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Fields of Concentration:
Macroeconomics, Labor economics

Desired Teaching:
Macroeconomics, Labor economics

Comprehensive Examinations Completed:
2019 (Oral): Labor economics, Macroeconomics (with distinction)
2018 (Written): Macroeconomics
2017 (Written): Microeconomics

Dissertation Title: *Essays on wage inequality*

Committee:
Professor Giuseppe Moscarini (Chair)
Professor Joseph Altonji
Professor Ilse Lindenlaub

Degrees:
Ph.D., Economics, Yale University, 2023 (expected)
M.Phil., Economics, Yale University, 2020
M.A., Economics, Yale University, 2019
B.A., Economics and Mathematics (cum laude), Yale University, 2017

Fellowships, Honors and Awards:

Cowles Foundation Fellowship, Yale University, 2017-2022
Yale Graduate Fellowship, Yale University, 2017-2023
Arvid Anderson Fellowship, Yale University, Fall 2021

Research Grants:

Keynes Fund, University of Cambridge, £32,220, (joint with Noriko Amano and Julian Aramburu), 2020

Teaching Experience:

Spring 2020, Spring 2021, Teaching Assistant to Prof. Giuseppe Moscarini, *Gen Econ Theory: Macroeconomics* (graduate), Yale University

Fall 2020, Teaching Assistant to Prof. Ilse Lindenlaub and Prof. Marnix Amand, *Intermediate Macroeconomics* (undergrad), Yale College

Fall 2019, Teaching Assistant to Prof. Michael Peters, *Intermediate Macroeconomics* (undergrad), Yale College

Fall 2019, Spring 2020, Fall 2021, Residential College Math and Science tutor

Research and Work Experience:

Special Sworn Status researcher with US Census Bureau, 2020-present
Research Assistant, Tobin Center, Yale University, Summer 2020
Research Assistant, to Prof. Yusuke Narita, Yale University, Summer & Fall 2018
Co-Director, Herb Scarf Summer Research Opportunities in Economics, 2020 & 2021

Working Papers:

"The Effect of Software Adoption on Skill Demand" with Bledi Taska (2022), *Job Market Paper*

"Is Affirmative Action in Employment Still Effective in the 21st Century?" with Noriko Amano and Julian Aramburu, (2022)

Languages:

English (native), Hindi

References:

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The Effect of Software Adoption on Skill Demand (with Bledi Taska) [Job market paper]

Technological automation is a key cause of rising wage inequality in the US, and software is an important, growing technology. In this paper, we ask how software adoption impacts the skill-sets firms require for jobs, and thus equilibrium income inequality.

We first estimate the causal effect of firms adopting a software type—such as sales or accounting software—on their skill requirements and labor demand. Our data are US job postings 2010 –2019 assembled by Lightcast (formerly Burning Glass Technologies). We use keywords in job posting text to measure jobs' analytic and social skill requirements, and also to identify software adoptions at the firm-occupation level—for example, a team of accountants switching from Excel to specialized accounting software.

The timing of firms' software adoption is an endogenous choice; we account for potential omitted variable bias using a latent variable IV strategy based on Freyaldenhoven, Hansen and Shapiro (2019). This involves controlling for skill requirements in other, non-software-adopting occupations, instrumented for by the lead of the software adoption event. We find that adopting one additional type of software on average increases analytic skill requirements by 0.8pp and social skill requirements by 1.1pp. Software types are heterogenous in the impact on skill requirements. We also find that the firm increases hiring by 30% in the adopting occupation and, to a lesser extent, in other occupations.

We then embed these firm-level upskilling effects into an equilibrium model of occupation choice with nested CES production. Each firm consists of occupations, which are characterized by analytic and social skill requirements. Firms choose labor and optionally software for each occupation. Choosing to produce with software raises skill requirements. Workers' skills determine the set of jobs they qualify for, from which they choose a job based on wages and idiosyncratic preferences. We estimate the model over the white-collar sector using GMM and find the data is consistent with software and workers being complements, particularly in high-wage occupations.

Through the lens of our model, a fall in software prices and associated software uptake widens the wage gap between software and non-software jobs within each occupation, while simultaneously increasing the premium of high-wage management and STEM occupations. Through a counterfactual without increases in skill requirements, we show that the software's impact on within-occupation inequality is largely due to upskilling, as raising skill requirements restricts labor from moving into software jobs despite their higher labor demand.

Is Affirmative Action in Employment Still Effective in the 21st Century? (with Noriko Amano and Julian Aramburu)

We study Executive Order 11246, an employment-based affirmative action policy targeted at firms holding contracts with the federal government. We find this policy to be ineffective in the 21st century, contrary to positive effects found for the late 1900s (Miller (2017)). Our novel dataset combines data on federal contract acquisition and enforcement with US linked employer-employee Census data 2000 –2012. We employ an event study around firms' acquiring a contract, based on

Miller (2017), and find the policy had no effect on employment shares or on hiring, for any minority group. Next, we isolate the impact of the affirmative action plan, which is EO 11246's preeminent requirement that applies to firms with contracts over $50,000. Leveraging variation from this threshold in event study and regression discontinuity strategies, we find similarly null effects. We show that even randomized audits are not effective, suggesting weak enforcement. Our results highlight the importance of the recent budget increase for the enforcement agency, as well as recent policies enacted to improve compliance.