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DOCTORAL STUDIES Massachusetts Institute of Technology (MIT)
 PhD, Economics, Expected completion June 2023
 DISSERTATION: “*Essays in Macroeconomics and Mechanism Design*”

DISSERTATION COMMITTEE AND REFERENCES

Professor Daron Acemoglu
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Professor Stephen Morris
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PRIOR EDUCATION University of Cambridge (King’s College) 2017
 B.A. (Hons), Economics
Triple First-Class Honours, Ranked Joint First in Class

CITIZENSHIP British, Irish **GENDER** Male

FIELDS Primary Fields: Macroeconomics, Theory
 Secondary Fields: Finance

TEACHING EXPERIENCE

15.454 Fundamentals of Financial Mathematics (Graduate)	2022
Lecturer	
15.454 Fundamentals of Financial Mathematics (Graduate)	2021
Teaching Assistant to Professor Kathryn Kaminski	
14.452 Economic Growth (Graduate)	2020
Teaching Assistant to Professor Daron Acemoglu	
14.05 Intermediate Macroeconomics (Undergraduate)	2020
Teaching Assistant to Professor George-Marios Angeletos	

MIT Economics

JOEL FLYNN

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	15.454 Fundamentals of Financial Mathematics (Graduate)	2020
	Teaching Assistant to Professor Kathryn Kaminski	
	15.454 Fundamentals of Financial Mathematics (Graduate)	2019
	Teaching Assistant to Professor Kathryn Kaminski	
	15.470 Asset Pricing (Graduate)	2018
	Teaching Assistant to Professor Leonid Kogan and Professor Lawrence Schmidt	
RELEVANT POSITIONS	Research Assistant to Professor Daron Acemoglu	2019-21
	Research Assistant to Professor Alp Simsek	2020
	Research Assistant to Professor Robert Townsend	2018
	Research Assistant to Professor Chryssi Giannitsarou	2015
FELLOWSHIPS, HONORS, AND AWARDS	Gordon B. Pye Dissertation Fellowship, MIT	2021
	Shultz Fund Grant, MIT	2019
	Alumni Fellowship, MIT	2017
	Department of Economics Fellowship, MIT	2017
	Adam Smith Prize (Joint), University of Cambridge	2017
	Scholar of the College, King's College, University of Cambridge	2015-17
PROFESSIONAL ACTIVITIES	<u>Presentations</u> 2022: ETH-Zurich (Invited, Scheduled), The European Summer Meeting of the Econometric Society, The European Economic Association Annual Congress, The Australasia Meeting of the Econometric Society, The NBER Summer Institute (Behavioral Macroeconomics), The Society for Economic Dynamics Annual Meeting, The North American Summer Meeting of the Econometric Society 2021: The NBER Summer Institute (Impulse and Propagation Mechanisms), The European Winter Meeting of the Econometric Society	
	<u>Refereeing</u> <i>American Economic Review: Insights, Mathematics of Operations Research, The Review of Economic Studies</i>	
PUBLICATIONS	“Priority Design in Centralized Matching Markets” (with Oguzhan Celebi) <i>The Review of Economic Studies</i> , May 2022, 89(3): 1245-77.	
	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.

“Robust Comparative Statics for the Elasticity of Intertemporal Substitution” (with Lawrence D.W. Schmidt and Alexis Akira Toda)
Theoretical Economics, Forthcoming.

We study a general class of consumption-savings problems with recursive preferences. We characterize the sign of the consumption response to arbitrary shocks in terms of the product of two sufficient statistics: the elasticity of intertemporal substitution between contemporaneous consumption and continuation utility (EIS), and the relative elasticity of the marginal value of wealth (REMV). Under homotheticity, the REMV always equals one, so the propensity of the agent to save or dis-save is always signed by the relationship of the EIS with unity. We apply our results to derive comparative statics in classical problems of portfolio allocation, consumption-savings with income risk, and entrepreneurial investment. Our results suggest empirical identification strategies for both the value of the EIS and its relationship with unity.

“Nonlinear Pricing with Under-Utilization: A Theory of Multi-Part Tariffs” (with Roberto Corrao and Karthik A. Sastry)
American Economic Review, Forthcoming.

We study the nonlinear pricing of goods whose usage generates revenue for the seller and of which buyers can freely dispose. The optimal price schedule is a multi-part tariff, featuring tiers within which buyers pay a marginal price of zero. We apply our model to digital goods, for which advertising, data generation, and network effects make usage valuable, but monitoring legitimate usage is infeasible. Our results rationalize common pricing schemes including free products, free trials, and unlimited subscriptions. The possibility of free disposal harms producer and consumer welfare and makes both less sensitive to changes in usage-based revenue and demand.

