Xin Gu

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Education

Ph.D. in Economics, Georgia Institute of Technology, U.S., August 2017 - May 2023 (expected)

Dissertation: "Peer Effects and Human Capital Accumulation"

Committee: Haizheng Li (Chair), Patrick McCarthy, Justin Burkett, Daniel Kreisman, Karen Yan

M.S. in Economics, University of Mannheim, Germany, September 2013 - December 2016

B.S. in Management Science and Engineering, Shanghai University, China, September 2009 - July 2013

Exchange Program, Jönköping International Business School, Sweden, August 2012 - December 2012

Research and Teaching Interests

Research: Labor Economics, Education Economics, Applied Econometrics, Applied Microeconomics, Experimental Economics, Development Economics

Teaching: Labor Economics, Econometrics, Microeconomics, Principles of Macroeconomics, Industrial Organization, Urban and Regional Economics, Stata/R programming, Introductory Machine Learning

Publications

"Classmates and Friends Matter! Peer Effects on Cognitive Ability Formation", Accepted at *China Economic Review* (1-year Impact Factor: 4.74; 5-year Impact Factor: 5.19), December 2022

"Uncertain Risk Aversion", with Jian Zhou, Yuanyuan Liu, Xiaoxia Zhang, and Di Wang, *Journal of Intelligent Manufacturing*, 2017, 28(3): 615-624.

"Model of Valuation for Supply Chain Finance based on Focal Company", with Jian Zhou and Ke Wang, *Journal of Commercial Economics* (Chinese Journal), 2015(27): 77-80.

Submissions and Working Papers

"Does the Closeness of Peers Matter? An Investigation Using Online Training Platform Data and Survey Data", with Haizheng Li, Job Market Paper, Submitted to *Journal of Public Economics*, December 2022

"Peer Effects with Sample Selection", with Haizheng Li, Zhongjian Lin, and Xun Tang, Under Review at *Journal of Econometrics*, December 2022

"Does Your Cohort Matter? Evidence from a Field Experiment on Online Learning Decisions", with Lanfang Deng and Yiting Xu, December 2022

Works in Progress

"Randomizing or Sorting? Class Assignment and Cognitive Ability"

"Provincial Test-based Education Quality Index of China"

Teaching Experience

Independent Instructor, Georgia Institute of Technology

Statistical Analysis in Public Policy (Undergraduate): Spring 2023

Principle of Microeconomics (Undergraduate): Summer 2022, Spring 2022, Summer 2020, Fall 2020 (Student Evaluations: 4.6/5)

Graduate Teaching Assistant, Georgia Institute of Technology

Microeconomic Analysis (Graduate): Fall 2022, Fall 2019

Industrial Organization (Undergraduate): Fall 2021

Empirical Practicum III: Visual Business Analytics with SAS Viya (Undergraduate): Summer 2021

Urban and Regional Economics (Undergraduate and Graduate): Spring 2021

Econometric Analysis (Undergraduate): Spring 2020

Principal of Macroeconomics (Undergraduate): Spring 2019, