

Jacob Coreno

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PhD Student, The University of Melbourne

Education

- 2019–Present **PhD in Economics**, *The University of Melbourne*
Advisory committee: Ivan Balbuzanov, Alex Nichifor, Steven Williams
- 2017–2018 **Master of Economics**, *The University of Melbourne*
- 2013–2016 **Bachelor of Commerce (Honours)**, *Deakin University*, Melbourne

Academic Visits

- 2023 **Program Associate**, *Simons Laufer Mathematical Sciences Institute (SLMath)*, Berkeley
Algorithms, Fairness, and Equity Program
- 2018 **Visiting Student**, *Bocconi University*, Milan

Working Papers

Axiomatic Characterizations of Draft Rules (with [Ivan Balbuzanov](#))
[arXiv:2204.08300](#)

Revision requested at the Journal of Economic Theory

Abstract: Drafts are sequential allocation procedures for distributing heterogeneous and indivisible objects among agents subject to some priority order (e.g., allocating players' contract rights to teams in professional sports leagues). Agents report ordinal preferences over objects and bundles are partially ordered by pairwise comparison. We provide a simple characterization of draft rules: they are the only allocation rules which are respectful of a priority (RP), envy-free up to one object (EF1), non-wasteful (NW) and resource monotonic (RM). RP and EF1 are crucial for competitive balance in sports leagues. We also prove three related impossibility theorems showing that the competitive-balance axioms RP and EF1 are generally incompatible with strategy-proofness. However, draft rules satisfy maxmin strategy-proofness. If agents may declare some objects unacceptable, then draft rules are characterized by RP, EF1, NW, and RM, in conjunction with individual rationality and truncation invariance. In a model with variable populations, draft rules are characterized by EF1, EFF, and RM, together with (population) consistency, top-object consistency, and neutrality.

Some Characterizations of TTC in Multiple-Object Reallocation Problems (with [Di Feng](#))

[arXiv:2404.04822](#)

An extended abstract appeared in the proceedings of the 7th International Workshop on Matching Under Preferences (MATCH-UP 2024)

Abstract: This paper considers exchange of indivisible objects when agents are endowed with and can consume any bundles. We focus on efficient allocation rules that satisfy a novel participation requirement, the weak endowment lower bound, and which defend against simple manipulation heuristics: drop strategies and truncation strategies. Based on these properties, we obtain characterizations of a generalized version of Top Trading Cycles (TTC) on several domains. On the lexicographic and conditionally lexicographic domains, TTC is characterized by Pareto efficiency, balancedness, the weak endowment lower bound, and truncation proofness (or drop strategy-proofness). On the domain of responsive preferences, similar characterizations are obtained by restricting attention to rules that are “individual-good-based” and weakening Pareto efficiency to individual-good efficiency. For the Shapley-Scarf model, TTC is characterized by Pareto efficiency, individual rationality, and truncation-proofness. The lexicographic and conditionally lexicographic domains are maximal domains on which Pareto efficiency coincides with individual-good efficiency.

Justified Fairness in House Allocation Problems: Two Characterizations of Strategy-proof Mechanisms (with [Di Feng](#))

[arXiv:2407.14101](#)

Abstract: We consider the house allocation problems with strict preferences, where monetary transfers are not allowed. We propose two properties in the spirit of justified fairness. Interestingly, together with other well-studied properties (strategy-proofness and non-bossiness), our two new properties identify serial dictatorships and sequential dictatorships, respectively.

Characterizing TTC via Endowments-swapping-proofness and Truncation-proofness (with [Di Feng](#))

Abstract: In the object reallocation problem introduced by [Shapley and Scarf \(1974\)](#), [Fujinaka and Wakayama \(2018\)](#) showed that Top Trading Cycles (TTC) is the unique rule satisfying *individual rationality*, *strategy-proofness*, and *endowments-swapping-proofness*. We show that the uniqueness remains true if *strategy-proofness* is weakened to *truncation-proofness*.

Scholarships and Awards

The University of Melbourne

- 2024 FBE Graduate Research Enhancement Grant
- 2023 FBE Graduate Research Abroad Travelling Scholarship
- 2023 M. A. Bartlett Research Scholarship
- 2018 Melbourne Global Scholars Award

Deakin University

- 2016 Vice Chancellor’s Medal for Recognizing Excellence

- 2016 Vice Chancellor's Prize
- 2016 Australian Bureau of Statistics Prize
- 2015 Alfred Deakin Medal
- 2015 Deakin Business School Prize

Academic Employment

Teaching

- 2017–2024 **Tutor (Teaching Assistant)**, *The University of Melbourne*
 - Advanced Microeconomics (ECON40001)
 - Competition and Strategy (ECON20005)
 - Intermediate Microeconomics (ECON3001)
 - Managerial Economics (ECON90015)
 - Microeconomics (ECON30010)
- 2016–2017 **Tutor (Teaching Assistant)**, *Deakin University*, Melbourne
 - Economics Principles (MAE101)
 - Fundamentals of Finance (MAF101)

Research

- 2020–Present **Research Assistant**, *The University of Melbourne*
 - Ivan Balbuzanov: “Constrained Random Matching”
 - Georgy Artemov: “Matching by Characteristics”

Professional Activities

Academic Presentations (including scheduled talks)

- 2024 Econometric Society Australasia Meeting (Monash, Australia)
- 2024 Deakin Business School Economics Seminar Series (Deakin, Australia)
- 2024 HEC Lausanne Microeconomics Seminar (Lausanne, Switzerland)
- 2024 MATCH-UP (Oxford, UK)
- 2023 Simons Laufer Mathematical Sciences Institute (Berkeley, USA)
- 2022 Society for the Advancement of Economic Theory (ANU, Australia)

Reviewer

Games and Economic Behavior