AUSTRALIA NEW ZEALAND WORKSHOP IN EXPERIMENTAL ECONOMICS
UNIVERSITY OF AUCKLAND
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Abstracts

Monday, November 26

9:30 – 10:30 Keynote #1: Quentin Atkinson

<u>Parallel Sessions #1; 11:00 AM till 12:00 Noon</u>

Session 1: Markets; Location: Case Room 2

Ratan A. and Brewer P.

Inequality in Extreme Demand and Supply Double Auction markets

We examine "extreme" demand-supply conditions to compare the distributional outcomes with respect to the predictions based on the competitive equilibrium. We fix the number of buyers and vary the number of sellers to create variations in "excess demand" and "excess supply" conditions such that the theoretical predictions for Gini coefficients vary across these markets. We study behavior across treatments such that traders in the benchmark treatment deploy the "zero-intelligence" trading strategy; and buyers deploy "sniping" in another treatment and sellers deploy "sniping" in the third treatment. The outcomes observed in the benchmark treatment are not supportive of the CE predictions regarding prices and levels of inequality. The level of inequality, based on the Gini coefficient, in the other treatments is lower than the CE predictions in either the short run or the long run.

Guillen Alvarez P. and Veszteg R.

Default options in market experiments

We introduce two novel matching mechanisms, Bottom Trading Cycles (BTC) and reverse Deferred Acceptance (r-DA), with the purpose of challenging the idea that strategy proof mechanisms induce high rates of truth telling in economic experiments. BTC and r-DA are identical to TTC and DA respectively in all but in that they have been altered so their dominant strategy is to report preferences in the order opposite to the way they were induced. If participants do not understand the structure of the game they are playing under the BTC and DA they would still report their preferences in the order induced by the experimenter. This and other errors account for the vast majority of play in both BTC and r-DA. Dominant strategy play is then reduced to the minimal expression. As a result, we can conclude that high truth telling rates in TTC and DA in laboratory experiments are not a result of strategy-proofness but just an artefact of the experimental design.

Rud O., Duffy J., Rabanal J.

Pricing Exchange Traded Funds in laboratory markets

We conduct a laboratory experiment to evaluate the effect of exchange traded funds (ETFs) on market behavior. In our environment, players are endowed with some combination of three assets, A, B and C, where the latter is a composite asset. In the baseline treatment the composite asset C, which functions as an ETF, is composed of asset A and B, using equal weights. Each player can be a buyer and/or a seller across three separate and concurrent call markets, where the assets are traded. We study how individual and composite assets are priced, relative to each other, and whether the existence of a composite asset encourages free-riding behavior, thereby affecting the resulting trading volume.

Evdokimov P.

On Myopic Loss Aversion

It has been widely documented in laboratory experiments that subjects act more risk-averse when they make their decisions frequently (e.g., one as opposed to several decisions at a time), a phenomenon dubbed 'myopic loss aversion' by Benartzi and Thaler (1995). The present paper shows that this standard pattern of behavior can be reversed with a simple change in the experimental design. The results cannot be explained by mental accounting or loss aversion but are consistent with the simple hypothesis that behavior is less random when the stakes are higher.

Pan A.

Empirical Tests of Stochastic Betweenness

Empirical evidence indicates that stochastic choice theory is better than deterministic preference in terms of describing the actual process of decision-making between risky prospects. In this paper, two specifications of stochastic theory are compared. Comparison is conducted experimentally by: validating the Common Consequence Independence axiom (Blavatskyy, 2008, Axiom 4) for the strict Fechner representation with the Expected Utility function (ibid.Theorem 1); and validating the the triumvirate of axioms of Ryan (2017, Axiom 6-8) for the strict Fechner representation with the Implicit Expected Utility (IEU) function of Dekel (1986), respectively. We wish to find out whether stochastic Fechner choice models with IEU function is a better alternative to approximate the stochastic pairwise choice behaviour of decision-makers through our experimental results.

Kim J., Cui Y. and Seo Y.

