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Education

Ph.D. Agricultural & Applied Economics, University of Wisconsin–Madison, Expected 2021

Fields: Development, Applied Econometrics, Industrial Organization

M.A. Economics, Boston University, 2013

B.A. Economics (Honors Scholar), B.S. Mathematics (In Honors), *Magna Cum Laude*,
Virginia Polytechnic Institute & State University, 2012

Research Experience

University of Wisconsin–Madison

Student PI (Aflasafe Senegal project), 2019–Present

Research Assistant for Emilia Tjernström, 2017–2018

Research Assistant for Laura Schechter, 2015–2016

Innovations for Poverty Action, Dakar Urban Sanitation Project

PIs: Jean–François Houde, Molly Lipscomb, and Laura Schechter, 2013–2016

Virginia Polytechnic Institute & State University

Research Assistant for Djavad Salehi–Isfahani, 2012

Peer–Reviewed Publications

The reform of energy subsidies in Iran: the role of cash transfers,
with Djavad Salehi–Isfahani and Bryce Stucki. *Emerging Markets Finance and Trade*, Vol. 51,
Issue 6, 2015.

Job Market Paper

Contracting and quality upgrading: evidence from a pilot experiment in Senegal
with Tanguy Bernard and Ouambi Yameogo.

Working Papers

Measuring willingness to pay for reliable electricity: evidence from Senegal
with Agnieszka Postepska and Leopold Sarr. *Conditionally accepted, World Development*

Abstract: Low-quality electricity service constitutes a significant obstacle in achieving sustainable development. Governments in low-income countries and donors are increasingly seeking to invest in improving electricity service quality and reliability. Understanding households' and firms' willingness to pay (WTP) for quality improvements is key to designing investments in the electricity sector. In this paper, we provide new evidence on WTP for service quality improvements from a nationally-representative survey in Senegal. We find that households and firms are willing to pay a premium over current tariffs for high-quality electricity

service without outages. However, WTP for marginal service improvements is significantly lower than WTP for uninterrupted service, suggesting that, for households and firms, any increase in electricity tariff must be accompanied by substantial quality improvements. We discuss the multi-round bidding game built in our data to emphasize the importance of design choices in eliciting the WTP and draw some policy implications.

Can smallholder extension transform African agriculture?

with Maya Duru, Kim Siegal, and Emilia Tjernström. *NBER Working Paper No. 26054*

Abstract: Agricultural productivity in Sub-Saharan Africa lags behind all other regions of the world. Decades of investment in agricultural research and extension have yielded more evidence on what fails than on what works—especially for the small-scale producers who dominate the sector. We study a program that targets multiple constraints to productivity at once, similar to anti-poverty “graduation” interventions. Analyzing a randomized controlled trial in western Kenya, we find that participation causes statistically and economically significant gains in output, yields, and profits. In our preferred specification, the program increases maize production by 24% and profits by 17%. The program increases yields uniformly across the sample, while treatment effects on total output and profit impacts are slightly attenuated at the top end of the distribution.

Work in Progress

Adoption of improved sanitation technology in the longer run: evidence from Senegal
(preparing new draft)

Measurement error, validation data, and program evaluation
with Emilia Tjernström. (preparing new draft)

Spillovers without social interactions in urban sanitation
with Molly Lipscomb, Laura Schechter, and Siyao Jessica Zhu. (preparing new draft)

Using market mechanisms to increase the take-up of improved sanitation
with Jared Gars, Shoshana Griffith, Jean-François Houde, Terence Johnson, Molly Lipscomb, Mbaye Mbeguere, Sarah Nehrling, Laura Schechter, and Siyao Jessica Zhu.
(preparing new draft)

Pricing complexity and consumer behavior: evidence from a lab experiment
with Emilia Tjernström and Jeffrey Michler. (first experiment complete, follow-up experiment postponed due to COVID-19)

Contract structure, behavioral mechanisms, and the adoption of biocontrol technology in Senegal
with Tanguy Bernard, Laura Schechter, and Ouambi Yameogo. (pilot complete, full experiment postponed due to COVID-19)

