

MIT Economics

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ACADEMIC POSITIONS Postdoctoral Research Fellow, Stanford University
Faculty Sponsor: Alvin Roth

DOCTORAL STUDIES Massachusetts Institute of Technology (MIT)
PhD, Economics, June 2023
DISSERTATION: “*Essays in Market Design and Political Economy*”

DISSERTATION COMMITTEE AND REFERENCES

Daron Acemoglu
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PRIOR EDUCATION Koc University 2017
M.A. in Economics
Koc University 2016
B.A. in Economics, Valedictorian

CITIZENSHIP Turkey **GENDER:** Male

LANGUAGES Turkish, English

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FIELDS	Primary Fields: Theory, Market Design Secondary Fields: Political Economy	
TEACHING EXPERIENCE	14.283-284 Topics in Organizational Economics I & II (Graduate) Teaching Assistant to Juan Ortner and Charles Angelucci	2022
	14.121 Microeconomic Theory I (Graduate) Teaching Assistant to Parag Pathak	2021
	14.12 Game Theory (Undergraduate) Teaching Assistant to Ian Ball	
	14.773 Political Economy II (Graduate) Teaching Assistant to Daron Acemoglu and Leopoldo Fergusson	
	14.121 Microeconomic Theory I (Graduate) Teaching Assistant to Parag Pathak	2020
	14.125 Market Design (Graduate) Teaching Assistant to Parag Pathak	
	14.770 Introduction to Political Economy (Graduate) Teaching Assistant to Abhijit Banerjee and Elias Papaioannou	
	14.770 Introduction to Political Economy (Graduate) Teaching Assistant to Ro'ee Levy and Ben Olken	2019
	14.122 Microeconomic Theory II (Graduate) Teaching Assistant to Glenn Ellison	
FELLOWSHIPS, HONORS, AND AWARDS	Unicredit & Universities Crivelli Europe Scholarship (2017) The Scientific and Technological Research Council of Turkey Scholarship for Graduate Studies (2016) Valedictorian, Koc University (2016)	
PROFESSIONAL ACTIVITIES	<u>Presentations</u> 2024: UC Davis, Stony Brook International Conference on Game Theory, EC'24 2023: UC Berkeley, Washington University in St. Louis, Stanford Market Design Workshop 2022: Iowa State University, INFORMS Workshop on Market Design, Society for the Advancement of Economic Theory Conference 2021: London Business School	
	<u>Refereeing</u> <i>AEJ:Microeconomics, The Review of Economic Studies, Theoretical Economics, Econometrica, Economics Letters, Journal of European Economic Association, Journal of Political Economy, Scandinavian Journal of Economics, JPE:Microeconomics</i>	

PUBLICATIONS **“Priority Design in Centralized Matching Markets”** (with Joel Flynn)
The Review of Economic Studies, May 2022, 89(3): 1245-1277.

In many centralized matching markets, agents' property rights over objects are derived from a coarse transformation of an underlying score. Prominent examples include the distance-based system employed by Boston Public Schools, where students who lived within a certain radius of each school were prioritized over all others, and the income-based system used in New York public housing allocation, where eligibility is determined by a sharp income cutoff. Motivated by this, we study how to optimally coarsen an underlying score. Our main result is that, for any continuous objective function and under stable matching mechanisms, the optimal design can be attained by splitting agents into at most three indifference classes for each object. We provide insights into this design problem in three applications: distance-based scores in Boston Public Schools, test-based scores for Chicago exam schools, and income-based scores in New York public housing allocation.

RESEARCH PAPERS **“Diversity Preferences and Affirmative Action” (Job Market Paper 1)**

In various contexts, institutions allocate resources using rules that determine selections given the set of candidates. Many of these rules incorporate affirmative action, accounting for both identity and (match) quality of individuals. This paper studies the relationship between these rules and the preferences underlying them. I map the standard setting of market design to the revealed preference framework, interpreting choice rules as observed choices made across different situations. I provide a condition that characterizes when a rule can be rationalized by preferences based on identities and qualities. I apply tests based on this condition to evaluate real-world mechanisms, including India's main affirmative action policy for allocating government jobs, and find that it cannot be rationalized. When identities are multidimensional, I show that non-intersectional views of diversity can be exploited by dominant groups to increase their representation and cause the choice rules to violate the substitutes condition, a key requirement for the use of stable matching mechanisms. I also characterize rules that can be rationalized by preferences separable in diversity and quality, demonstrating that they lead to a unique selection within the broader set of policies that reserve places based on individuals' identities.

