

Nan Zhi

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Department of Economics

University of Florida

Matherly Hall 331

Gainesville, FL 32611

EMPLOYMENT

University of Florida, Gainesville, FL
Visiting Assistant Professor, Department of Economics

August 2024-present

EDUCATION

Rutgers University, New Brunswick, NJ
Ph.D in Economics

2024

University of Southern California, Los Angeles, CA
M.A in Economics

2017

College of Saint Benedict/Saint John's University, St. Joseph, MN
B.A in Economics, Magna Cum Laude
Minors: Mathematics
Honors: Honor Thesis, Phi Beta Kappa

2015

RESEARCH FIELDS

Econometrics, Applied Microeconomics, Health Economics, Semiparametric Estimation

UNDER REVISION

“Estimating a Binary Model with Endogeneity in the Absence of Exclusion Restrictions” *Journal of Applied Econometrics, R&R*

WORKING PAPERS

“A Score Test for a Constant Threshold Variance in Binary Response Models with and without Endogeneity” with Roger Klein

“The Financial Literacy Divide: Cognitive Decline, Fintech Adoption, and Elder Fraud Risk” with Yixiao Jiang

“Market Power in Foreign Input Markets: Evidence from Chinese Manufacturing Firms” with Xinhao Wang and Wenxiao Dong

“The Relationship between Self-reported Health and Education: Using an Ordered Model with Endogeneity”

TEACHING EXPERIENCE

Instructor

University of Florida

- *Econometrics 2 (undergraduate course)*
- *Econometric Analysis 1 (MA course)*
- *Econometric Analysis 2 (MA thesis course)*
- *R Sessions*

Fall 2024, Fall 2025

Fall 2024, Fall 2025

Spring 2025

AY 2024-2025

Rutgers University

- *GAUSS Workshop (for first year Ph.D)* 2020-2023
- *Econometrics (undergraduate course)* 2023
- *Intermediate Microeconomics Analysis (undergraduate course)* 2021
- *Stata Workshop (undergraduate level)* 2023,2021

Teaching Assistant, Rutgers University 2018-2022

- *Seminar in Econometrics (Semiparametric Estimation)(Ph.D course, x2)*
- *Intro Econometrics (graduate course)*
- *Econometrics (undergraduate course, x2)*
- *Intermediate Microeconomics Analysis (undergraduate course, x4)*
- *Labor Economics (undergraduate course, x2)*
- *Introduction to Microeconomics(undergraduate course, x2)*
- *Law and Economics(undergraduate course)*
- *Gender and Economics(undergraduate course)*

PRESENTATIONS

Workshop in Applied and Theoretical Economics (WATE) 2025	2025 (scheduled)
CFE-CMStatistics Conference	2025 (scheduled)
95th Annual Meeting of the Southern Economic Association (SEA)	2025 (scheduled)
14th Annual Conference of the American Society of Health Economists	2025
89th Annual Meetings of the Midwest Economics Association (MEA)	2025
2025 Eastern Economic Association Annual Meeting (Session Chair)	2025
Microeconometrics Class of 2024 Conference at Northwestern University	2024
Eastern Economic Association (EEA) 50th Annual Conference	2024
Rutgers Econometrics Seminar	2023
Rutgers Applied Microeconomics Student Reading Group	2019,2021,2023

AWARDS AND SCHOLARSHIPS

Sidney I. Simon Prize for Outstanding Graduate Student Teaching, Rutgers	2024
School of Graduate Studies Research & Travel Award , Rutgers	2024
Professor Hiroki Tsurumi Graduate Dissertation Fund in Economics , Rutgers	2023
Teaching Assistantship , Rutgers	2018-2022
Sidney Brown Prize in Economics for outstanding performance, Rutgers	2020
Excellence Fellowship , Rutgers	2017
Dean's List , University of Southern California	2016
International Scholarship , College of Saint Benedict/Saint John's University	2012-2015
Fruth Summer Fellowship , College of Saint Benedict/Saint John's University	2014

ADVISING

Outside Committee Member, Ph.D. Defense — Xinhao Wang (Rutgers University)
Honors Thesis Advisor — Anisha Menashi (UF Undergraduate)
M.A. Thesis Class — Instructor (20 students, UF)

RESEARCH SERVICE ACTIVITIES

Organizer of Micro Student Reading Group	
Economics Department, Rutgers University	AY2020-2021
Research Assistant for Professor Noha Emara	
Rutgers University-Camden	Fall 2019
Peer Mentor/Advising Assistant	
Academic Advising Office, College of Saint Benedict/ Saint John's University	2013-2015
Planning Research Assistant Intern	
Peking University Government Research Center, Beijing, China	Summer 2013