The variation of stability preference in decision-making across gain and loss domain

The Prospect theory value function is characterized by three properties (Kahneman and Tversky 1979; Thaler 1985). First, outcomes are coded separately for gains and losses in comparison to some reference point (typically one's current state of wealth). Second, the response is steeper for losses than it is for gains (i.e., $v(x) < -v(-x)$, $x > 0$), reflecting the principle of "loss aversion", according to which the disutility associated with a loss is greater than the utility associated with a gain of the same magnitude. Third, a property of the value function is that it is S-shaped; concave for gains and convex for losses (i.e., $v''(x) < 0$, $x > 0$; $v''(x) > 0$, $x < 0$). This property reflects the psychophysical principle of diminishing marginal sensitivity.

Based on the Prospect theory, using a famous 'Asian disease problem' context, Tversky and Kahneman (1981) found that people prefer a sure option to a risky option in the gain domain, whereas the reverse is true for the loss domain. In this paper, we argue that the stability of preference for the sure/risky option could be also different for the gain versus loss domains. Specifically, people' preference is more stable in the gain (vs. loss) domains. Six different experimental studies using (i) the Asian disease problem and (ii) gamble choice (e.g., $100 sure gain [loss] vs. 25% of $400 gain [loss]) have confirmed our expectations.

Study 1A (n=203) and 1B (n=206) replicates the results of previous research, whereby participants were found to prefer the sure (vs. risky) option in the gain domain, whereas they preferred the risky (vs. sure) option in the loss domain. Furthermore, participants also indicated less confidence and more difficulty for the loss (vs. gain) domain decision-making.

Study 2A (n=190) and 2B (n=201) tested the preference stability by introducing the status quo option (Samuelson and Zeckhauser, 1988). We found that the status quo effect was stronger only for the loss domain, indicating that people's preferences within the loss domain are less stable. On the other hand, the status quo effect was weaker in the gain domain, indicating that people have a relatively stable preference for the sure and risky options.

Study 3 (n=379) replicated the results of study 2B using a more difficult presentation of the risky option (e.g., 25.32% chance to gain $394.95) in order to exclude the alternative explanation of calculation difficulty effect as an underlying mechanism that was found in the previous studies.

Finally, Study 4 (n=222) used the asymmetrically dominated decoy effect (e.g., Huber, Puto, and Payne, 1982; Park and Kim, 2005) to test stability of the preference across gain and loss domains. The results indicated that the decoy effect was stronger for the loss (vs. gain) domains, suggesting that the preference for the sure and risky options in the loss domains is less stable.

In sum, we augment Tversky and Kahneman (1981)'s traditional comparable view of decision-making across the gains and losses domains, whereby we establish that and these domains can also influence the preference stability.

Parallel Sessions #2: 1:30 PM till 2:30 PM

Session 3: Altruism; Location: Case Room 2

Claessens S., Ayers J., Cronk L. and Aktipis A.

Need-Based Transfer Systems are More Vulnerable to Cheating when Resources are Hidden

In volatile environments, risk is most effectively pooled when individuals transfer resources to those in need without requiring repayment. Such need-based transfer arrangements are bound by two simple rules: Ask for help only when in need and, if you are able, offer help to others who ask. But, as with any social dilemma, there is a temptation for individuals to break these rules for short-term personal profit by feigning either need or an inability to help. Here, we study one factor which may enforce honesty in need-based transfer relationships: the visibility of resources. We used a novel experimental economic game in which individuals managed a resource over time and could request help from other players. In an online experiment, conducted on MTurk via the software oTree, we found that breaking of need-based transfer rules increased when resources were hidden rather than visible. When players were unable to evaluate the resources holdings of others and their own holdings were hidden, they were (1) more likely to request help when not actually in need, and (2) less likely to fulfill the request from others for help, even when they had sufficient resources available to help. These findings suggest that systems of risk pooling through need-based transfers are vulnerable to cheating when resources can be concealed. This presentation will be of particular interest to researchers looking to conduct interactive behavioural economics experiments online.

Bruner J., Grodeck B., Handfield T., Kopec M.

