MENGFEI ZHOU

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EDUCATION

Ph.D. Agricultural and Resource Economics, University of California, Davis, 2025 (Expected)
M.S. Agricultural Economics and Management, Nanjing Agricultural University, 2020
B.S. Agricultural Economics and Management, Nanjing Agricultural University, 2017

RESEARCH INTEREST

Environmental Economics, Microeconomic Theory, Insurance

PUBLICATIONS

"**Value of incorporating ENSO forecast in crop insurance programs**"
with Fujin Yi and Yu Yvette Zhang,
American Journal of Agricultural Economics, 2020.

WORKING PAPERS

"Equilibrium in Competitive Insurance Markets under Endogenous Adverse Selection"
Job Market Paper, with Pierre Mérel and Andres Carvajal

In an insurance market with adverse selection, individuals with higher risk are more likely to purchase more insurance. The canonical adverse-selection model of Rothschild-Stiglitz (RS) assumes that the riskiness of agents is exogenously determined. This paper extends RS's analysis of market equilibrium under imperfect information by endogenizing agents' riskiness. In RS, agents are heterogeneous in their riskiness. However, in our model, agents are different in their risk preferences, and heterogeneity in risk preference induces agents to select different insurance contracts and engage in varying levels of mitigation effort to alter their risk. We characterize the features of an equilibrium and find that there is no pooling equilibrium in which only one contract is provided, and this contract attracts both mitigators and non-mitigators. In a two-agent model, we show a new type of separating equilibrium that differs from RS. In this scenario, high-risk-aversion types choose not to mitigate and receive full insurance that is actuarially fair for a high probability of loss, while low-risk-aversion types choose to mitigate and receive partial insurance that is actuarially fair for a low probability of loss. In addition, the insurance coverage for the low-risk-aversion types is limited to the maximum level that still incentivizes them to mitigate risk. The separating contract obtained here is an equilibrium regardless of the share of types. We further extend our analysis to allow for a continuum of types. We identify several possible equilibria and the necessary conditions for each to constitute an equilibrium. Our results indicate that the equilibrium may consist of two insurance contracts, with one attracting both mitigators and non-mitigators.

"Behavioral Responses to Wildfire Risk"

with Michael R. Springborn and Pierre Mérel

Wildfires are devastating and destructive natural disasters for homeowners and have increased in intensity and frequency over the past few decades. However, homeowners generally underinvest in mitigation activities, which can significantly reduce homeowners' exposure to wildfire damage. This research investigates the behavioral responses to wildfire incidence, specifically exploring whether homeowners invest more in mitigation after suffering a wildfire incidence. This study first evaluates how wildfire impacts the equilibrium of the insurance market, with a focus on quantitatively estimating the effect of wildfire on insurance prices and coverage while uncovering the mechanisms driving these changes. We further investigate the effect of wildfire on homeowners' other mitigation measures, especially whether they build defensible space after wildfire shock.

IN-PROGRESS

"Estimating the effect of air pollution on consumer decision-making under risk "
with Michael R. Springborn

PRESENTATIONS

2025 AEA/ASSA Annual Meeting, San Francisco, CA (scheduled)
2024 AAEA Annual Meeting, New Orleans, LA
2024 Giannini ARE Student Conference, Berkeley, CA

TEACHING EXPERIENCE

Teaching Assistant
ARE 100A Intermediate Microeconomics, UC Davis, Spring 2024
ARE 100B Managerial Economics, UC Davis, Winter 2022
ARE 107 Econometrics For Business Decisions, UC Davis, Winter 2024, Fall 2023, Spring 2022
ARE 172 Intermediate Microeconomics, UC Davis, Spring 2023
ARE 173 Capital Markets, UC Davis, Spring 2021

HONORS AND AWARDS

Giannini Foundation of Agricultural Economics 2024-2025 Mini-Grant, with Pierre Mérel
Summer Research Fellowship, UC Davis, 2024
Tuition Supplemental Fellowship, UC Davis, 2020

SKILLS AND LANGUAGES

Programming Languages: R, Stata, Latex, Matlab, Python
Languages: English (Fluent), Mandarin (Native)

REFERENCE

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