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Education

Harvard University

Ph.D. Health Policy and Economics, 2021 to 2027 (expected)

University of Chicago

B.A. in Economics (with Honors), 2019

B.A. in Statistics, 2019

Fields

Innovation Economics

Health Economics

Labor Economics

References

Amitabh Chandra (chair)

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Luca Maini

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Kyle Myers

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Fellowships & Awards

NBER Fiscal and Economic Effects of Innovation and Productivity Policies Fellow

2026-2027

Harvard GSAS Dissertation Completion Fellow

2026-2027

National Science Foundation Graduate Research Fellowship Program

2024-2027

NBER Pre-doctoral Fellowship in Aging & Health

2023-2024

Harvard Kennedy School Distinction in Student Teaching Award

2024

Agency for Healthcare Research and Quality T32 Trainee

2021-2023

Phi Beta Kappa

2019

UChicago Careers in Health Professions Health Policy Scholar

2016-2019

Teaching

Instructor, *Essentials for the Profession Course (Nursing Homes)*, Harvard Medical School

2025

Teaching Fellow, *Empirical Methods II (Econometrics)*, Harvard Kennedy School

2024

Research

Assistantships

Graduate Research Assistant to Professor Amitabh Chandra, *Harvard Business School*

2022-2024

Graduate Research Assistant to Professor Timothy Layton, *Harvard Medical School*

2022-2024

Pre-doctoral Research Fellow to Professor Amy Finkelstein, *MIT*

2019-2021

Microeconomics Research Intern, *Federal Reserve Bank of Chicago*

2018

Job Market Paper

Scientific Input Costs in University Life Sciences Research, with Ruby Zhang

Scientific inputs such as reagents and consumables are sold in concentrated markets with limited product substitutability. When prices in these markets rise, who bears the cost, and who adapts? Using purchase-level procurement records, we study the 2014 merger of Thermo Fisher Scientific and Life Technologies. We find that post-merger prices in affected markets rose by roughly 20 percent. With highly inelastic demand, research budgets absorbed these costs. For a sample of 13,515 life sciences principal investigators (PIs), the cost of the average pre-merger consumables bundle increased by 2.8 percent, driving a 1.2 percent decline in research output (an implied elasticity of -0.421). Ultimately, this shock redirected approximately \$4 million in public funding to suppliers and resulted in 349 fewer papers annually. These output losses fell disproportionately on early-career PIs, a pattern not explained by observable financial resources. This suggests that adapting to supply shocks depends on experience and tacit knowledge.

Working Papers

Person and Place Effects in Scientific Discovery, *with Amitabh Chandra*

How much of a scientist's research output is attributable to individual talent, and how much to the institution where they work? Because markets systematically under-provide fundamental science, the answer matters for how societies allocate the resources that substitute for missing market incentives, how the scientific community evaluates researchers for promotion and grants, and whether the current distribution of scientists across institutions maximizes knowledge production. We study this question using citation-weighted publications in leading life-science journals and a movers design that exploits variation in the output of nearly 40,000 scientists who change institutions. We find that 50 to 60 percent of the variation in a scientist's research output is attributable to institutional factors. After correcting for limited mobility bias, we document positive assortative matching between scientists and institutions (a correlation of 0.3 between person and place effects), a necessary condition for maximizing aggregate knowledge production under the multiplicative structure of our model. Around two-thirds of the institutional effect is explained by the presence of star researchers. A scientist's output responds to both the total output of their institution and its funding level, but not to the size of the local research cluster, suggesting that institutional effects operate through the human capital environment within an institution rather than through agglomeration or research funding alone. The symmetry of effects for upward and downward movers implies that institutional advantages do not permanently transfer to scientists who leave. These effects have not diminished despite technologies facilitating remote collaboration, are robust to detailed field-by-year controls, and raise the possibility that similar patterns extend to other areas of fundamental science.

The Ripple Effects of Health Care Entry Regulation, *with Yunan Ji and Parker Rogers*

We examine how regulatory entry costs for healthcare inputs shape market structure, pricing, and bargaining dynamics throughout the healthcare supply chain. Using a difference-in-differences approach exploiting the FDA's 2016 removal of pre-market clearance requirements for certain medical devices, we find increased manufacturer entry and lower negotiated device prices between manufacturers and hospitals. These reduced input prices propagate downstream, modestly decreasing procedure prices negotiated with insurers and ultimately lowering patient out-of-pocket costs. We then develop and will estimate a structural model that jointly captures manufacturer entry decisions and simultaneous bargaining between hospitals, manufacturers, and insurers. Our proposed counterfactual simulations will quantify how tightening entry regulations or increasing horizontal consolidation would ripple through the supply chain.

Returns to Science of Centrally Provisioned GPUs and Optimal Allocation, *with Ruby Zhang*

Artificial intelligence and deep learning methods require expensive capital investments in the form of Graphical Processing Units (GPUs). Given the importance of GPU clusters to computational research, where should infrastructure funding be allocated? We construct a novel panel of university GPU capacity and research output for R1 U.S. universities, combining historical snapshots of research computing websites with bibliometric data from OpenAlex. We use large, discrete computing capacity jumps in an event-study design and find modest effects of cluster upgrades on AI-related publications. However, there is significant heterogeneity: low-tier universities exhibit a larger marginal response to capacity upgrades than high-tier universities. We develop a structural model of the university as a multi-product organization to estimate the production function for GPU-enabled research, derive a capital allocation rule across fields, and use the estimated elasticities to characterize the NSF's revealed preference over efficiency versus equity. Our findings suggest that diminishing returns to computing capital favor a more redistributive allocation of federal cyberinfrastructure grants.

Invited Presentations

The European Association for Research in Industrial Economics Conference	2026
American Society of Health Economists Conference	
Wharton Innovation Doctoral Symposium	
NBER Assessing the U.S. Medical Innovation System	
Harvard Seminar in the Economics of Science & Engineering	2025
NBER Place-Based Policies and Entrepreneurship	2024

Academic Service	Referee: <i>The Journal of the American Medical Association</i>	
	Organizer: Harvard Health Care Policy Health Economics Seminar	
	Peer Mentor: Harvard Health Policy PhD Program	
Research Grants	The Lab for Economic Applications and Policy Award, <i>with Ruby Zhang</i>	2026-2027
	John and Kiendl Gordon Economics Support Fund, <i>with Ruby Zhang</i>	2025-2026
	The Lab for Economic Applications and Policy Award, <i>with Ruby Zhang</i>	2024-2025
	NBER Center for Aging and Health Research Pilot Grant, <i>with Amitabb Chandra and Timothy Layton</i>	2023-2024
Languages	English (native), Mandarin (fluent)	
Citizenship	United States	