hassan Benchekroun ²

¹ American University of Sharjah (AUS) – American University of Sharjah University City PO Box 26666 Sharjah, UAE, United Arab Emirates

² McGill University – Canada

Infinite time horizon linear quadratic differential games typically admit a linear Markov-perfect equilibrium as well as a continuum of equilibria with strategies that are nonlinear functions of the state variable. We examine in this paper, using an experimental approach, the empirical relevance of the nonlinear equilibria. Within a two players common property resource game we found that while 19% of participants' play resulted in the steady state consistent with the outcome of the linear Markov-perfect equilibrium, 71.5% of all steady states reached by our subject pairs can be supported by the nonlinear Markovian strategies. Our results indicate that nonlinear equilibria cannot be ruled out as irrelevant on behavioral grounds. We also found evidence for the use of simple rule-of-thumb strategies which consist of refraining from extraction until a threshold stock is reached and extraction at a positive constant rate once the threshold is reached.

Keywords: Differential Games, Experimental Economics, Markovian Strategies, Nonlinear Strategies, Common Property Resources

*Speaker

†Corresponding author: dtasneem@aus.edu

PERSISTENCE OF POWER: REPEATED MULTILATERAL BARGAINING

Chloe Tergiman *¹, Marina Agranov , Christopher Cotton

¹ The Pennsylvania State University, Smeal College of Business (PSU) – 253 Business Building,
University Park, PA 16803, USA, United States

We study a dynamic divide-a-dollar game, in which a committee decides how to allocate scarce resources between its members. Committee members have conflicting interests and bargain repeatedly over an infinite number of rounds. The repeated nature of the game creates links between bargaining decisions across rounds. We focus on institutional rules that govern the transition of the agenda setter's power across rounds, and study, both theoretically and experimentally, how these rules affect bargaining outcomes and the coalition formation process. Consistent with legislative systems of government, we consider two rules that permit persistence of agenda setter power. The first rule allows successful agenda setter to hold onto the power; this rule can be interpreted as the vote of confidence attached to each budget vote. The second rule dictates that keeping power requires an agenda setter to maintain the support of a legislative majority in order to keep power following the passage of a budget allocation. This is implemented using a two-vote process in which the legislature first votes on a proposal and then votes on whether or not to keep the current agenda setter. We implement both rules in a controlled laboratory experiment and compare observed outcomes with the predictions of stationary SPE, the most commonly used refinement in the theoretical literature. Our experimental results show that in contrast to the prediction of the stationary SPE, both rules give rise to stable and persistent coalitions, both in terms of coalition size and shares of coalition partners. Furthermore, other characteristics of observed outcomes (such as coalition sizes in passed proposals as well as shares of agenda setters across treatments) are largely inconsistent with the stationary SPE predictions. To reconcile theoretical and experimental results we explore the set of bargaining outcomes that can be supported as SPE with a threat of exclusion from future coalitions. Overall, our theoretical and experimental results show that the equilibrium concept that is typically used to predict behavior in one-round of bargaining may not be as well suited for repeated bargaining environments. Our results also suggest the importance of exploring rules that govern the transition of power in dynamic bargaining games.

Keywords: repeated multilateral bargaining, laboratory experiment, theory

*Speaker

Social preferences or strategic considerations: Meta-analyses on the ultimatum and dictator games

Jean-Christian Tisserand * ¹, Francois Cochard ², Julie Le Gallo ²

¹ Centre de REcherches sur les Stratégies Economiques (CRESE) – Université de Franche-Comté – IUT
30 Avenue de l’observatoire 25009 Besançon Cedex, France

² CRESE (CRESE) – CRESE – France

The ultimatum and dictator games are undoubtedly among the most studied experimental games. Even though meta-analyses on both games have already been performed separately, meta-analysis statistical power has still not been exploited to establish a comparative study of these two games. In this article, we investigate the relative weights of social preferences and strategic considerations of proposers in the ultimatum game. For that purpose, we perform a total of 3 separate meta-analysis involving 97 observations of simple ultimatum games in 42 articles published between 1983 and 2012 and 150 observations of simple dictator games in 70 articles published between 1986 and 2014. Among the included explanatory variables, the country where the experience is run and being a student in economics have a significant impact on the offered amount in the ultimatum game. In the dictator game, the country where the experiment is run, the double-blind protocol and being a student significantly impact the amount given by the dictator. Our comparative pooled meta-analysis also reveals that subjects from less industrialized countries tend to have a greater proportion of fairness considerations.

