Hongqiang Yan

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Academic Positions

Postdoctoral Research Scholar, Arizona State University — 2024 – Present

- Morrison School of Agribusiness, W. P. Carey School of Business

Research Fields

Applied Econometrics, Agricultural Economics, Econometric Theory

Education

Ph.D. in Economics, North Carolina State University — 2024

- Dissertation: *"Essays on High-Dimensional Threshold Models"*
- Ph.D. Committee: Mehmet Caner (Chair), Barry Goodwin, Zheng Li, & Ilze Kalnina

Bachelor of Economics in Finance, Beijing Jiaotong University — 2016

Working Papers

"Global Maize Market Integration: Exchange Rates, Macroeconomic Factors, and Threshold Effects Using Post-LASSO Inference," with Barry Goodwin, & Mehmet Caner

- **Abstract**: This paper investigates the degree of market integration, exchange rate pass-through, and the market factors that contribute to deviations from perfect integration. To analyze the price linkage dynamics, we apply the novel debiased LASSO for uniformly valid statistical inference, including linearity testing and Granger causality testing within the high-dimensional threshold regression models. Our findings reveal significant global maize market integration, particularly when incorporating threshold effects and key market factors. Notably, consumer prices and unemployment emerge as important determinants of price linkages, underscoring their relevance in the global commodity market.

"The Impact of Soil Erosion on Mean Yields and Yield Risk" with Serkan Aglasan, Le Chen, & Roderick Rejesus

- **Abstract**:This study examines the impact of soil erosion on crop yields in the United States using county-level panel data. We use linear panel fixed effects models to assess how wind and water erosion affect the mean yields of soybeans and corn. The results show that higher soil erosion levels, whether from water, wind, or a combination, lead to significant reductions in mean yields. Additionally, soil erosion contributes to increased variance and kurtosis in corn yields, indicating greater yield instability, though its impact on soybean yield risk is less conclusive. To further explore the complexities of this relationship, we investigate potential nonlinear effects of soil erosion on crop yields. This analysis reveals complex nonlinear impacts of soil erosion, particularly on mean yields. These findings suggest that the relationship between soil erosion and crop yield is more intricate than what linear models can capture. Our study highlights important policy implications, emphasizing the need for targeted soil conservation strategies to mitigate the adverse effects of erosion on crop yields.

*"Uniform Inference in High-dimensional Threshold Regression Models"*with Jiatong Li

- **Abstract**: We develop uniform inference for high-dimensional slope parameters in threshold regression models, allowing for either cross-sectional or time series data. We first establish oracle inequalities for prediction errors, and ℓ_1 estimation errors for the Lasso estimator of the slope parameters and the threshold parameter, accommodating heteroskedastic non-subgaussian error terms and non-subgaussian covariates. Next, we derive the asymptotic distribution of tests involving an increasing number of slope parameters by debiasing (or desparsifying) the Lasso estimator in cases with no threshold effect and with a fixed threshold effect. We show that the asymptotic distributions in both cases are the same, allowing us to perform uniform inference without specifying whether the specification is a linear or threshold regression. Finally, we demonstrate the consistent performance of our estimator in both cases through simulation, and we apply the proposed estimator to analyze two empirical applications.

Work in Progress

"Data-Driven Estimates of Structural Change in the Demand for Multiple Peril Crop Insurance" with Barry Goodwin

"Non-parametric Estimation of Risk Preferences," with Xiaoyong Zheng & Zheng Li

Teaching Experience

Independent Instructor, NC State University 2023

- Principles of Microeconomics: Spring 2023

Graduate Teaching Assistant, NC State University 2018 – 2023

- Fundamentals of Microeconomics (Master-Level): Fall 2022, 2021, 2020
  * summer math camp and recitations
- Applied Econometrics I (Master-Level): Fall 2021, 2020, 2018
  * recitations
- Introduction to Commodity Futures Markets: Fall 2022
- Microeconomic II (Doctoral-Level): Spring 2020
- Introduction to Econometric Methods (Master-Level): Spring 2020
- Principles of Microeconomics: Spring 2022, Fall 2019
- Public Finance: Spring 2019

Fellowships, Awards and Grants

Goodnight Doctoral Fellowship, NC State University 2022 – 2024

- One of 30 recipients selected from doctoral students at NC State University
- Guaranteed up to four years

Jenkins Fellowship, NC State University 2023 – 2024

- Sole recipient selected from final year doctoral students in the Economics program.

Presentations

AAEA Annual Meeting (New Orleans, LA) 2024

AAEA Annual Meeting (Washington, DC) 2023

Midwest Econometrics Group Conference (East Lansing, MI) 2022

Service

Organizer for econometrics graduate students brown bag meetings, NC State University 2021 – 2022

Other Information

Programming: R, Python, MATLAB,STATA

Language: English(fluent), Mandarin Chinese(native)

Nationality/VISA Status: China/U.S. F-1