Junyu Zhang

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Research Interests

Applied Microeconomics, Labor Economics, Health Economics, Economics of Education, Public Finance

Education

Stony Brook University Expected May 2026
Ph.D. in Economics (Advisors: Steven Stern, Mark Montgomery)

Wuhan University April 2019
B.A. in Economics

The George Washington University July 2018
Summer Program in Data Science

Publications

Fan Liu, Junyu Zhang, Shaochun Yang. Research on Health Evaluation of Sustainable Regional Innovation Ecosystems Based on Improved Niche Suitability Model[J]. Innovation and Development Policy, 2021, 3(01):38-58.

Fan Liu, Junyu Zhang, Mingliang Deng. Study on health evaluation of regional innovation ecosystem based on improved niche fitness model[J]. Science and Technology Management Research, 2019, 39(16):1-10.

Fan Liu, Junyu Zhang. Review of ecological suitability evaluation of Regional Innovation Ecosystem[J]. Tribune of Social Sciences, 2018, pp.46-49.

Fan Liu, Hu Peng, Junyu Zhang. Evaluation of innovation ecosystem in Hubei hi-tech Development Zone[A].In Tang Wei (eds.). Hubei Development Research Report 2018[C]. Wuhan:Wuhan University Press, 2018, pp.193-206.

Working Papers

Spousal Effects: Will You Smoke/Quit Smoking Because of Me? (with *Hualong Diao*)

How Does School Violence Affect Immigrant and Native-Born Children? Exploring Impacts on Mental Health and Academic Outcomes. (with *Hualong Diao*)

A Study on Urban-rural Differences in the Rate of Return on Education for Chinese Women (*Bachelor's Thesis*)

Work in Progress

Human Capital Investment in College Facing the Burden of Tuition. (*Job Market Paper*)

Does Marriage Affect Gender and Race Differences in Intergenerational Mobility?

Work Experience

Academy of Development of Wuhan University | *Research Assistant* Oct. 2016 - June 2019

- Participated in multiple key projects, including "The Path of Transformation and Upgrading of China's Old Industrial Cities" and "Health Evaluation on Regional Innovation Ecosystem", supported by high-level entities like the NDRC of China.
- Employed advanced analytical models and tools such as TOPSIS-Entropy Model, SE-DEA Model, Coupled Coordination Analysis Model, and Principal Component Analysis (PCA) to assess development scales, efficiencies, and ecosystem health.
- Innovatively developed and implemented complex data analysis solutions using software like SAS and MATLAB, which involved setting up new index systems and applying text analysis techniques with ROOST to derive actionable insights from extensive data sets.

Teaching Experience

Stony Brook University | *Instructor*
ECO 389 Cooperate Finance — Summer 2024

Stony Brook University | *Teaching Assistant*
ECO 108 Introduction to Economics — Fall 2024, Fall 2019, Spring 2020
ECO 321 Econometrics — Fall 2022 - Spring 2024, Spring 2021
ECO 521 Econometrics (Ph.D. level) — Spring 2022
ECO 520 Mathematical Statistics (Ph.D. level) — Fall 2021
ECO 389 Corporate Finance — Fall 2020

Wuhan University | *Teaching Assistant*
Industrial Organization — Fall 2018

Conference Presentations

*scheduled; † co-author presented

2025: American Economic Association (AEA) Annual Meeting
The BRIDGES Graduate Conference
Chinese Economists Society (CES) North America Annual Conference*

2024: Western Economic Association International (WEAI) 99th Annual Conference
American Society of Health Economists (ASHEcon) Conference†
Annual Conference of the Pennsylvania Economic Association (PEA)
Chinese Economists Society (CES) North America Annual Conference
Annual Meetings of the Missouri Valley Economic Association

Awards

Graduate Fellowship Award | *Stony Brook University* — 2019-present
Travel Funding for Conference Presentations | *Economics Department at Stony Brook University* — 2025 & 2024
Professional Development Fund | *Graduate Student Organization (GSO)* — 2024
Funds of National Innovation and Entrepreneurship Training Project | *China's Ministry of Education* — 2019
Special Scholarship for Undergraduates Exchange Learning Abroad | *WHU* — 2018
"Honorable Mention" of the Mathematical Contest in Modeling | *COMAP* — 2018
Scholarship for Undergraduate | *WHU* — 2015-2017

Research Skills

Statistical Techniques and Modeling: Dynamic Programming, Causal Inference, Simultaneous Equation, Econometrics, Data Analysis and Visualization with Panel Data and Cross-sectional Data
Programming: Stata, Python, R, Matlab, Fortran, SQL, Microsoft Office and LaTeX

Additional Information

Languages: English(fluent); Mandarin(native); French(beginner)
Certificates: CFA (Passed Level I exam); Online Teaching Certificate (Center for Excellence in Learning and Teaching at Stony Brook University)

Human Capital Investment in College Facing the Burden of Tuition (job market paper)

Abstract: In the context of increasing tuition costs that have outpaced family incomes and the increasing reliance of students on student loans and part-time employment to finance their college education, this research aims to investigate the decision-making processes related to financing college and the human capital investment of undergraduate students in the United States. Using two central datasets, the National Longitudinal Survey of Youth 1997 (NLSY97) and the Integrated Post-secondary Education Data Systems (IPEDS), this study departs from previous literature by treating financial decisions as endogenous variables. The primary aim of this study is to reveal the interaction between students' financial decisions such as applying for student loans and working during the college years, and their human capital investment decisions, including major selection, study effort, and time to degree completion. Furthermore, the research delves into the roles played by factors like gender, family income, and ability in shaping these decisions. It also studies the influence of specific student loan policies and group-targeted policies on academic performance and major selection. The research findings bear significant potential for guiding education policy recommendations.

