Job Market Paper

“Creating (Digital) Labor Markets in Rural Tanzania”

Job search costs are high in rural labor markets in developing countries. Consequently, the flow of information on jobs and wages is restricted, and wages tend to be dispersed. To lower search costs, I develop an SMS-based messaging app that connects agricultural workers and employers. The treatment reduces within-village wage dispersion by 16-40 percent. Wage compression occurs from both sides of the wage distribution, leaving the
average wage unchanged. Consistent with the lower wage dispersion, I find evidence that the treatment reallocates labor within villages. Per-acre labor input dispersion across farms decreases in treatment villages. The treatment induces workers to divert their labor supply from low-paying employers to high-paying employers. Furthermore, the app causes the employers who had previously enjoyed monopsony power to increase the wage, indicating that their market power is reduced.


We collect data on prices, travel costs and farmer decisions to quantify market access and its impact on agricultural productivity in 1,183 villages in two regions of Tanzania. Villages at the bottom of the travel cost-adjusted price distribution face 40-55% less favorable input prices than those at the top. One standard deviation of remoteness is associated with 20-25% lower input adoption and output sales. A spatial model of input adoption conservatively estimates that farmers behave as if travel costs are 5.7% ad-valorem per kilometer. Counterfactual estimates suggest that halving travel costs would double adoption and reduce the gradient by 15%.

“Earnings and Takings: Self-Dealing in Local Public Office in India” with Ajay Shenoy and Laura Zimmermann. Under Review

Models of political selection predict that when public office enables lucrative self-dealing it attracts politicians motivated by greed. But since self-dealing is typically unobserved there are few good estimates of its magnitude. Linking millions of job records to election outcomes, we estimate the returns earned by Indian village council presidents from self-dealing public-works jobs. We find that the monetary benefits are large. Winners of close elections receive 3 times as many workdays as losers, yielding extra wages equal to two-thirds of the median president’s official salary. We show suggestive evidence consistent with the idea that these returns induce negative political selection.


We study whether ruling parties can systematically win a slender majority of seats in close legislative elections, a phenomenon called “precise control.” We test for discontinuities in two outcomes that, in the absence of precise control, should be smooth at the 50% cutoff: the probability density of the share of seats won, and the identity of the party that previously held a majority. We find robust evidence of precise control, but only in high-stakes state elections that determine which party controls Congressional redistricting. Its absence in other elections suggests precise control is a strategic option used at the ruling party’s discretion. It shifts its strategy in high-stakes elections from seat maximization to majority-seeking, winning fewer seats but reducing the chance it loses its majority. These tactics are disproportionately effective for the party defending a majority. It is 4 times more likely to win than to lose a close election.


We propose a method that simultaneously identifies where parties take control of Congressional redistricting, and how they use it to win U.S. House races. Our method exploits the discontinuous change in a party’s control of redistricting triggered when
Work in Progress

“The Effect of Cash Transfers and Market Access on Households in Rural Liberia and Malawi” with Shilpa Aggarwal, Jenny Aker, Naresh Kumar, David Sungho Park, Jonathan Robinson, and Alan Spearot

Relevant Positions

- Research Assistant to Professor Laura Zimmermann, Univ. of Georgia 2017-2018
- Research Assistant to Professor Jesse Cunha, Naval Postgraduate School 2017
- Research Assistant to Professor Jonathan Robinson (UCSC), Alan Spearot (UCSC) and Shilpa Aggarwal (ISB) 2017-2018
- Research Assistant to Professor Kristian Lopez Vargas, UCSC 2016-2017
- Research Assistant to Professor Veronica Terriquez, UCSC 2016
- Research Assistant to Professor Ajay Shenoy, UCSC 2015
- Research Assistant to Professor David Atkin and Antoinette Schoar, MIT and Institute for Financial Management and Research (IFMR) 2015
- Research Assistant to Professor David Sahn, Cornell 2014
- Research Assistant to Professor James Berry, Cornell 2013

Teaching Experience

University of California, Santa Cruz

- Awarded Milam-McGinty-Kaun Award, highest honor in the division of Social Sciences
- Average TA Rating from Instructors: 5.0/5.0
- Average TA Rating from Students: 4.7/5.0

- ECON 113 Introduction to Econometrics (Undergraduate) - 2x 2015, 2019
  Teaching Assistant to Professor Brenda Samaniego de la Parra, and Lecturer Aaron Meininger
- ECON 216 Applied Econometric Analysis I (Graduate) 2018
  Teaching Assistant to Professor George Bulman
- ECON 120 Development Economics (Undergraduate) - 2x 2016, 2018
  Teaching Assistant to Professor Jonathan Robinson
- ECON 100A Intermediate Microeconomics (Undergraduate) - 2x 2017
  Head Teaching Assistant to Professor Kristian Lopez Vargas
- ECON 2 Introductory Macroeconomics (Undergraduate) - 2x 2015, 2016
  Teaching Assistant to Professor Ajay Shenoy
- ECON 104 Truth in Numbers (Undergraduate) 2016
  Teaching Assistant to Professor Carlos Dobkin

Cornell University

- PAM4070 Early Childhood Policy (Undergraduate) 2014
  Teaching Assistant to Professor Hyuncheol Kim
- CEE6930 Public Systems Modeling (Graduate) 2013
  Teaching Assistant to Professor Daniel Peter Louck

Fellowships, Honors, and Awards

Research Grants
NSF Economics Dissertation Grant, $50,000 2018
MIT/J-PAL Agricultural Technology Adoption Initiative, $50,000 2018
UCSC Economics Department Research Grant, $5,000 - 2x 2017, 2018
UCSC Blum Scholars Grant, $2,000 2017

**Fellowships and Awards**

UCSC Milam-McGinty-Kaun Award for Teaching Excellence, $2,200 2018
UCSC Teaching Assistant Award for Excellence in Teaching - 2x 2016, 2017
UCSC Eileen Brooks Memorial Research Paper Award, $1,500 2016
UCSC Regents’ Fellowship, $7,500 2014
Cornell University Fellowship Award, $20,000 - 2x 2012, 2013
Mirae Asset Securities Exchange Student Scholarship, $9,000 2010
Korea University Outstanding Academic Performance Scholarship - 2x 2009, 2010

**Fieldwork**

India (4 months), Tanzania (9 months), Malawi (1 month)

**Languages**

Korean (native), English (fluent), Chinese (conversational),
Japanese (basic), Swahili (basic)

STATA, R, Matlab, QGIS, ODK, Linux, Git, Fortran, Python, JavaScript

**Other Experience**

Military Service, Sergeant, 2nd Infantry Division, 2007-2008
Korean Augmentation to the U.S. Army