

# 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.

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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:** We consider reallocation of indivisible objects when agents are endowed with and can consume any bundles. We obtain characterizations of generalized versions of the Top Trading Cycles (TTC) rule on several preference domains. On the lexicographic domain, the TTC rule is uniquely determined by balancedness, Pareto efficiency, the worst endowment lower bound, and either truncation-proofness or drop strategy-proofness. On the more general responsive domain, the TTC rule is the unique individual-good-based rule that satisfies balancedness, individual-good efficiency, truncation-proofness, and either individual rationality or the worst endowment lower bound. On the conditionally lexicographic domain, the augmented TTC rule is characterized by balancedness, Pareto efficiency, the worst endowment lower bound, and drop strategy-proofness. The conditionally lexicographic domain is a maximal domain on which Pareto efficiency coincides with individual-good efficiency. For the housing market introduced by Shapley and Scarf (1974), the TTC rule is characterized by Pareto efficiency, individual rationality, and truncation-proofness.

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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.

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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*.

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## 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

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## 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”

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## Professional Activities

### Academic Presentations (including scheduled talks)

- 2024 Econometric Society Australasia Meeting (Monash, Australia)
- 2024 Economic Theory Festival (UNSW, 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

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## References

[Ivan Balbuzanov](#), U. Melbourne, [ivan.balbuzanov@unimelb.edu.au](mailto:ivan.balbuzanov@unimelb.edu.au)  
[Alexandru Nichifor](#), U. Melbourne, [alex.nichifor@unimelb.edu.au](mailto:alex.nichifor@unimelb.edu.au)  
[Georgy Artemov](#), U. Melbourne, [georgy.artemov@unimelb.edu.au](mailto:georgy.artemov@unimelb.edu.au)