Our future is in your (unreliable) hands: A lab experiment on identity affecting altruistic decision-making

Decisions for the long-term future do not only determine the welfare of future generations, they also affect who will actually exist in the future. Identity-affecting decisions of these sort have proven challenging in population welfare economics as well as in philosophical ethics, because they give rise to tradeoffs between quality of future lives, number of future lives, and which future lives will come into existence. In this paper, we investigate the pro-social behaviour of agents under conditions designed to simulate an identity-affecting choice. Using a dictator game in a laboratory study, we have agents make decisions that affect both the endowment and the identity of future recipients. We find that the majority of agents (74%) in the control group make the generous decision, compared to only 38% of agents in the identity affecting treatment. We also find that this lack of generosity is largely explained by the choices of excuse driven types. These results have implications for policy makers working on issues that affect future generations, such as policies that mitigate climate change.

Knowles S., Fielding D. and Robertson K.

Materialists and altruists in a charitable donation experiment

In this paper we present results from an experiment that draws on insights from economics on different possible motives for generosity and insights from social psychology on different possible personality

types. Firstly, we test whether the effect of an appeal to a pure altruism motive versus an appeal to a self-interest motive varies across subjects. We find that there is substantial variation, and this variation is strongly correlated with a subject's level of materialism. Secondly, we test whether spoken appeals and written appeals have different effects. We find no evidence for such a difference. These results have important implications for the fundraising strategies of charities and for experimental design.

Session 4: Beliefs; Location: Case Room 3

Solda A., Ke C., Page L. and von Hippel W.

Strategically Delusional

Most people are overconfident regarding their own abilities. A growing body of evidence now supports the idea that overconfidence provides interpersonal advantages in strategic relationships because inflated self-beliefs may advantageously influence others in social interactions. In the present study, we investigate the idea that overconfidence emerges as a strategy to gain an advantage in social interactions. We design an experiment where participants complete a general knowledge test and are then incentivized either to form accurate beliefs about their performance, or to convince a group of other participants that they performed well. We also vary the participants' ability to freely gather information about their performance.

Our results are consistent with the idea of strategic confidence. First, participants are more likely to become overconfident when they anticipate that they will benefit from convincing others about the strength of their performance. Second, when offered the possibility to gather information to form a belief about their performance, they bias their search of information in a way conducive to receiving more positive information on their performance. Third, we find that the increase in confidence generated by this motivated reasoning is likely to have a positive effect on their persuasiveness. Our results complement the evidence of previous studies and provides, for the first time altogether, the different empirical links of Von Hippel and Trivers (2011)'s theory. These results point to the fact that agents are not necessarily naively delusional as it is often suggested. Instead, they may often be "strategically delusional", forming unrealistic beliefs which give them an advantage in social interactions.

Mayraz G.

Wishful thinking in asset prices

An experiment tested whether and in what circumstances people are more likely to believe an event simply because it makes them better off. Subjects observed a financial asset's historical price chart, and received both an accuracy bonus for predicting the price at some future point, and an unconditional award that was either increasing or decreasing in this price. Despite incentives for hedging, subjects gaining from high prices made significantly higher predictions than those gaining from low prices. The magnitude of the bias was smaller in charts with less subjective uncertainty, but was independent of the amount paid for accurate predictions.

Shlag, K. and Tremewan, J.

Simple Belief Elicitation

Choosing a method for eliciting beliefs about probabilities involves, amongst other factors, a tradeoff between theoretical nicety and transparency for subjects. We compare empirically the method we consider to have the best theoretical properties, but which requires a high degree of sophistication, with a simple, but less precise method. We find that subjects self-report a lower degree of understanding in the former, and that lack of understanding is associated with choosing a probability of 0.5. A correlation between choosing 0.5 and cognitive ability could create confounds when linking reported beliefs to behaviour. We also trial a novel method for eliciting beliefs about quantiles which has a very simple incentive structure yet performs poorly, suggesting that apparently straightforward incentives are not sufficient for eliciting high quality data about beliefs.

Parallel Sessions #3; 3:00 PM till 4:00 PM

Session 5: Field Experiments; Location: Case Room 2

Feeny, S., Hoffmann, R., Prima, R. AND Satriawan, E.

