MAREK BOJKO

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EDUCATION

MPhil Economic Research, Cambridge University, UK　　　　　　　*09/2020 - 07/2021*
- · Distinction; Rank: 2 of 31; Fitzwilliam College Charlton Scholar
- · Thesis: Congestion in Two-Sided Matching Markets with Interviews (Distinction)

BSc (Hons) Mathematics and Economics, Glasgow University, UK　　　　*09/2016 - 06/2020*
- · First Class Honours; GPA: 21.5/22, Mathematics GPA: 21.8/22
- · Dissertation: Assignment Mechanisms with Minimum Quotas (rank: 1 of 109)

HONORS AND AWARDS

Stevenson Prize, Cambridge University, most distinguished students in MPhil programs in economics　*2021*
Graduate Tutors' Prize, Fitzwilliam College, Cambridge University　*2021*
Fitzwilliam College Charlton Scholarship, Cambridge University, tuition scholarship　*2021*
Dougall Prize, Glasgow University, best performance in Senior Honours Mathematics (shared)　*2020*
Adam Smith Award, Glasgow University, best performance in Honours Economics　*2020*
Dougall Prize, Glasgow University, best performance in Junior Honours Mathematics (shared)　*2019*
London Mathematical Society Undergraduate Research Bursary　*2019*
Beta Gamma Sigma　*2019*
M. Muir Prize, Glasgow University, awarded bi-annually to the most distinguished student in Mathematics　*2018*
Dougall Prize, Glasgow University, best performance in pre-Honours Mathematics (shared)　*2018*
Lanfine Bursary, Glasgow University, best performance in pre-Honours Economics　*2018*

RESEARCH AND POLICY EXPERIENCE

Research Professional, The University of Chicago Booth School of Business　　*08/2021 - Present*
- · Full-time RA to Professors Milena Almagro and Thomas Wollmann
- · Created a novel dataset of product ownership, M&A, and patenting in the medical device industry
- · Found a significant decrease in productivity for inventors moving with a merger using an event study framework
- · Estimated and simulated a dynamic model of residential choice; developed a novel nested fixed-point algorithm to solve for equilibria achieving an order-of-magnitude run-time reduction compared to established methods

Research Intern, National Bank of Slovakia　　　　　　　　*06/2020 - 08/2020*
- · Studied how media communication of the European Central Bank's key decision-makers impacts financial markets
- · Mined 30,000+ news articles and created a novel dataset of central bank communication using NLP

Research Assistant to Dr Anca Balietti, Heidelberg University　　　*06/2019 - 07/2020*
- · Studied the unintended deforestation consequences of India's Environmental Clearance Process Reform
- · Matched mines to the geographic location of the closest villages and performed space-time clustering analysis
- · Analyzed vectorized climatic and deforestation data, matched them to the desired resolution for analysis

Undergraduate Researcher in Applied Mathematics, Glasgow University　　*06/2019 - 08/2019*
- · Studied cooperation, competition, and information-sharing in evolutionary games
- · Set up an agent-based model of pairwise interaction between agents using a dynamic stochastic environment and an adaptive network for information sharing; analyzed the evolution of cooperation and clustering

Research Assistant to Dr Souvik Datta, Glasgow University　　　　*12/2018 - 04/2019*
- · Assisted on a project exploring the impact of household air pollution on child health in India
- · Collected data from the India Human Development Survey (IHDS) and National Family and Health Survey (NFHS), cross-matched data sources and conducted econometric analysis

Summer Analyst, The Ministry of Finance of the Slovak Republic　　　*06/2018 - 09/2018*
- · Modeled interventions to improve the efficiency of healthcare provision for marginalized Roma communities
- · Research published in a policy brief co-authored with representatives of the Ministry and the OECD

Reducing Interview Congestion in Two-Sided Matching Markets Using Preference Signaling (2022)

Abstract: The annual process of matching doctors to residency positions in the United States is preceded by costly information acquisition in the form of interviews. Interview allocation is determined in a decentralized equilibrium and often suffers from congestion. We model a tractable multi-stage game between hospitals and doctors highlighting this issue. Upon receiving applications, hospitals simultaneously extend interview offers with incomplete information about others' and their own preferences, subject to a capacity constraint on their number of interviews. To reduce congestion, we consider a mechanism where each doctor can signal interest to one hospital. Whenever hospitals respond to signals in equilibrium, the signaling mechanism increases ex-ante doctor welfare and the expected number of matches. The impact on hospital welfare, however, is ambiguous. The success of the mechanism depends on pre-interview uncertainty about the final match utilities. Hospitals are more likely to respond to signals when (i) doctors are ex-ante more similar, and (ii) the pre-interview probability a hospital finds a doctor unacceptable is low.

The Probabilistic Serial and Random Priority Mechanisms with Minimum Quotas (2020)

Abstract: Consider the problem of assigning indivisible objects to agents with strict ordinal preferences over objects, where each agent is interested in consuming at most one object, and objects have integer minimum and maximum quotas. We define an assignment to be feasible if it satisfies all quotas and assume such an assignment always exists. The Probabilistic Serial (PS) and Random Priority (RP) mechanisms are generalised based on the same intuitive idea: Allow agents to consume their most preferred available object until the total mass of agents yet to be allocated is exactly equal to the remaining amount of unfilled lower quotas; in this case, we restrict agents' menus to objects which are yet to fill their minimum quotas. We show the mechanisms satisfy the same criteria as their classical counterparts: PS is ordinally efficient, envy-free and weakly strategy-proof; RP is strategy-proof, weakly envy-free but not ordinally efficient.

CONFERENCES AND SEMINARS

32nd Advanced School in Economic Theory, Jerusalem	*2022*
Presented at the National Bank of Slovakia Research Seminar	*2020*
Presented at the Glasgow Economic Forum Seminar Series	*2019*

OTHER PROFESSIONAL EXPERIENCE

Spring Intern, Boston Consulting Group, Prague, Czechia	*04/2018*
Data Analyst Intern, AT&T, Bratislava, Slovakia	*07/2017 - 09/2017*

ORGANIZATIONAL EXPERIENCE

Academic Coordinator, Glasgow Economic Forum	*2019/2020*
President, Glasgow University Economics Society	*2019/2020*
Vice - President, Glasgow University Economics Society	*2018/2019*
Programme Director, Scottish Economic Conference	*2018/2019*
Academic Team Member, Glasgow Economic Forum	*2017/2018*
Students' Representative, Glasgow University Students' Representative Council	*2016 - 2018*

SKILLS

Programming Languages: Julia, Stata, Python, R, QGIS

Languages: Slovak (native), English, Czech

REFERENCES

Hervé Moulin	**Thomas Wollmann**	**Milena Almagro**
D. J. Robertson Chair in Economics	Associate Professor of Economics	Assistant Professor of Economics
Glasgow University	University of Chicago, Booth	University of Chicago, Booth
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