

I am an applied microeconomist specializing in development, behavioral, and labor economics. My research examines how markets can be made more efficient and equitable to reduce poverty and promote sustainable development, using large-scale randomized trials, quasi-experiments, lab-in-the-field studies, and meta-analysis. I primarily study the decisions of farmers in rural low-income settings, who constitute the majority of households living in extreme poverty and are highly vulnerable to climate change. My research is grounded in decision theory: individuals make choices shaped by their (i) information set, their (ii) preferences and beliefs, and their (iii) resource constraints. In my work, I test interventions that are designed to improve the outcomes of their decisions by altering information sets, preferences and beliefs, or resource constraints and examines how such interventions can be scaled. Complementing this, I study constraints on organizational effectiveness, particularly in the public sector, in delivering services and scaling high-impact interventions.

### **Increasing access to information**

In my job market paper, **Information Frictions and Bargaining: Experimental Evidence From Rural Guinea-Bissau**, I study the impact of market information and commercialization advice on smallholder producers' sales decisions. Individuals making major financial decisions—such as asset sales or salary negotiations—often have access to advisors for information and guidance. Smallholder farmers in low- and middle-income countries face similarly high-stakes decisions when selling their production, which determines the majority of their income. Prior work has primarily focused on providing price information to farmers, with mixed effects on the prices they received. Less is known, however, about the impact of financial guidance that goes beyond information provision to inform farmers' sales decisions. I fill this gap through a large-scale clustered randomized trial with cashew farmers in Guinea-Bissau, where cashew accounts for 90% of export revenue. Weekly messages combining price information and commercialization advice increased farmer incomes by at least four times the intervention's implementation cost. The study's main contribution is to provide the first experimental evidence on offering commercialization advice to smallholder farmers in one of their most important financial decisions.

In a companion paper building on my job market paper, **Direct and Indirect Communication Strategies to Deliver Market Information (analysis ongoing)**, I study how different dissemination channels affect scalability. Employing a new randomized clustered control trial across 187 villages in Guinea-Bissau, we evaluate various models for disseminating market information, comparing direct subscription services with community-appointed liaisons who shared market updates. We find that liaisons increase take-up but that outcomes depend on how their selection method, underscoring the role of local governance in information diffusion.

### **Shifting preferences and beliefs**

Drawing from insights in behavioral economics and psychology, I design and evaluate interventions aiming to change not only individuals' knowledge, but also the beliefs and preferences that ultimately drive their decisions. In **The Future in Mind: Aspirations and Long-Term Outcomes in Rural Ethiopia (conditionally accepted at the Quarterly Journal of Economics)**, one of my doctoral thesis chapters, we find that showing role-model documentaries raises aspirations and, after five years, increases education spending, input use, asset accumulation, and well-being among farmers—providing the first evidence that a brief psychological intervention can have lasting economic impacts.

In ongoing work, **Individual Demand for Building State Effectiveness (working paper)**, I provide the first experimental evidence on public workers' willingness to invest in their own capacity, showing how individual motivations and organizational context shape these decisions. Using a Becker-DeGroot-Marshak mechanism embedded in a field experiment, we show how pro-social motivations and perceptions of organizational hierarchy shape workers' willingness to invest in their own capacity—shedding light on how human capital decisions differ in contexts with strong externalities. A parallel study in the same setting,

**Shifting Management for Performance: Evidence from Ethiopia's Public Sector Middle Managers** (*funding secured, intervention and data-collection ongoing*), seeks to understand whether middle-managers' behavior can be altered to improve performance by exposing them to different management styles through videos and a messaging campaign. These studies contribute to the organizational economics literature by showing that perceptions of the managerial environment within one's own organization shape investment in professional development, management, and effectiveness.

### Expanding resources

This line of work addresses more canonical development economics questions, examining how relaxing liquidity or credit constraints affects farmers' economic outcomes. **Long-run Impacts of Increased Access to Asset-collateralized Loans** (*analysis in progress*) studies how a relaxation of borrowing constraints affects adoption of capital-intensive technologies. Asset-collateralized loans are an evidence-based innovation common in high-income settings that increase farmers' access to productive assets and welfare, yet remain rare in low-income agricultural areas. Following dairy farmers a decade after an experiment with water tank loans in Kenya, this study finds persistent differences in water storage, spillovers across social and geographic networks, and long-run impacts on milk sales and children's education. The main contribution of this study is to provide the first evidence on the medium- to long-term economic impacts of innovative contractual arrangements in agricultural value chains.

Building from these findings, in **Scaling Financial Innovation: Expanding Access to Productive Assets for Farmers through Asset-Collateralized Loans** (*piloting ongoing*), we seek to understand how to scale asset-collateralized loans for productive assets. We designed a nationwide experiment to cost-effectively encourage savings and credit cooperatives (SACCOs) to adopt ACLs for farmers, positioning this innovation for broader scale. This study is currently piloting low-cost scaling strategies, involving a light-touch technical assistance package and a de-risking instrument (rather than a zero-interest loan) with SACCOs. The study seeks to expand the pilot to reach nationwide over 90 SACCOs and more than 500,000 producers, and contributes to our understanding of the drivers of scaling cost-effective financial innovations that can boost farmers' resilience.

In **Labour Market Effects of Ethiopia's Social Safety Net** (*working paper*), I examine how a flagship rural protection program that provides extra income and food, often in exchange for public works, affected occupational choice, wages, and migration. I show that employment shifted out of agriculture and into non-agricultural self-employment, largely through indirect effects on local labor markets. I do not find an effect on wages potentially due to the thinness of rural markets. In ongoing analysis, I also evaluate the impact on rural migration between 1999 and 2021. The main contribution is to highlight how market thinness in the labor market can reduce the distortionary impacts of labor work programs that had been documented in other settings with thicker labor markets.

### Future work

My research will continue building evidence on how digital advisory services, especially those harnessing artificial intelligence (AI), can support farmers in making their decisions and increase their productivity and resilience. I plan to build on research initiated through the **Innovation Commission for Climate Change, Food Security, and Agriculture** at the University of Chicago's Development Innovation Lab, where I helped identify cost-effective innovations ready to scale among farmers in low- and middle-income countries. Improved weather forecasts for farmers are one such innovation, and I am developing research studies to generate evidence on their impacts. I am leading a meta-analysis documenting their high benefit-cost ratios, have helped secure \$2 million in funding to investigate effective dissemination strategies leveraging AI-based forecast models, and am designing evaluations of various digital tools to deliver AI-informed advisories. To do so, I am collaborating with organizations, such as Precision Development and One Acre Fund, and government partners in Ethiopia and Mexico, to test and expand digital advisory services.