Workshop on Economic Theory 2017

Université de Lausanne – May 19, 2017

All talks take place in building Internef, room 149: 45 minutes for each talk, 15 minutes for discussions.

9.15 am – 10.15 am	Patrick Harless, University of Glasgow, Glasgow, Scotland
	"Efficient rules for probabilistic assignment"
10.15 am – 10.30 am	Coffee break
10.30 am - 11.30 am	Flip Klijn, IAE-CSIC, Barcelona, Spain
	"Circulation under responsive preferences" (joint with Szilvia Pápai and Péter Biró)
11.30 am – 12.30 pm	Madhav Raghavan, University of Lausanne, Lausanne, Switzerland
	"Efficient pairwise assignment via partner trading"
12.30 pm - 2 pm	Lunch
2 pm – 2.30 pm	William Thomson (Rochester)
	"On Claims Problems"
2.30 pm – 3.30 pm	Nejat Anbarci, Deakin University, Melbourne, Australia
	"Attraction effect heuristics"
3.30 pm – 4 pm	Coffee break
4 pm – 5 pm	Vikram Manjunath, Texas A&M, College Station, USA
	"Strategy-proof Pareto-improvement" (joint work with Samson Alva)
5 pm	End of Workshop

Abstracts

Nejat Anbarci, Attraction effect heuristics: The Attraction Effect refers to an inferior option *a*'s ability to increase the attractiveness of another alternative *b* after *a* is added to a choice set, such that a is exclusively dominated by b in the choice set. We consider three decision-making heuristics of which procedures incorporate the AE at different degrees. In the "Reference Independent Deterministic Choice" ("RIDC")'s procedure, the decision maker simply selects the alternative with the largest lower contour set (LCS). In the "Exogenous Reference-dependent Random Choice" ("Exogenous-RDRC")'s procedure, the decision maker draws a reference alternative, x, among dominated alternatives randomly and only considers alternatives that Pareto-dominate x, i.e., dominate x in all attributes.

Then the decision maker randomly selects with equal probabilities one of the Pareto alternatives that Pareto-dominate x as her choice outcome. In the "Endogenous Reference-dependent Random Choice" ("Endogenous-RDRC")'s procedure, the decision maker selects any dominated alternative a as the reference alternative with a probability proportional to the number of Pareto alternatives in the upper contour set (UCS) of a, and then randomly selects with equal probabilities one of the Pareto alternatives that Pareto-dominate a as her choice. These heuristics' outcomes differ from each other in terms of the extent that they incorporate the Attraction Effect: RIDC incorporates it most strongly and the Exogenous-RDRC incorporates it the least. In addition, we provide axiomatic characterizations of the outcome sets of these heuristics to help uncover their most salient properties. We are also able to link the outcome sets of RIDC and Endogenous-RDRC to the Nash product as more alternatives are selected uniformly from a convex and compact set.

Patrick Harless, Efficient rules for probabilistic assignment: We propose an algorithm to construct sd-efficient rules for probabilistic assignment. Our algorithm proceeds in discrete rounds and distributes probability shares of objects sequentially. This allows two natural degrees of freedom: selection rules governing the choice of objects in each round and distribution rules governing the distribution of probability shares. The transparent procedure tightly connects properties of the rule to these choices making it ideally suited for practical applications. In addition to illustrating the technique, we prove that the algorithm identifies the full set of sd-efficient allocations. Furthermore, we obtain a surprising and ``decentralized'' representation of the serial rule.

Flip Klijn, Circulation under responsive preferences: We study markets in which each agent is endowed with multiple units of an indivisible and agent-specific good. Monetary compensations are not possible. An outcome of a market is given by a circulation which consists of a balanced exchange of goods. Agents only have (responsive) preferences over the bundles they receive. We prove that for general capacity configurations there is no circulation rule that satisfies individual rationality, Pareto-efficiency, and strategy-proofness. We characterize the capacity configurations for which the three properties are compatible, and show that in this case the Circulation Top Trading Cycle (cTTC) rule is the unique rule that satisfies all three properties. We explore the incentive and efficiency properties of the cTTC rule for general capacity configurations and provide a characterization of the rule for lexicographic preferences. Next, we introduce and study two families of individually rational serial rules in which agents sequentially choose single goods or bundles. We show that in the first (second) case the rules are Pareto-efficient for lexicographic (responsive) preferences. Finally, we consider the family of Segmented Trading Cycle (STC) rules where agents are required to exchange their goods in market segments. We show that STC rules are strategy-proof.

Vikram Manjunath, Strategy-proof Pareto-improvement: We consider a general framework, where each agent has an outside option of privately known value, that encompasses object allocation, matching with contracts, provision of excludable public goods, and more. First, we show that if a strategy-proof mechanism is required to (weakly) Pareto-improve an individually rational and participation-maximal benchmark mechanism, there is at most one choice. A consequence is that many known mechanisms, especially in market design applications, are on the Pareto frontier of strategy-proof mechanisms. Second, we characterize the Pareto-improvement relation over strategy-proof and individually rational mechanisms: one of these mechanisms Pareto-improves another if and only if it weakly expands the set of participants at each profile of preferences. Third, for settings with transfers, we obtain a characterization of the pivotal mechanism and a revenue equivalence theorem.

Madhav Raghavan, Efficient pairwise allocation via partner trading: We consider situations where heterogeneous objects are to be allocated based on preferences. We impose the additional restriction that each object must be assigned pairwise, i.e., to exactly two agents, or not at all. We show how this seemingly small modification significantly changes the nature of efficient rules. In particular, the standard rules in the literature are no longer characterised by the same axioms in this framework. We propose a new rule, which we call the partner trading (PT) rule, and show that it characterises the set of rules satisfying strategy-proofness, limited influence, unanimity and neutrality. The PT is also group-strategy-proof and Pareto efficient, and includes special cases that are new and interesting in their own right.

William Thomson, New properties of rules for the adjudication of conflicting claims: the subject and this talk is likely to be a random collection of observations, conjectures, and open questions.