

Yizun Yan

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EDUCATION

Ph.D. in Agricultural and Applied Economics, University of Illinois Urbana-Champaign	Expected 2027
M.S. in Environmental and Resource Economics, Renmin University of China	2022
B.S. in Management, Northwest Agricultural & Forestry University	2020

RESEARCH INTERESTS

Environmental and Resource Economics, Land Use, Climate Adaptation, Producer Decision-Making, Nonmarket Valuation

JOB MARKET PAPER

“Species Diversification as Climate Adaptation in Perennial Systems: Trading off Annual Costs for Long-term Resilience Benefits,” *with Shadi Atallah.*

Abstract: Species diversification can enhance the resilience of agroecosystems to climate-related shocks and serve as a climate adaptation strategy. We study how producers in perennial systems weigh the annual costs against the delayed resilience benefits of species diversification, and how climate projection information shifts this trade-off. Given that private investments in resilience generate public good benefits, we test whether producers view diversification by others as strategic complements or substitutes. This paper develops a dynamic optimization model of a producer choosing the optimal diversification intensity and tests its predictions with U.S. maple producers using a discrete choice experiment with a randomized climate information treatment. The annual payment required rises by about \$47 per acre for each percentage point increase in diversification intensity. Although longer contracts align commitments with the long-term horizon of resilience benefits, older producers require more than twice the additional payment relative to their younger peers and most of them prefer to keep their current monocultures, a status quo bias driven by their age. Producers view diversification by peers as a strategic complement to their own investments, reducing required payment by 29% when 50% of peers have diversified. Through a salience effect, region-specific climate projection information provisioning increases the weight producers place on future resilience benefits and reduces their sensitivity to annual yield losses. These results show three strategies for conservation programs seeking to increase agroecosystem resilience through species diversification to lower their costs: offering flexible contract terms, coordinating adoption among neighbors, and pairing payments with targeted climate information.

WORKING PAPERS

“Diversification as a Portfolio Decision: Evidence from a Choice Experiment in the U.S. Corn Belt,” *with Shadi Atallah and Ben Gramig.*

Abstract: This paper studies how farmers evaluate agricultural diversification alternatives that differ in expected returns, income risk, and production horizons. Using a choice experiment with producers in the U.S. Corn Belt, we examine how these economic considerations affect both the adoption and scale of diversification. The analysis sheds light on the relative importance of barriers to diversified production and informs the design of policies intended to address them.

“New England Maple Producers May Be Open to Diversifying the Species Composition of Their Sugarbushes,” *with Shadi Atallah, Muhammad Jawad Khan, and David Moore.*

Abstract: Maple syrup production in New England is projected to decline by about 50% by 2100 under climate change, and diversifying maple forests can enhance their resilience to extreme weather. We use a choice experiment with producers recruited at a maple industry conference in Massachusetts to elicit preferences for sugarbush diversification programs, focusing on diversification intensity given a trade-off between long-run resilience benefits and immediate

yield losses. Producers favored moderate levels, possibly because of perceived diminishing marginal benefits of diversification due to interspecies competition. They also favor longer contracts, consistent with the slow maturation of resilience benefits.

“Trade Liberalization and Urban Spatial Structure: Evidence from China’s WTO Accession,” *with Shang Xu and Hongliang Zhang.*

Abstract: We analyze how international trade shapes urban spatial structure, exploiting differential exposure to trade liberalization following China’s accession to the World Trade Organization. Our findings show that trade liberalization accounted for 38% of China’s urban expansion between 1995 and 2005. It also made cities more compact, reducing the average within-city distance by 8.9 kilometers. These effects are largely driven by indirect export exposure through industry input-output linkages, which increase population and firm density, boost household savings, and expand financial institution lending.

WORK IN PROGRESS

“Valuing Soil Microbiome-Mediated Ecosystem Services in Farm Management Decisions,” *with Shadi Atallah, Elias Bloom, and Clare Casteel.*

Abstract: This study examines how farmers value ecosystem services provided by soil microbiomes and how information about these otherwise difficult-to-observe services affects farm management decisions. Combining soil sampling and laboratory analysis on New York farms with a choice experiment, we link measured microbiome performance to farmers’ valuation and adoption of microbiome-supportive practices. The study provides a producer-side valuation of soil natural capital and examines how peer rankings of microbiome performance shape its management.