Optimal price-setting mechanisms in the market for urban sanitation in Senegal
with Molly Lipscomb and Terence Johnson. (pilot in progress)

Press Appearances

“The Poop Cartel,” July 25, 2018: *Planet Money* (Episode 855); July 27, 2018: *All Things Considered* and *Goats and Soda*. NPR

Grants & Fellowships

PEDL Exploratory Research Grant (2020): *The effect of government relief measures on SME employment and survival in Burkina Faso during the COVID-19 crisis*, with Soumaila Gansonre, Louise Guillouet, and Aristide Ouedraogo [\$40,000]

Agricultural Technology Adoption Initiative (2019): *Credit, uncertainty, and monitoring for technology adoption: The case of Aflasafe in Senegal*, with Tanguy Bernard, Laura Schechter, and Ouambi Yameogo [\$141,000]

PEDL Capacity Building Grant (2019): *Exploring the structure of maize markets in Burkina Faso*, with Soumaila Gansonre, Louise Guillouet, and Aristide Ouedraogo [\$6,000]

CGIAR Research Program on Policies, Institutions, and Markets (2019): *Enhancing returns to technology adoption through independent certification: the case of Aflasafe in Senegal*, with Tahirou Abdoulaye, Tanguy Bernard, Konlambigue Matieyedou, Laura Schechter, and Ouambi Yameogo [\$315,000]

Kenneth and Pauline Parsons Graduate Fellowship Fund Research Travel Grant (2019)

UW-Madison Student Conference Travel Grant (2020)

UW-Madison Student Research Travel Grant (2019)

UW-Madison AAE Conference Presentation Travel Grants (2018, 2020)

UW-Madison / Mellon Foundation Area and International Studies Research Fellowship (2017)

UW-Madison University Fellowship (2015–2016; 2018–2019)

Invited Seminars

2019 IDinsight Dakar

Conference Presentations

2021 AEA/ASSA Annual Meeting (Poster)*

2020 Oxford Centre for the Study of African Economies (cancelled); AAEA Annual Meeting (Selected Presentation, cancelled); SEA Annual Meeting*; APPAM Annual Conference (Poster)*

2019 Midwest International Economic Development Conference; Global Poverty Research Lab Pre-Analysis Plan Mini-Conference

2018 Bay Area Behavioral and Experimental Economics Workshop; IDEAS Summer School in Development (Poster); AAEA Annual Meeting (Organized Symposium); North American ESA Conference

* planned

Workshop Participation

2019 NBER/African Development Bank: Transforming Rural Africa

2018 PEDL/NYU Abu Dhabi Workshop: The Frontiers of Research in Private Enterprise Development in Low-Income Countries; CEAR/Huebner Summer Risk Institute; Bill & Melinda Gates Foundation Dakar WASH MEDS Convening

Teaching Experience

TA, World Hunger & Malnutrition, UW-Madison, Spring 2020

Professional Service

Referee Service: African Journal of Agricultural and Resource Economics, Lahore Journal of Economics

Department Service: Taylor Hibbard Club President (2016–2017); Graduate Committee Student Representative (2017–2018); Coordinator, AAE Development/Political Economy Lab (2017)

Other Professional Experience

Independent Consultant [Analysis, Survey Programming, Data Management]

Research Analyst, Vela Environmental [now KCoe Isom] (2010–2012)

Intern, groSolar and Chesapeake Solar [now SolarCity/Tesla Solar] (2008, 2009)

Intern, Howard County Library IT Department (2005–2008)

Miscellaneous

Affiliations: American Economic Association, Agricultural & Applied Economics Association, Economic Science Association

Technical Proficiencies: Adobe Creative Suite, FrontlineSMS, \LaTeX , Linux, Matlab, ODK, Python, R, Stata, SurveyCTO, Web Design

Foreign Languages: English (native), French (fluent), Portuguese (basic, actively learning), Wolof (basic)

Honors and Awards: National Merit Scholar, National AP Scholar, Eagle Scout

Erdős Number: 6

References

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