Spousal Effects: Will You Smoke/Quit Smoking Because of Me? (with Hualong Diao)

Abstract: Analyzing Panel Study of Income Dynamics (PSID) data spanning from 1999 to 2019, we use a simultaneous equation model with censored dependent variables to estimate the spousal effects on smoking behavior as well as the effects of spousal health conditions. By accounting for previous smoking behaviors, state-level cigarette taxes, and unobserved heterogeneity, the model allows us to address simultaneity, homophily, and confounding issues without concerns about multiple equilibria. We also consider mental illness records, pregnancy, and health-related occupations, which heavily influence smoking awareness and attitude. We account for the hidden states of lung disease and heart disease variables, which include: the husband and wife's respective family history of smoking and their family economic status, state-level COPD prevalence, alcohol use, and past diabetes. Our results highlight a strong and positive spousal effect on smoking behaviors. Specifically, husbands tend to smoke less if wives are associated with a higher likelihood of lung disease, while the corresponding effect is the opposite in wives' equation. Mental illness history increases the propensity and intensity to smoke for both husband and wife, with the effects being statistically significant for wives. A wife is less likely to smoke during her pregnancy, an effect that is not significant for the husband.

How Does School Violence Affect Immigrant and Native-Born Children? Exploring Impacts on Mental Health and Academic Outcomes (with Hualong Diao)

Abstract: This paper investigates how school violence affects academic outcomes through the impacts on mental health for native-born American and immigrant children. We highlight that preventing school violence can improve mental health and academic performance, thus enhancing economic prospects and promoting generational social mobility. We use a simultaneous equations model to examine the structural relationships of bullying involvement, mental health and academic outcomes. Analyzing the 2022 National Survey of Children's Health (NSCH2022), our findings reveal that immigrant children are generally less involved as bullies or victims than their native-born counterparts. Yet, children in white immigrant or low-income families are more susceptible to school violence. Controlling for factors such as parental mental health, attitudes towards children, and life experiences, we find that immigrant children are mentally healthier compared to native-born children, except for white immigrants who face more significant mental health challenges. Being bullied significantly increases the likelihood of experiencing mental health issues, while being a bully has a converse impact. This impact shows no significant difference between immigrant and native-born children. While immigrant children perform better than native- born children academically, those from white immigrant families show worse academic performance. Although mental health improves school performance, this link is weaker in immigrant children.

Research on Health Evaluation of Sustainable Regional Innovation Ecosystems Based on Improved Niche Suitability Model (with Fan Liu and Shaochun Yang)

Abstract: While researchers have used the traditional index system – part of the niche-fitness model – to evaluate the innovation ecosystem, this index system can be seen as not being sufficiently objective, with the consequent problem that it gives equal weight to the indicators and so does not specify the important factors. To remedy this problem of insufficient objectivity, this paper seeks to improve the traditional niche-fitness model in two ways, which are based on the theory of the innovation ecosystem. First, by introducing the principal components analytic method to solve multiple mutual linear problems. Second, by constructing a new evaluation index system from the four aspects of openness, synergy, sustainability, and growth. This new evaluation index system is closer to the characteristics of the organic and evolutionary nature of the sustainable innovation ecosystem compared with the traditional index system. By using the evaluation index system, the research carries out a health assessment for the sustainable innovation ecosystems in different regions of provincial and municipal China from the two perspectives of descriptive and quantitative analyses. Through these analyses, our findings suggest that the sustainable regional innovation ecosystems in China are, on the whole, in an imbalance: there is a gradual decreasing trend from the eastern coastal areas to the central and western regions, and then the northeast regions.

A Study on Urban-rural Differences in the Rate of Return on Education for Chinese Women (bachelor's thesis)

Abstract: The improvement of women's education level and labor income is conducive to promoting gender equality in the labor market, effectively enhancing their decision-making power and bargaining power in the family, and has a positive impact on reducing fertility, improving the survival rate of infants, and increasing investment in children's education. Therefore, it is of great significance to quantitatively study female education returns, especially focusing on the urban-rural differences in the female education returns, considering the urban-rural dual system in China. At present, most domestic scholars use Mincer model to study education returns, but in the aspect of research methods, it is unable to avoid the bias of sample selection; in the aspect of research topic, most of them pay attention to education returns from macro-view, only a few focus on female education returns, even there is no research on the difference between urban and rural return on female education returns; in the aspect of research findings, since the survey data, model and variables are differently selected, it is difficult to reach a consistent conclusion in the study of the same topic in education returns. Therefore, this paper attempted to use the improved Mincer equation, as well as Heckman sample selection model, and using the survey data of CHIP in 2013 to analyze the urban-rural differences in female education returns. Research found that, on the whole, female education returns in China tends to increase with the education level. However, there are significant differences in female education returns between urban and rural areas and among education stages.