EXTENSION

“An Operation-Specific Decision Tool for Species Diversification in Sugarbush” 2026
Finalist, AAEE Extension Competition, Kansas City, MO

Abstract: This interactive decision tool helps maple syrup producers assess whether species diversification in their sugarbush fits their operation and, if so, at what level of diversification intensity. It combines financial cost-benefit analysis with producer preferences estimated from a choice experiment, starting from survey-based default values that producers replace with their own operation, market, and planning-horizon information. The tool supports both self-guided use and consultations with extension educators and foresters.

CONFERENCE AND SEMINAR PRESENTATIONS

“Species Diversification as Climate Adaptation in Perennial Systems: Trading off Annual Costs for Long-term Resilience Benefits”

Heartland Environmental and Resource Economics Workshop, Urbana, IL (scheduled) 2026

“Diversification as a Portfolio Decision: Evidence from a Choice Experiment in the U.S. Corn Belt”

Agricultural and Applied Economics Association (AAEA) Annual Meeting, Kansas City, MO (poster) 2026

“Maple Syrup Producers’ Willingness to Diversify Forests for Increased Resilience”

JEEM/REE Workshop on Nonmarket Valuation, Bilbao, Spain 2026

7th World Congress of Environmental and Resource Economists (WCERE), Carcavelos, Portugal 2026

Program in Environmental and Resource Economics (pERE), Urbana, IL 2025

XXVI Annual BIOECON Conference, Cambridge, UK 2025

Association of Environmental and Resource Economists (AERE) Conference, Santa Ana Pueblo, NM 2025

Agricultural and Applied Economics Association (AAEA) Annual Meeting, New Orleans, LA 2024

W5133 Multistate Research Project Meeting, Fort Collins, CO 2024

“International Trade and Urbanization: Evidence from China”

16th North American Meeting of the Urban Economics Association, Washington, D.C. 2022

RESEARCH EXPERIENCE

- Research Assistant** (Prof. Shadi Atallah), University of Illinois Urbana-Champaign 2023–Present
- Contributed to annual progress reports for two USDA-NIFA projects.
 - Coordinated a multi-state producer survey with the UNH Survey Center, including building a contact database of 1,483 maple syrup producers.
 - Mentored an M.S. student in choice model estimation and supervised two research assistants.
- Research Assistant** (Prof. Shang Xu and Prof. Hongliang Zhang), Renmin University of China 2020–2022
- Constructed a prefecture-level panel linking customs, employment, input-output, satellite land-use, and historical road network data.
- Research Assistant**, Chinese Academy of Agricultural Sciences 2020
- Reviewed research on payments for ecosystem services and ecological compensation mechanisms.

TEACHING EXPERIENCE AND TRAINING

- Instructor of Record**, University of Illinois Urbana-Champaign 2026–Present
ACE 161: Microcomputer Applications
- Participant**, 3rd Annual AAEA Teaching Academy, Kansas City, MO 2026
- Teaching Assistant**, University of Illinois Urbana-Champaign 2023–2024
ACE 474: Economics of Consumption; ACE 476: Behavioral Economics
- Teaching Assistant**, Renmin University of China 2021–2022
Intermediate Microeconomics; Development Economics

PRODUCER ENGAGEMENT

- Agroforestry for Conservation and Recreation Workshop (information booth), Monticello, IL 2025
- Farmer Focus Group for Corn Belt Diversification Survey (facilitator, 4 farmers), Urbana, IL 2025
- Backyard Maple Syrup Workshop (information booth), Dixon Springs, IL 2025
- International Maple Syrup Conference (information booth), Sturbridge, MA 2023

SERVICE AND LEADERSHIP

- Reviewer, *PLOS ONE* 2026
- Student Coordinator, Program in Environmental and Resource Economics (pERE) Seminar 2025
- Student Coordinator, Heartland Workshop (UIUC) 2025
- Graduate Student Organization Officer 2024–2025

HONORS AND AWARDS

- Finalist, AAEA Extension Competition 2026
- Agricultural and Applied Economics Association (AAEA) Trust Travel Grant 2026
- ACE Travel Award, University of Illinois Urbana-Champaign 2025, 2026
- Dunn & Linse Scholarship, University of Illinois Urbana-Champaign 2023
- Graduate Student Fellowship, Renmin University of China 2021, 2022
- China National Scholarship, Ministry of Education of China 2019

SKILLS

- Programming:** Stata, R, Python
- Software & Tools:** Ngene, ArcGIS, Qualtrics, GAUSS, JMP, LaTeX
- Languages:** Chinese (Native); English (Fluent)

REFERENCES

Shadi S. Atallah

Associate Professor

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Sustainability

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Madhu Khanna

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Ben Gramig

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WORK AUTHORIZATION

Citizenship: China

Work Authorization: F-1 visa; eligible for up to 3 years of STEM OPT