“Adaptive Priority Mechanisms” (Job Market Paper 2) (with Joel Flynn),
Reject and Resubmit at American Economic Review

How should authorities that care about match quality and diversity allocate resources when they are uncertain about the market? We introduce *adaptive priority mechanisms* (APM) that prioritize agents based on their scores and characteristics. We derive an APM that is optimal and show that the ubiquitous priority and quota mechanisms are optimal if and *only if* the authority is risk-neutral or extremely risk-averse over diversity, respectively. Deferred Acceptance implements the unique stable matching when all authorities use the

optimal APM. We provide a practical roadmap for implementing APM as a market-design solution and illustrate this using Chicago Public Schools data.

“Segmented Trading Markets” (with Kerry Back, Ali Kakhbod and A. Max Reppen), *Revise and Resubmit at Theoretical Economics*

We study competition and endogenous fragmentation among heterogeneous trading venues that differ in technology (fast vs. slow), where traders can dynamically choose which venue to trade in. We show that technological improvements increase trading speed, but may also heighten differentiation, which reduces competition, leads to higher trading fees, and potentially reduces trading volume and welfare. Improvements in the slower venue lead to increased trading speed, decreased differentiation, and thus increased trading volume and welfare. Conversely, the effect of improvements in the faster venue is generally ambiguous and depends on the extent of traders' patience, the frequency of their preference shocks, and the competition between venue owners. We further study the effect of technological improvement in one of the venues when both initially have the same trading speed. We find that if the trading speeds are initially slow enough, the technological improvement will increase trading volume and trader welfare. Conversely, if the trading speeds are initially fast, the increase in trading fees outweighs the speed advantage that comes with technological improvement, leading to decreased trading volume and trader welfare.

“International Unions and Integration” (with Elias Papaioannou)

We consider a model of international unions in which countries have heterogeneous preferences for integration, and their integration decisions are strategic complements. We study various integration protocols that differ in flexibility to shed light on the formation, expansion, and cohesion of the European Union (EU). Unlike previous models with strategic substitutes, our results align with the EU's history, where enlargement and flexible integration went hand in hand with deepening integration, often spearheaded by the “core” countries. Extending the framework to study unions' integration with non-members (candidates, exiting countries, and others) reveals the necessity of restrictions to non-member integration to foster cooperation and make the union robust to changing preferences of its members. We conclude with an exploration of the trade-offs of two-tier unions, an increasingly topical issue. Our results demonstrate the important role complementarities play in expanding membership and deepening integration in international unions.

“Substitutability in Favor Exchange”

I study a favor exchange model in which players enforce cooperation bilaterally and can rely on multiple partners for favors, that is, relationships are potentially substitutable. With substitutability, the frequency players interact and the value of their relationships are determined by the network, and the equilibrium exhibits empirically observed intermediate cooperation. With heterogeneous players,

substitutability causes homophily and exacerbates inequality. Community enforcement prevents bilateral ties and cannot be combined with bilateral enforcement. By considering substitutability, my model can explain the stratification of social networks in post-Soviet states and the absence of bilateral relationships for medieval traders who practiced community enforcement.

“Best-Response Dynamics in the Boston Mechanism”

I introduce and analyze a dynamic process called Repeated Boston Mechanism (RBM), where the Boston Mechanism (BM) is used for multiple periods, and students form their application strategies by best responding to the admission cutoffs of the previous period. If students are truthful in the initial period, the allocation under RBM converges in finite time to the student optimal stable matching (SOSM), which is the Pareto-dominant equilibrium of BM and the outcome of the strategy-proof Deferred Acceptance Mechanism. If some students are sincere and do not strategize, then the allocation converges to the SOSM of a market in which sincere students lose their priorities to sophisticated ones. When students are not truthful in the first period but best reply to some initial admission cutoffs, the allocation converges to SOSM if students are initially optimistic about their admissions chances but may cycle between allocations Pareto-dominated by SOSM if they are pessimistic. My results provide a foundation for the earlier characterizations of equilibria of BM and are in line with the observations of non-equilibrium play in BM in real-world markets.