The Effectiveness of Behavioural Interventions in Discouraging Dishonest Behaviour: A Field Experiment in Indonesia

This paper reports the result of a "lab in the field" experiment in Indonesia to evaluate the effectiveness of behavioural treatments to deter dishonest behaviour. This study is particularly relevant to Indonesian context since at the moment a significant policy reform is underway transforming social protection targeting mechanism in Indonesia from a centralised targeting system into a highly decentralised targeting system.

The new targeting system allows applicants to self-report their assets to claim for benefit. The applicants have strong incentives to under-report their assets belonging since there is no credible way for the government can verify the self-reported information.

In this research project, we developed tasks which allow us to identify the prevalence of dishonesty at the aggregate (group) level and the individual level. We designed a self-reporting task and combining it with the standard "die in a cup" method (Fischbacher and Föllmi-Heusi 2013). In both of these tasks, the participant's main task is to self-report private information to the experimenters. However, in the self-reporting task, the participants are exposed to different text stimuli in the self-reporting forms while in the "die in a cup" task stage; all participants are free from any treatments.

To isolate the impact of different behavioural treatments to dishonest behaviour, we vary the forms used in the self-reporting task. Different participants groups will be exposed to different forms loaded either with moral cues, supervision reminders, or both. Participants assigned to be part of the control group will have the standard form without additional behavioural treatments.

This 2x2 between-subjects design enables us not only to construct robust causal effects of each treatment but also to evaluate the impact of combining treatments (interactions of treatments) that are known to be effective to discourage dishonesty.
In addition to our main task, the participants will also have to complete other laboratory tasks that are used to identify participants risk preferences, personal aptitude tests and other variables that are relevant to explain participants' behaviour. With this information, we expect to unpack further the underlying reasons for effective behavioural interventions in discouraging dishonest behaviour.

In our preliminary results, we report that we have found a significant prevalence of dishonest behaviour, 35 percent of the participants cheated in the self-reporting experiment. 29 percent of participants have also reported the highest outcome in the "die under a cup" task, which is way above the statistical expectation of one die number in such a large number of throws. Our results also indicated that at least there is one behavioural treatment that is effective to discourage dishonest behaviour in self-reporting forms.

Earnhart D.

Field Experiment on General Deterrence

In the regulatory landscape, government agencies commonly take enforcement actions against regulated entities' violations of regulations. This enforcement should induce the targeted entity to improve its subsequent behavior, which reflects specific deterrence. Of course, this same enforcement might induce other entities to improve its subsequent behavior, which reflects general deterrence. Several empirical studies explore enforcement-related general deterrence in the regulatory realm using observational data (e.g., Earnhart, 2004; Earnhart, 2009). However, these studies fail to isolate the channels by which one regulated entity updates its understanding of enforcement pressure based on observing other regulated entities' experiences with enforcement. In particular, these studies utilize only broad measures of others' experiences. Thus, these studies struggle to identify which experiences are observed. As important, these studies are not able to identify who observes others' experience and who

does not. Other empirical studies bypass these concerns by exploring the impact of policy changes that "generally" shape regulated entities' understanding of enforcement pressure (e.g., Stafford, 2002); however, these studies fail to connect others' experiences to an entity's subsequent behavior.

This study conducts a field experiment in order to identify who observes others' experiences and which experiences are observed. Specifically, this study provides information on the extent of enforcement pressure to some regulated entities (treated group) and not to others (control group). The treatment consists of an email message that informs the recipient of recent enforcement activity in the regulatory region, divided into two levels. The "High" treatment informs the recipients of the 95th percentile of the regional penalty distribution based on monetary value, i.e., highest penalties. In contrast, the "Low" treatment informs the recipients of the 5th percentile of the penalty distribution. Based on a priori expectations, high treatment entities will improve their regulatory compliance, yet low treatment entities will reduce their regulatory compliance.