RESEARCH PAPERS

“The Macroeconomics of Narratives” (with Karthik A. Sastry)
Job Market Paper

We study the macroeconomic implications of *narratives*, or beliefs about the economy that affect decisions and spread contagiously. Empirically, we use natural-language-processing methods to measure textual proxies for narratives in US public firms' end-of-year reports (Forms 10-K). We find that: (i) firms' hiring decisions respond strongly to narratives, (ii) narratives spread contagiously among firms, and (iii) this spread is responsive to macroeconomic conditions. To understand the macroeconomic implications of these forces, we embed a contagious optimistic narrative in a business-cycle

model. We characterize, in terms of the decision-relevance and contagiousness of narratives, when the unique equilibrium features: (i) non-fundamental business cycles, (ii) non-linear belief dynamics (narratives “going viral”) that generate multiple stable steady states (hysteresis), and (iii) the coexistence of hump-shaped responses to small shocks with regime-shifting behavior in response to large shocks. Our empirical estimates discipline both the static, general equilibrium effect of narratives on output and their dynamics. In the calibrated model, we find that contagious optimism explains 32% and 18% of the output reductions over the early 2000s recession and Great Recession, respectively, as well as 19% of the unconditional variance in output. We find that overall optimism is not sufficiently contagious to generate hysteresis, but other, more granular narratives are.

“Strategic Mistakes” (with Karthik A. Sastry)
(Revise and Resubmit, *Journal of Economic Theory*)

To study the equilibrium implications of imperfect optimization, we introduce a model of costly control in continuum-player games in which agents interact via an aggregate of the actions of others. We find primitive conditions such that equilibria exist, are unique, are efficient, and feature monotone comparative statics for action distributions, aggregates, and the size of agents' mistakes. We use our results to provide robust equilibrium predictions in a class of generalized beauty contests, which we apply to study the implications of imperfect optimization for financial speculation, price-setting, and the business cycle. We contrast our model with the mutual information model (Sims, 2003), which in the same games can produce non-unique predictions and non-monotone comparative statics.

“Attention Cycles” (with Karthik A. Sastry)

We document that, in aggregate downturns, US public firms' attention to macroeconomic conditions rises and the size of their input-choice mistakes falls. We explain these phenomena with a business-cycle model in which firms face a cognitive cost of making precise decisions. Because firms are owned by risk-averse households, there are greater incentives to deliver profits by making smaller input-choice mistakes when aggregate consumption is low. In the data, consistent with our model, financial markets punish mistakes more in downturns and macroeconomically attentive firms make smaller mistakes. Quantitatively, attention cycles generate asymmetric, state-dependent shock propagation and stochastic volatility of output growth.

“Fiscal Policy in a Networked Economy” (with Christina Patterson and John Sturm)

Advanced economies feature complicated networks that connect households, firms, and regions. How do these structures affect the impact of fiscal policy and

its optimal targeting? We study these questions in a model with input-output linkages, regional structure, and household heterogeneity in MPCs, consumption baskets, and shock exposures. Theoretically, we derive estimable formulae for the effects of fiscal policies on aggregate GDP, or fiscal multipliers, and show how network structures determine their size. Empirically, we find that multipliers vary substantially across policies, so targeting is important. Beneath these aggregate effects are large spatial and sectoral spillovers from policies directed to any one firm or household. However, virtually all variation in multipliers stems from differences in policies' direct incidence onto households' MPCs. Thus, while the distributional effects of fiscal policy depend on the detailed structure of the economy, maximally expansionary fiscal policy simply targets households' MPCs.

“Adaptive Priority Mechanisms” (with Oguzhan Celebi)

How should authorities that care about match quality and diversity allocate resources when they are uncertain of the market they face? We propose a new class of adaptive priority mechanisms (APM) that prioritize agents as a function of both scores that reflect match quality and the number of assigned agents with the same socioeconomic characteristics. When there is a single authority and preferences over scores and diversity are separable, we derive an APM that is optimal, generates a unique outcome, and can be specified solely in terms of the preferences of the authority. By contrast, the ubiquitous priority and quota mechanisms are optimal if and only if the authority is risk-neutral or extremely risk-averse over diversity, respectively. When there are many authorities, it is dominant for each of them to use the optimal APM, and each so doing implements the unique stable matching. However, this is generally inefficient for the authorities. A centralized allocation mechanism that first uses an aggregate APM and then implements authority-specific quotas restores efficiency. Using data from Chicago Public Schools, we estimate that the gains from adopting APM are considerable.

“Dynamic Unravelling”

This paper studies price and liquidity dynamics in the presence of costly short-selling when uninformed traders have limited willingness-to-pay to trade securities. In this setting, the combination of unravelling (Akerlof, 1970) and Bayesian social learning interact to produce a novel mechanism, dynamic unravelling: unravelling that generates signals that lead to future unravelling. Applying the theory, I show how dynamic unravelling provides an explanation for low volume crashes: falls in the prices of securities on low or declining trading volume. In this context, short-selling restrictions can make low volume crashes more likely by intensifying dynamic unravelling but liquidity injections have the opposite effect.

**RESEARCH IN
PROGRESS**

“Nonlinear Beauty Contests” (with Roberto Corrao)

“Structural Change and Labor Market Dynamics” (with Daron Acemoglu)

“Causal Models, Complexity, and Equilibrium” (with Karthik A. Sastry)

“Holding Up Private Investment” (with Roberto Corrao and Karthik A. Sastry)

“Nonlinear Pricing with Partial Contractibility” (with Roberto Corrao and Karthik A. Sastry)

“Import Risk and Directed Innovation” (with Antoine Levy and Jacob Moscona)