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HARVARD UNIVERSITY

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Personal Information: US Citizenship

Undergraduate Studies:

B.S., Economics, Massachusetts Institute of Technology (MIT), 2015

Graduate Studies:

Harvard University, 2015 to present

Ph.D. Candidate in Economics

Thesis Title: "Essays on the STEM Trainee Labor Market"

Expected Completion Date: May 2021

References:

Professor Lawrence Katz
Harvard University
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Professor Amanda Pallais
Harvard University
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Professor Claudia Goldin
Harvard University
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Teaching: Professor Maxim Boycko
Harvard University
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Research Fields:

Primary fields: Labor Economics

Secondary fields: Economics of Science, Innovation

Teaching Experience:

Summer 2020	Everyday (Micro)Economics, Harvard Pre-College Program, Lecturer
Fall 2019, 2018, 2017	Ec1010a Intermediate Micro, Harvard, Administrative Head Teaching Fellow for Professor Maxim Boycko
Spring 2019	Ec1010a Intermediate Micro, Harvard, Teaching Fellow for Professor Marc Melitz
Spring 2018	Ec1010b Intermediate Macro, Harvard, Teaching Fellow for Professor Chris Foote
Spring 2018	Ec1058 Experimental Economics, Harvard, Teaching Fellow for Professor Lucas Coffman
Spring 2014, 2015	14.32 Econometrics, MIT, Teaching Assistant for Professor Joshua Angrist

Research Experience and Other Employment:

2016-2017	Harvard University, Research Assistant for Professor Ariel Pakes & Professor Rebecca Diamond
Summer 2016	Harvard University, Research Assistant for Professor Amanda Pallais
2013-2014	MIT, Research Assistant for Professor Joshua Angrist
Summer 2014	Edgeworth Economics, Economic Consultant Intern
January 2014	J.P. Morgan, Sales & Trading Winter Intern
Summer 2013	Government Accountability Office, Summer Analyst Intern

Invited Presentations:

Sept 15, 2020	NBER Productivity Lunch
Aug 8, 2020	Harvard Business School, Entrepreneurial Management Brown Bag
Apr 13, 2020	Ohio State, Bruce Weinberg Research Group
Mar 20, 2020	NBER Value of Medical Research Meeting
Mar 4, 2020	Laboratory of Innovation Science at Harvard
Nov 11, 2019	Harvard Center for International Development Growth Lab
May 3, 2019	Harvard Business School, Economics of Science Seminar
Mar 26, 2018	Harvard Ec1058: Experimental Economics, Guest Lecture

Other Professional Activities:

2020	Quarterly Journal of Economics, Referee
2020	Journal of Economic Behavior and Organization, Referee
Aug 19, 2019	Harvard Business School, BIG Ideas Doctoral Workshop, Participant
2018-2019	Harvard Economics, Graduate Economics Association, Vice President
July 17-19, 2017	Olin Business School, Quantitative Marketing & Structural Econometrics Workshop, Participant
Apr 7, 2017	Harvard Graduate School of Education, Student Research Conference, Poster

Honors and Fellowships:

2020-2021	Sandra Ohrn Family Graduate Student Dissertation Fellowship Fund
2019-2020	NBER Value of Medical Research Fellowship (\$10,000)
Aug-Nov 2019	Harvard Lab for Economic Applications and Policy (\$3,000)
April 2016	VSAE Econometrics Game, 1 st Place Team

Research Papers:

“Careers Versus Children: How Childcare Affects the Academic Tenure-Track Gender Gap”

[\(Job Market Paper\)](#)

Although women compose the majority of biological science Ph.D. recipients, those who have children are 7 percentage points less likely than their male peers to ever obtain a tenure-track position - leading to a mere 30 percent female among tenure-track faculty. Using the largest nationally representative survey of U.S. Ph.D. recipients, this paper examines how a biological science Ph.D.'s first child's birth affects employment status and job characteristics by gender. I find no gender gap in tenure-track rates among individuals who never have children and among individuals before they have children. 9 percent of mothers temporarily leave the labor force after their first child is born; those who remain reduce working hours by 12 percent, compared to fathers who reduce by 6 percent. Mothers return to the labor force when their children reach school-age but shift away from tenure-track positions, leading to a 10 percentage point gender gap among tenure-track faculty with six-year-old children. However, mothers do not leave research occupations with fewer work hours, such as industry and non-tenure track positions. I conclude that short-term work reductions to focus on childcare combined with a competitive profession requiring long hours leads to long-term reductions in promotions, increasing the gender gap at the top levels of academia.

“What’s Another Year? The Lengthening Training and Career Paths of Scientists”

([Working Paper](#))

Lengthening doctorate and post-doctorate training provide option value, allowing scientists to wait for academic research jobs. Using the largest nationally representative survey of U.S. Ph.D. recipients, I construct career paths for 156,089 research doctorate holders over six job types (postdoctoral researcher, tenure-track academic, non-tenure track academic, for-profit industry, non-profit, and government) and two employment statuses (unemployed and out of the labor force). Examining Ph.D. cohorts in four major science, technology, engineering, and mathematics (STEM) fields from 1950 to the present, I find evidence that the increasingly prevalent postdoctoral position provides option value to remain in academic research at a relatively low opportunity cost. Since the 1960's, a STEM Ph.D.'s probability of obtaining a tenure-track position has reduced from 42.8% to 25.2%. Remaining in longer doctoral and postdoctoral appointments does not significantly improve one's tenure-track chances but does increase one's chances of a permanent position at a research-intensive university, albeit not necessarily on tenure-track. To retain this option value, postdoctoral researchers pay an upfront salary cost; for those remaining in the academic sector, this salary gap closes within 10 years post-graduation. Thus, STEM Ph.Ds. interested in academic careers and not presently constrained may find the opportunity cost of postdoctoral positions worth the gain in option value.

“Where are All the Scientists? Resources for Studying the Long-Term Careers of STEM Ph.Ds.”

([2020 NBER-IFS Value of Medical Research White Paper](#))

Despite the considerable time and federal funding poured into training scientists, little attention has been given to the role of graduate programs and postdoctoral appointments on future careers – even as STEM trainees spend longer time in these positions. Basic information – such as the number of postdoctoral researchers at each institution – has proven difficult to collect, and the relevant data is spread across various sources. Thus, to assist meta-researchers, this white paper compiles a list of available resources that can be used to study the long-term career outcomes of STEM Ph.Ds. It also identifies shortcomings in current data collection and possibilities for future research avenues.