This study explores compliance with the U.S. Clean Water Act (CWA). The sample includes all CWA-regulated manufacturing facilities operating in the Environmental Protection Agency (EPA) Region 9 (U.S. states of California, Nevada, and Arizona). To remain in the sample, the facility must operate between January 2017 and March 2019 and the EPA must record the facility's discharges in its Integrated Compliance Information System (ICIS) database during this period. The study imposes these criteria to increase the likelihood that a facility's discharges will be recorded after the field experiment starts in April 2019. The study further restricts the sample to facilities that directly discharge into surface waterbodies because indirect dischargers' rules are enforced by the municipal wastewater treatment districts into which these facilities discharge. The final sample includes 817 facilities.

The sample period runs January 2017 to December 2020, with April 2019 starting the treatment period. By observing facilities before and during the experiment, the study is able to employ a difference-in-difference framework for estimating the facilities' responses to the experiment. As the dependent variable, the study uses the ratio of permitted discharges, as expressed in each facility's effluent limits, and actual discharges (Earnhart, 2004; Earnhart, 2009).

Cavatorta E., Daoud Y. and Zizzo, D.

Does exposure to violence affect reciprocity? Experimental evidence from the West Bank.

Violent conflict is often a dynamic situation where the onset of conflict depends crucially on the response to the first attack. If the tendency of a victim of violence is to respond to aggression with aggression, it is possible that conflict begets more conflict. The extent to which people affected by violence reciprocate other people's actions is a matter of great interest for peace and conflict resolution, but underappreciated. The strength of reciprocity in the domains both of cooperation and aggression is also important for the development of social capital.

This paper is concerned with how reciprocity in the domain of cooperation and in the domain of aggression is affected by exposure to violence in early age. Using an experimental methodology and lab-in-the-field experiments, we study how conditional cooperation (positive reciprocity) and vindictive behavior (negative reciprocity) in adolescents vary as a result of exposure to violence. We focus on Palestinian high school students in the West Bank region of the Palestinian Territories.

To measure reciprocity in the domain of cooperation, we implement a public good game eliciting unconditional and conditional contributions (Fischbacher et al, 2001). To elicit negative reciprocity, we implement a decision task in which retaliatory behavior can, but need not, occur. This is a simplified form of the vendetta game developed by Bolle et al. (2014).

One challenge in the analysis of the effect of violence on reciprocity is that violence may be more likely to occur in places where people are less cooperative and more aggressive already. To solve this issue, we use as a proxy for exposure to violence being required to cross an Israeli checkpoint near settlements pre-dating the first episode of widespread violence against Palestinians (the First Intifada). We find this being an effective proxy for exposure to both physical and verbal violence, and this strategy allows us to measure exogenous variation in the exposure to violence.

Our sample includes 1,000 students in 20 paired schools, plus pilot data from additional 172 students in 7 schools. While there is no robust impact of exposure to violence on unconditional cooperation or aggression, we find that exposure to violence leads to greater reciprocity, both in the domain of cooperation and in that of aggression. Being more sensitive in reciprocal interactions can bring about positive as well as negative feedback loops in social interactions.

The result of greater reciprocity with students exposed to violence is robust to a number of checks: for example, it is not driven by migration into sites nor by household income. We also look at mechanisms through which this effect may operate, e.g. beliefs about other participants' behavior.

Session 6: Gender; Location; Case Room 3

Chaudhuri, A., Li S. and Sbai, E.

(Un)Willingness to lead? Men, Women and the Leadership Gap

We rely on the Corporate Turn-around Game (Brandts and Cooper, 2006) to explore: (1) if there are systematic gender differences in the willingness to lead and (2) whether followers are equally likely to follow messages from male/female leaders. Participants play for 20 rounds; 10 rounds without a leader and a further 10 rounds after a leader is chosen. We ran two experiments. In experiment 1, leaders get a higher payoff if the group coordinates to higher effort levels whereas leaders get the same payoff as followers in experiment 2. Compared to men, fewer women volunteer to lead. When messages are identical, both male and female-led groups achieve similar coordination success. However, with free-form messages, female-led groups experience significantly more coordination failure resulting in lower average earnings and average effort levels. Such findings have implications for the fact that one finds fewer women higher up in organizational hierarchies.