Keywords: ultimatum game, dictator game, meta, analysis, social preferences

*Speaker

Voluntary Separation as a Sanctioning Device for Eternal Cooperation? Reconciling Theory and Evidence

Filip Vesely ^{*†} ¹, Vivian Lei ¹, Chun-Lei Yang ²

¹ University of Wisconsin-Milwaukee – United States

² Research Center for Humanity and Social Sciences, Academia Sinica, Taiwan – Taiwan

Abstract: How do partners elicit and achieve long-term cooperation when both parties have the liberty to unilaterally terminate the relationship? In this paper, we first employ a laboratory experiment to investigate how cooperation comes about in a voluntarily separable repeated prisoner's dilemma game (VSRPD). We observe behavioral patterns that are inconsistent with out-for-tat often assumed in the literature (Eeckhout, 2006; Fugiwara-Greve and Okuno-Fugiwara, 2009; Rob and Yang, 2010). In our experiment, most players prefer to stay with their defecting partners and then retaliate in the following period(s). We propose a proposition called *Pro-Partnership Proposition* as well as a new class of equilibria called *CD-Indifferent Equilibrium* to explain how eternal cooperation can be achieved with these behavioral traits observed in the lab. Tests using root-mean-squared deviations suggest that our theory of VSRPD fit the data significantly better than all the strategies discussed in the literature.

Keywords: voluntary separation, repeated prisoner's dilemma, experiment

*Speaker

†Corresponding author: vesely@uwm.edu

Game-theoretical and monetary payoffs in laboratory experiments

Robert Veszteg * ¹, Yukihiro Funaki ¹

¹ Waseda University – Japan

Experimental research in economics relies on performance-dependent monetary incentives to implement game-theoretical games in the laboratory. While the set of players and the set of strategies are unambiguously defined and controlled by the experimenter, game-theoretical payoffs are typically either assumed to coincide with monetary pay-offs, or are estimated ex-post based on observed actions and some sort of hypothesized rational behavior. We follow a different path and discuss results from an experiment on simple 2-person games in which participants were repeatedly asked to report their expectations on the opponent's behavior and their own level of satisfaction for each possible outcome of the game. This approach allows us to reflect on experimental methodology by directly comparing monetary incentives with (perceived and declared) game-theoretical payoffs. We find that although repetition and experience help, they are unable to completely align game-theoretical payoffs with monetary incentives. While most participants seek to maximize money earnings in the experimental laboratory and they tend to perceive the games in the intended way, a small - yet non-negligible - fraction of the subject pool consistently interprets the game and, therefore, acts in an unexpected way.

Keywords: experimental method, induced, valuemethod, prisoners' dilemma, rationality

*Speaker

Competitive selection crowds in non-altruistic trustors

Marc Willinger * ¹

¹ Laboratoire Montpellierain d'Économie Théorique et Appliquée (LAMETA) – Université Montpellier I – 34960 Montpellier cedex 2, France

We rely on the investment game (Berg et al., 1995) to study the impact of competition on trust. Subjects were assigned to groups of 3 players (low competition) or to groups of 5 players (high competition). Each group involved a single trustee, regardless of size. Competition among trustors was induced in the following way: the trustor who made the largest investment was selected to interact with the trustee (competitive selection). Unselected trustors kept their initial endowment. We compare treatments with competitive selection to treatments with random selection of the trustor. Each participant was involved in two treatments: with and without competition. We control for order effects (Introduction versus Removal of competition), for subjects' propensity to take risk and for their altruism in a modified dictator game. A total of 188 subjects participated in the experiment, 136 of which were assigned to the trustor's role. Our main findings are as follows: (1) competitive selection increases slightly the amount invested by the trustor, (2) the increase is mainly due to the non-altruists, (3) the strength of competition does not affect the amount invested, (4) the variation of the amount invested between competitive and random selection is significant only under low competition and is mainly due to the non-altruists and (5) the non-altruists expect higher returns under competition than the altruists.

Keywords: trust, trustworthiness, reciprocity, competition

*Speaker

The empirical content of dominance solvability

Adam Zylbersztein * ¹, Nicolas Jacquemet , Nobuyuki Hanaki , Stephane Luchini

¹ GATE, U. Lyon 2 – GATE, U. Lyon 2 – France

Dominance solvability is one of the fundamental solutions concept. It is based two principles: dominance (according to which players always use their dominant strategy) and iterated dominance (according to which players always act as if others applied the principle of dominance).

We provide a systematic exploration of the empirical content of dominance solvability in a classic two-player game that captures both components of dominance solvability: achieving the Pareto-efficient outcome requires one player to use his dominant action, and the other player to rely on that behavior. Existing experimental evidence questions the empirical accuracy of dominance solvability, suggesting that players' behavior deviates from both dominance and iterated dominance.

