Last Update: August 2021

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Fields Development Economics, Applied Econometrics

Education

University of California, Santa Cruz 2018 – present
Ph.D. in Economics, Department of Economics

Jiangxi University of Finance and Economics 2017
B.A. in Finance, International School

Working Papers

"God is in the Rain: The Impact of Rainfall-Induced Early Social Distancing on COVID-19 Outbreaks", with Rolly Kapoor, Haedong Rho, Kinpritma Sangha, Bhavyaa Sharma, and Ajay Shenoy.
Revise & Resubmit, *Journal of Health Economics*

We measure the benefit to society created by preventing COVID-19 deaths through a marginal increase in early social distancing. We exploit county-level rainfall on the last weekend before statewide lockdown in the early phase of the pandemic. After controlling for historical rainfall, temperature, and state fixed-effects, current rainfall is a plausibly exogenous instrument for social distancing. A one percent decrease in the population leaving home on the weekend before lockdown creates an average of 132 dollars of benefit per county resident within 2 weeks. The impacts of earlier distancing compound over time and mainly arise from lowering the risk of a major outbreak, yielding large but unevenly distributed social benefit.

Works in Progress

"The Value of Value Chains: An Experiment Linking Farmers' Cooperatives with a Maize Processor in Rwanda", with Shilpa Aggarwal, Susan Godlonton, Ammar Kawash, Jonathan Robinson, and Alan Spearot.
Fieldwork Ongoing: **[J-PAL Project Overview]**, **[ATAI Project Overview]**

One way that farmers can improve their income and livelihoods is to transition from subsistence farming to market-driven, commercial agriculture in which output is sold into value chains. However, smallholder farmers typically do not sell their output to buyers in value chains, and one of the reasons is because their output often does not meet the required quality standards. We conduct a randomized controlled trial with 360 smallholder farmer cooperatives to evaluate the effects of providing farmers with access to maize processing services that could improve maize quality on their input decisions.

"Quantifying the Effect of Increased Output Prices on Input Usage: An Experiment with Rwanda's Smart Subsidy System", with Shilpa Aggarwal, Susan Godlonton, Jonathan Robinson, and Alan Spearot.
Fieldwork Ongoing

Like much of Sub-Saharan Africa, a contributing factor to low agricultural productivity in Rwanda is the low usage of modern inputs like chemical fertilizer and improved seeds. A primary cause of low input usage is that low and variable prices for crop sales at harvest-time may make farmers uncertain about the profitability of investing in improved inputs during the planting and growing seasons. We randomly offer a subset of mid-sized cooperatives a guarantee of the price they will receive at harvest time. With the government-led digital SNS database records of input usage in Rwanda, we quantify the effect of higher anticipated output prices at the end of the season on input utilization during the season and in subsequent seasons.

"Demand and Liquidity Coordination to Foster the Adoption for Livestock Vaccinations: An Experiment with Small-Holder Dairy Cooperatives in Kenya", with Shilpa Aggarwal, Julius Githinji, Susan Godlonton, Kevin Maina, James Elizaphan Rao, Jonathan Robinson, Alan Spearot, and Nils Teufel.
Fieldwork Ongoing

East Coast Fever (ECF) is a deadly cattle disease transmitted by ticks. While an effective ECF vaccine exists, take-up is low in many areas. There are two main reasons for the low adoption: First, technically, the vaccine must be administered to a large number of animals at once (the minimum package size has enough dosage for 40 cattle), and so farmers with only a few cattle cannot access the vaccine individually. Second, the vaccine is expensive for small-scale farmers, costing about 320 dollars for a 40-dose package (straw). We conduct a randomized controlled trial with 80 dairy cooperatives in Kenya to evaluate the effect of a demand aggregation intervention in which farmers are encouraged to vaccinate together cross-cut with a "checkoff system" intervention in which a percentage of milk sales is set aside at milk cooperatives to be allocated for vaccine purchase on the adoption of ECF vaccine.

"Geography of Aid in Africa", with Shilpa Aggarwal, Jonathan Robinson, and Alan Spearot.

Rural households tend to be poor, and thus in greater need of aid. However, aid programs likely make trade-offs regarding how much aid to give and where to send it based on needs as well as operating costs. As delivering aid to those most in-need is likely the more costly, there are opportunities for misallocation in the provision of aid. We study the spatial distribution of aid and investigate whether there is spatial misallocation in aid provision.

Fellowships & Awards

UCSC Economics Department Research Grant	2021
UCSC Teaching Assistant Award for Excellence in Teaching	2020
UCSC Regents Fellowship	2018
CFA Program Student Scholarship by CFA Institute	2017
Industrial Securities Student Scholarship	2016
China National Scholarship by Ministry of Education	2015
JUFE Outstanding Academic Performance Scholarship - *3x*	2014,2015,2016
Xiangdong Yue Student Scholarship	2014

Research Assistantship

Jonathan Robinson (UCSC), Alan Spearot (UCSC), Shilpa Aggarwal (ISB), and Susan Godlonton(Williams College)	2019

Teaching Experience

UC Santa Cruz:

ECON 2: Introductory Macroeconomics
- Julie H. Gonzalez — Spring 2020
- Ajay M. Shenoy — Fall 2019, Winter 2019

ECON 100A: Intermediate Microeconomics
- Kristian Lopez Vargas — Winter 2020

ECON 136: Business Strategy
- Robert Brian Baden — Fall 2020

Jiangxi University of Finance and Economics:

Equity Securities Valuation and Investment Analysis (Instructor) — Spring 2017

Financial Engineering
- Lawrence A. Leger — Spring 2017

Financial Econometrics
- Gregor Kastner — Spring 2016

Probability Theory and Mathematical Statistics
- Jie Li — Spring 2016

Linear Algebra
- Changqi Tao — Fall 2015

Introductory Econometrics
- Randall R. Rojas — Fall 2015

Fieldwork

Rwanda (9 months), Kenya (1 month), Tanzania (1 month)

Skills

Computer: STATA, R, Python, MATLAB, SurveyCTO, ODK, QGIS, EViews, LaTeX
Language: English (fluent) and Chinese Mandarin (native)
Certificates: Financial Risk Manager, Chartered Financial Analyst Level I

Citizenship

People's Republic of China