Bandyopadhyay, A., Gangadharan, L., Grossman, P., Sutherland, C. and Welsh M.

Employer Bias and Affirmative Action

Selection of candidates for recruitment should ideally be based on individual-specific abilities such as work relevant performance and experience. However, in reality, personal characteristics of candidates such as gender, race, and ethnicity also become important factors in deciding whether a candidate is hired or not, ultimately leading to employer bias in the labour market.

In this paper, we examine if male and female candidates are evaluated differently when they are considered for positions in organisations. We design a laboratory experiment that models real-life recruitment procedures with gender and noisy productivity as signals. All participants observe a few irrelevant characteristics and relevant performance measures of others in the session. They rank others in their session with respect to their desire to have them in their teams. Participants compete in teams of four and winning and losing has financial implications for both the team and the team leaders. We use this setting to examine the effectiveness of introducing affirmative action policies to improve gender diversity in workplaces.

Our baseline treatment has no policy instrument (Baseline) and leaders are unrestricted in whom they may select for their teams. For our second treatment (Recommendation Only), subjects receive the recommendation to include at least two women (40%) in the five highest ranked players they choose, with no consequences for non-compliance. In the third treatment (Recommendation and Non-Monetary Penalty), subjects are informed that leaders who do not comply will be shamed; non-compliant leader(s) will be required to step forward and stand in front of all the subjects in the lab. In our last treatment (Recommendation and Monetary Penalty) if a leader's rankings do not comply with the 40% recommendation, the leader is penalised 10 percent of their earnings from the ranking and group activity. We hypothesise that: i) in the presence of non-binding affirmative action policies, both male and female team leaders may bias their rankings against female candidates, especially in the top five ranks, ii) in the presence of binding affirmative action policies, the ranking of female candidates is likely to improve, and iii) affirmative action policies will not affect the productivity of teams.

The results show that while both male and female team leaders are biased against female candidates and assign lower ranks to female candidates when there is no policy instrument, female team leaders

rectify their gender bias in the presence of a monetary penalty by giving higher ranks to female candidates. However, male leaders continue to rank female candidates lower. In terms of the second measure, both the binding affirmative action policies help increase the representation of female candidates in top five positions, irrespective of the gender of the team leader. Taken together, our findings suggest that the presence of a monetary policy is effective in improving evaluation of female candidates and their representation in top positions. Team performance remains unaffected by any kind of policy, suggesting that affirmative action policies may not have an adverse effect on the productivity of teams.

Maitra P., Gangadharan, L., Jain, T.

Judging Actions: Social Norms, Gender and Third Party Responses

Social norms are often maintained in societies by disproportionately punishing women for their infractions through social exclusion, restrictions on mobility and violence. For example, a woman may be punished by her family or community for violating a social norm that bars pre-marital relationships, by restricting her mobility. In more extreme situations, such punishments might include socially sanctioned violence against women such as honor killings. Uncovering the behavioral roots of third-party punishment against women is a key step in designing successful policies to counter gender-based social violence.

Our paper investigates the patterns of third-party rewards and punishments and examines benefits to and sanctions against men and women for deviating from socially accepted norms. We use lab-in-the field experiments conducted in India with costly rewards and punishment by third party "judges" to examine (1) the willingness of men and women to conduct social infractions; (2) whether male and female judges differentially punish or reward the social infractions of men and women; (3) whether social structure, as represented by matrilineal and patriarchal societies, changes the perception of social norms and the extent of rewards or punishments. Our preliminary results suggest that while there are no gender differences in the response of male and female judges in a patriarchal society, in a matrilineal society, men are significantly more likely to reward or punish men who deviate from the norm of fairness.

4:15 PM – 5:15 PM Keynote #2: Agnieszka Tymula

Neuroeconomics and decision-making – where science and economics meet

For years, while building their mathematical predictive models of choice, economists treated the brain as a "black box". The economic models of choice were thus mathematically very elegant; but have been shown to systematically fail under numerous circumstances. Neuroeconomists now understand the basic architecture of the brain and how it actually makes choices. I will discuss the findings from neuroeconomics that allow us to begin to open the black box and build realistic models of choice.