SKILLS

Programs: R, Stata, Gauss, Matlab, Python, L^AT_EX, MS Office

Languages: Chinese (native), English (fluent)

REFERENCES

Roger Klein (Chair)

Professor of Economics

Department of Economics

Rutgers University

klein@economics.rutgers.edu

John Landon-Lane

Professor of Economics

Department of Economics

Rutgers University

john.landon-lane@rutgers.edu

Hilary Sigman

Professor of Economics

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“Estimating the Effect of Education on Health via a Binary Model with Endogeneity in the Absence of Exclusion Restrictions”

Abstract: This paper develops a control function estimator for a binary response model with a continuous endogenous regressor in the absence of exclusion restrictions. The proposed semiparametric approach utilizes heteroskedasticity to construct a control variable to address endogeneity. This paper establishes the large sample properties of the proposed Quasi Maximum Likelihood Estimator. In Monte-Carlo simulations, it performs well in finite samples. Using the Health and Retirement Study data, this paper employs a semiparametric model to estimate the heterogeneous effect of education on health without exclusion restrictions. Additionally, this paper estimates marginal effects based on the Average Structural Function.

“A Score Test for a Constant Threshold Variance in Binary Response Models with and without Endogeneity” with Roger Klein

Abstract: We propose a score test for heteroskedasticity in binary-response models with an endogenous continuous regressor. The test is constructed from quasi-maximum likelihood estimation of the binary model and ordinary least squares in the first stage. The resulting statistic is asymptotically standard normal under the null. Monte Carlo experiments indicate good size control and strong power in moderate samples. Since the procedure avoids parametric assumptions on the variance function, it provides a practical and robust diagnostic for heteroskedasticity in binary models with endogeneity.

“The Financial Literacy Divide: Cognitive Decline, Fintech Adoption, and Elder Fraud Risk” with Yixiao Jiang

Abstract: This paper examines the dual role of financial literacy in mediating the effects of cognitive decline on fintech adoption and elder fraud among U.S. older adults. Drawing on a conceptual framework integrating bounded rationality and rational crime theory, we introduce the “perception discount factor” (PDF) to model the convolution of literacy and cognitive decline. Using Health and Retirement Study data from 2002-2022, we first estimate the erosive impact of cognitive decline on financial literacy via a nonlinear mixed-effect panel regression, and then test *U*-shaped patterns via Heckman selection models to address biases toward high-functioning respondents. Empirical results confirm non-monotonic adoption for high-literacy elders, with rebounds exposing them to heightened fraud, while low-literacy individuals exhibit persistent disengagement. Cognitive impairment remains a key risk, but fraud targets educated, wealthy elders via overconfidence, challenging conventional vulnerability narratives. Protective factors like family guardianship and accurate risk perceptions mitigate victimization.

“Market Power in Foreign Input Markets: Evidence from Chinese Manufacturing Firms” with Xinhao Wang and Wenxiao Dong

This paper investigates monopsony power in foreign-input markets—the ability of downstream firms to pay prices below the marginal revenue product of imported intermediates. We develop a structural estimator that incorporates factor-biased (non-Hicks-neutral) technical change to recover firm-level markdowns. Using matched Chinese industrial firm and customs microdata from 2000–2007, we document economically large and persistent foreign-input markdowns. Over the same period, non-neutral technology expanded rapidly, reshaping effective input productivity. Ignoring this channel generates substantial bias in markdown estimates—overstating buyer power when technology is labor- or material-augmenting, and understating it when input-saving forces dominate. Monte Carlo simulations confirm that the proposed estimator performs well in finite samples. Empirically, we find that the median firm-level markdown corresponds to a market power measure of about 2.81, while the average growth rate of factor-biased technology is approximately 1.40. These results underscore the importance of incorporating non-neutral technical change in measuring input-market monopsony and provide a tractable empirical framework for its identification.

“The Relationship between Self-reported Health and Education: Using an Ordered Model with Endogeneity”

Abstract: This paper studies the effect of education on self-reported health. Literature focusing on the education endogeneity issue provides conflicting evidence. The approaches to deal with endogeneity can be quite problematic if parametric assumptions on error distributions are incorrect. I use an ordered model and address the endogeneity issue by both two-stage predicted substitute (2SPS) and control function (CF) approaches. Moreover, I adopt a semiparametric approach that could resolve both error distribution assumptions and potential misreporting outcome issues. Estimating by the two sample data sets NHIS 2017 and HRS 2016, the results indicate that with an additional year of education, individuals are a relatively large magnitude more likely to report that they are in the excellent health category but a relatively small magnitude less likely to report that they are in the poor health category.