In this study, we explain this mismatch between game theory and human behavior. Our experiment enables us to distinguish between three principal behavioral facets of dominance solvability: the use of dominance, the ability to best respond to the use of dominance by others, and the sensitivity to uncertainty about others' behavior. We provide consistent evidence that each of these behaviors is related to cognitive skills.

Keywords: Dominance solvability, cognitive skills, experiment

*Speaker

Endogenous Reference Price Auctions for a Diverse Set of Commodities: An Experimental Analysis

Olivier Armantier * ¹, Charlie Holt

¹ federal reserve bank of New York (NY Fed) – United States

This paper is concerned with multi-object, multi-unit auctions with a budget constrained auctioneer who does not know the value of each object. We propose an allocation mechanism under which the auctioneer i) uses "reference prices" based on value estimates to normalize bids across objects, and ii) reduces value inaccuracies by setting reference prices endogenously using information contained in the bids. We conduct an experiment which confirms that such an endogenous approach increases the auctioneer's profit significantly. These results have important practical implications for many types of auctions, especially in finance.

Keywords: auction design, laboratory experiment, allocation mechanism

*Speaker

Effects of objective and perceived comfort on travel mode choice

Helene Bouscasse * ¹, Patrick Bonnel ²

¹ Transport, Urban Planning and Economics Laboratory (LAET) – École Nationale des Travaux Publics de l'État [ENTPE] – 3 rue Maurice Audin, 69518 Vaulx-en-Velin Cedex, France

² Laboratoire d'économie des transports (LET) – École Nationale des Travaux Publics de l'État [ENTPE], CNRS : UMR5593, Université Lumière - Lyon II – rue Maurice Audin, 69518 Vaulx-en-Velin, France

1- Objectives

Comfort, and more precisely the possibility of working or resting during the trip, is often seen as an asset of rail trips. But this advantage is being challenged in trains where seating availability is not guaranteed. Yet, comfort is solely addressed in the transport economics literature. Moreover, a person's perceptions play an important part in the decisions he takes, including decisions about mobility. Specifically, the travel mode he chooses depends on his perception of different parameters, such as the quality of the service or time spent travelling.

In this choice experiment, we study the effect of objective and perceived comfort on travel mode choice for regional trips. Our experiment focus on regional trips with train, coach and car as available alternatives. Comfort, and more precisely guarantee of a seat, is included in the experiment along with travel time and travel cost. Individual variables include socio-economic variables (e.g. age, travel modes habits...) as well as psychological variables (perceptions and feelings).

2- Choice experiment

We conducted a choice experiment (web and face-to-face) among 1,774 inhabitants of the Rhône-Alpes region, in February and March 2015. Choice experiment data are preferred to revealed preference data due to some characteristics of trains which we include in the choice questions. Indeed, in a real world choice, there may be strong correlations between variables of interest (e.g. time and cost) or variables must be expressed in objective units (e.g. euros for cost) which is difficult for some secondary variables such as seat design.

Each respondent had to choose between three travels modes: train, coach and car. In the experiment, alternatives are described in terms of mode (train, coach and car), cost, time, probability and time delay, frequency, clock-face timetable and comfort. To avoid a cognitive burden, attributes describing the journey are split into three exercises. In exercise 3, on which we focus here, modes vary according to time, cost and comfort.

Respondent also described a reference journey in terms of time, cost, purpose, origin and destination... This reference journey is then used to personalize the choice questions and minimize

*Speaker

the well-known hypothetical bias. Levels of time and cost attributes are pivoted around the values collected for a reference journey. To improve the efficiency of the design, a Bayesian efficient design was implemented.

Perception of comfort in coach and trains is measured in two dimensions with Likert scales items. Perceived time is measured through 7 items (e.g. "I like seeing people and having other people around me. "). Feelings experienced during journeys made by public transport is measured through 8 items (e.g. "I feel comfortable and at ease ".)

3- Results

Data are analyzed using three methods: a structural equation model, a discrete choice model and an integrated choice and latent variables model.

Estimations provide results consistent with the theory: cost and time significantly decrease the probability of choosing a mode. If a seat is guaranteed then the train option is more likely to be chosen. We also find that there is a link between comfort and travel time: the longer the trip, the more important the seating availability. Value of time is around 14 euros per hour if a seat is guaranteed and 12 euros per hour otherwise. Having a seat guaranteed is equivalent to 18 minutes' travel time for short trips (30 minutes) and 25 minutes' travel time for long trips (90 minutes).

