LINGE (LING) YANG

1+860-881-0279 | linge.yang@uconn.edu

Department of Agricultural and Resource Economics
UNIVERSITY OF CONNECTICUT

Wilfred B. Young Building, 1376 Storrs Road, Unit 4021, Room 302 Storrs, CT 06269-4021

EDUCATION

Ph.D. in Agricultural and Resource Economics, University of Connecticut, Summer 2027 (expected)
Master of Science in Quantitative Economics, University of Connecticut, December 2025
Bachelor of Arts, Double Major in Applied Math and Economics, Minor in Business Analytics, University of Connecticut, December 2021

FIELDS OF INTEREST

Environmental Economics, Production Economics, Applied Microeconomics, Applied Econometrics

PUBLICATION

Ray, S.C., Yang, L. (2024). Measurement and decomposition of profit efficiency under alternative definitions in nonparametric models. *Journal of Productivity Analysis*. https://doi.org/10.1007/s11123-024-00720-8

HONOR AND AWARD

- **Harriott Fellowship**, UConn Graduate School, Sep 2022
  This fellowship is intended to recruit and support the most promising students entering graduate programs at the University of Connecticut. The recipient of this fellowship will represent the very best applicant to graduate programs at the University.

- **Economic Department General Scholarship**, UConn Department of Economics, 2021
  This award is given to a deserving student based on a number of factors including but not limited to financial need and academic achievement.

- **Julia and Harold Fenton and Yolanda and Augustine Sineti Scholarship**, UConn Department of Economics, 2021
  This award is bestowed on a full-time junior economics major demonstrating academic achievement and interest in pursuing graduate school studies. As stipulated by the donor, priority will be given to students who demonstrate significant participation in community service activities and demonstrate financial need.

- **Louis D. Traurig Scholarship**, UConn Department of Economics, 2020
  This award is given each year to an outstanding economics major. As stipulated by the donor, some preference may be given to students from the Waterbury area, but all qualified students are encouraged to apply.

- **Academic Excellence Scholarship**, UConn Honors Program, 2018–2021
  Merit-based scholarship (renewable for 4 years; valued at a fixed amount determined on a yearly basis). Students who have achieved a very competitive high school academic average will be considered for this scholarship.

GRANT

- **Committee on the Status of Women in the Economics Profession (CSWEP) Workshop Travel Support**, Fall 2025
- **Agricultural & Applied Economics Association Labor Economics Workshop Travel Support**, Summer 2025
- **North American Productivity Workshop Young Researchers Program Travel Support**, Summer 2025
- **The Chinese Economist Society North America Conference Travel Support**, Spring 2025
- **Paul L. Putnam Professional Development Grant**, UConn ARE, Summer 2024, 2025
- **Conference Participation Fellowship**, UConn Graduate School, Spring 2025

TEACHING EXPERIENCE

- **Teaching Assistant**, ARE 3225 Price Analysis and Futures Trading, Spring 2026
- **Teaching Assistant**, ECON 2201 Intermediate Microeconomics, Summer 2022, 2023, 2024, 2025
- **Student Economic Tutor**, ECON 2326 Operations Research, Fall 2021
- **Teaching Assistant**, MATH 3510 Numerical Analysis I, Fall 2021
- **Student Notetaker**, MATH 2750W Technical Writing in Mathematics, Fall 2021

WORKING PAPER

- **Balancing Growth and Green: Analyzing the Economic-Environmental Trade-offs Through Chinese Secondary Industry**
This paper investigates the Chinese secondary industry, revealing two significant findings through the integration of neoclassical economic theory and contemporary quasi-experimental methods. Firstly, it reveals that stringent environmental regulations can result in substantial economic losses, underscoring the trade-off between environmental regulation and economic prosperity. Secondly, it identifies an inverted U-shaped relationship between environmental regulation and economic output, indicating the existence of an optimal regulation level where pollution abatement effort and economic growth are balanced. Echoing the emphasis on sustainability, this paper suggests regulatory policies can be designed to balance economic and environmental goals, particularly in developing countries facing global economic pressures. This study complements the benefit–cost analysis by using a production function approach within a partial equilibrium framework to assess industry-level impacts of environmental regulation. Unlike BCA's broader scope, this method directly estimates marginal and baseline economic effects, offering insights alongside EPA's health-focused standards under the Clean Air Act.

- **Addressing Agricultural Nonpoint Source Pollution from A Point Source Perspective**
Agrochemicals (such as pesticides and fertilizers) are essential for modern agriculture, with significant annual usage in the United States. However, improper application can lead to nonpoint source (NPS) pollution, negatively impacting water quality and human health. Although researchers acknowledge that agriculture is a major contributor to NPS, existing policies have been slow to address this issue effectively. The current literature identifies several approaches to mitigate agricultural NPS, such as voluntary programs, economic incentives, and tax. However, previous studies primarily consisted of analytical models and experimental tests, with a limited number of numerical studies. This paper addresses this large gap in literature by introducing a new input-based production efficiency approach that provides quantifiable insights, which is crucial for today's evidence-based policymaking. This estimation method can be used to quantify how much agrochemical use can be reduced at each farm without compromising crop yields. The proposed approach is inspired by the existing input-based Best Management Practices (BMPs) in the United States, the emergence of the Variable Rate Technologies (VRT), and the widely applied Data Envelopment Analysis (DEA) method.

- **Understanding the Relationship of U.S. Agricultural Labor and Technology**
This study analyzes the substitutability between labor and mechanization in U.S. agriculture using a translog cost function and county-level data from the 2002 and 2022 Census of Agriculture. We found that labor and mechanization are strong substitutes; thus, there is a general decline in substitutability at the national level in the past two decades. We also observe a declining own-price elasticity of labor, indicating reduced responsiveness of labor demand to wage change. Regional analysis highlights heterogeneity in substitution patterns, with areas like the West maintaining strong substitutability, while others exhibit mixed or complementary relationships. These results carry important policy implications. High substitutability supports continued investment in mechanization and informs the design of subsidies and R&D funding. This paper also contributes to a deeper understanding of input dynamics in agricultural production and offers evidence-based guidance for innovation and labor policy in the sector.

- **Profit Efficiency in Wheat Cultivation: An All-Indian Analysis of Farm Level Data** (Subhash Ray, Linge Yang)
This paper uses Data Envelopment Analysis (DEA) to measure profit efficiency in wheat farming, drawing on farm-level data from 4,529 farms across eight major wheat-producing states in India for the year 2016–2017. To the best of our knowledge, this is the first study to examine production efficiency in Indian agriculture focused on a single crop rather than the total value of output at a national scale, encompassing all major wheat-growing regions. We decompose profit efficiency into its technical and allocative components by exploring several alternative approaches to measure technical efficiency, including McFadden's gauge function along with the conventional radial input-oriented distance function and the directional distance function. To explicitly account for agro-climatic heterogeneity across states, we construct state-specific production frontiers using only within-state observations to define reference technology. Our empirical findings reveal that while average technical efficiency is not particularly low, extremely low levels of allocative efficiency significantly reduce overall profit efficiency. This result holds consistently across all definitions of technical efficiency considered. We speculate that the measured allocative efficiency could have resulted from market imperfections.

RESEARCH ASSISTANT PROJECT

- **USDA ERS Strategic Priority Grant Project** — "The Impact of Specialty Local Food Retailers on Local Consumers and Direct Marketing Producers using Agricultural Census Data" (with Cristina Connolly, Greg Astill, Xiao Dong, Yanan Liu, Allen Klaiber) — From Fall 2022 to Spring 2025

- **UConn Integrated Multi-State Hatch Project** — "Entrepreneurial Networks, Resource Access, and Performance of New England Small- and Medium-Sized Farms" (with Emma Bojinova, Cristina Connolly, Jason Entsminger) — From Fall 2022 to Fall 2025

CONFERENCE REVIEWER

- 2025 AERE Summer Conference
- 2025 AERE @ SEA Conference
- 2025 UConn Graduate Student Research Symposium

JOURNAL REVIEWER

Canadian Journal of Economics

PROFESSIONAL TRAINING

- **Successfully Navigating Your Economics PhD Workshop**, CSWEP, Fall 2025
- **U21 Sustainable Micro-internship: SDG Focus: Decent Work and Economic Growth**, Winter 2024
- **Exploring the Diverse Paths to Invention of U.S.-trained Doctoral Scientists and Engineers Applied Data Analytics Training**, National Center for Science and Engineering Statistics (National Science Foundation) and the Coleridge Initiative, Summer 2024
  Final output and report available on GitHub.

PRESENTATION

- **Balancing Growth and Green: Analyzing the Economic-Environmental Trade-offs Through Chinese Secondary Industry**
  - 2025 ARE Graduate Research Seminar
  - 2025 Eastern Economic Association Annual Conference
  - 2025 Chinese Economists Society (CES) North American Conference
  - 2025 AERE @ the Southern Economic Association (SEA)
  - 2025 AERE @ OSWEET

- **Addressing Agricultural Nonpoint Source Pollution from a Point Source Perspective**
  - 2024 ARE Graduate Research Seminar
  - 2025 UConn College of Agriculture, Health and Natural Resources Graduate Student Research Forum
  - 2025 Northeastern Agricultural and Resource Economics Association (NAREA) Annual Meeting
  - 2025 North American Productivity Workshop (NAPW)

- **Understanding the Relationship of U.S. Ag Labor and Technology**
  - 2025 ARE Graduate Research Seminar
  - 2025 CSWEP Mentoring Workshop

- **From Aisles to Acres: How Specialty Grocery Stores Influence Farmer's Land Use Decision**
  - 2024 Agricultural and Applied Economics Association (AAEA) Track Session

- **A Dual Approach to Addressing the American Farm Labor Shortage: From H-2A Policy Reform to Technological Innovations**
  - 2024 AAEA C-FARE and GSS Policy Communications Competition, Third Place

INDUSTRY EXPERIENCE

- **Academic Tutor**, Sinica Education, Online — April 2025 – Present
- **Client Service Professional (CSP)**, H&R Block, Manchester Parkade, CT — Jan 2022 – Jun 2022
- **Intern**, Greater New England Minority Supplier Development Council, New Haven, CT — Mar 2021 – Dec 2021
- **Intern**, Changing the Present, New York City, NY — Sep 2019 – Dec 2019

ADDITIONAL INFORMATION

Citizenship: United States of America
Languages: English, Chinese Mandarin
Skills: Proficient in STATA, LaTeX, Python, R, Tableau, SQL, Excel Solver, Qualtrics, ArcGIS Pro, MATLAB