Perceptions of comfort in trains or coaches are positively linked to public transport habits, which, in turn, increase the probability of choosing train or coach in the experiment.

The results could have application for publicity and public policies. In terms of publicity, if mode choice is partly dictated by perceptions, then it is vital to work on those dimensions, by, for example, providing a better image of public transport. In terms of public policies, the models tested include variables that express people's feelings while travelling on public transport and the quality of travel time. The significant influence of those variables provides evidence of the importance of infrastructures that make time spent on public transport as pleasant and as efficient as possible.

Keywords: travel mode choice, psychological variables, feelings, comfort, time

Can we learn in the absence of external feedback?

Marine Hainguerlot * ¹, Jean- Christophe Vergnaud ¹, Vincent De Gardelle ¹, Thibault Gajdos ²

¹ Université Paris 1, Panthéon-Sorbonne (UP1) – Pres Hesam, Université Paris I - Panthéon-Sorbonne – 12 place du Panthéon - 75231 Paris Cedex 05, France

² Aix-Marseille Université (AMU) – Ministère de l'Enseignement Supérieur et de la Recherche Scientifique – Aix-Marseille Université Jardin du Pharo 58, bd Charles Livon -13284 Marseille Cedex 07, France

The ability to learn about the value of information in the presence of external feedback has been extensively studied among animals and humans. However, in real life situations, external feedback may be delayed, incomplete or even missing. Little is known about humans' ability to learn in the absence of external feedback. As human beings we are capable of introspection that is to reflect on our own cognitive processes. We hypothesized that individuals may rely on their introspection as a substitute to external feedback. Previous studies have shown that the introspective accuracy, the capacity to discriminate between one's correct and incorrect decisions, varies across individuals. Therefore, we investigated whether the learning ability was related to the introspective ability. To test this hypothesis, we conducted a laboratory experiment. 65 participants performed a simple perceptual task. They had to decide on each trial which of the two circles, left or right, contained more dots and received no feedback. To obtain independent measures of learning and introspection participants came to two distinct sessions. In the introspection session, they had to rate their confidence in their perceptual judgment. In the learning session, we manipulated the presence of three different cues before the presentation of the stimulus. Two cues predicted the left and right circles respectively with 75% probability, and the third cue was non-predictive. Participants were required to infer the association between the cues and the forthcoming stimulus, while performing the task. Results showed that half of the participants were able to accurately learn the value of the three cues in the absence of external feedback. Moreover, introspective accuracy was significantly better among participants who correctly inferred the value of the cues.

Keywords: Introspection, Learning, Feedback

*Speaker

The Impact of Relative Performance Feedback on Confidence Beliefs, Performance and Preferences across Dissimilar Domains

Zahra Murad * ¹, Lingbo Huang ²

¹ University of Surrey – United Kingdom

² Stony Brook University – United States

People typically have to work on multiple dissimilar domains and tasks that require considerably unrelated skill sets. In such environments, private feedback of performance relative to others in one domain is rendered non-instrumental for and uninformative of own performance in other domains. In a lab experiment designed to test whether such relative performance feedback could nevertheless affect beliefs and behavior across two unrelated work tasks. We find that while feedback in the first task causally affects confidence beliefs of relative performance in the second task, it doesn't influence actual performance. Furthermore, feedback affects retrospective preferences for submitting performance to tournament pay and subsequently helps close the pre-existing gender gap in preferences. The closed gender gap however comes at the expense of women who show stronger preferences for tournament pay but actually suffer more losses from their decisions. These results have important implications for understanding the powers and limits of relative performance feedback as intervention policies for affecting economically relevant behavior.

Keywords: Relative Performance Feedback, Confidence, Real Effort Experiment, Gender, Preferences for Tournament Pay

*Speaker

Cheap Talk Evaluations in Contract Design

Quazi Shahriar * ¹

¹ San Diego State University (SDSU) – United States

In this study, we propose the channel of *ex-post* cheap talk evaluations as a potential behavioral force in contract design. Specifically, we experimentally investigate whether a preference for avoiding (seeking) written expression of disapproval (approval) can improve efficiency in a one shot gift-exchange game between a firm and a worker. There are three treatments in our laboratory setting: (1) the firm sends out freeform cheap talk evaluations to the worker after receiving the worker's effort, (2) the firm sends out structured evaluations to the worker, and (3) the firm's evaluation is not allowed. Our key finding is that with freeform evaluations, both the worker's effort choice and the aggregate profits are the highest amongst all three treatments.

Keywords: Evaluation, Contract Design, Gift Exchange

*Speaker

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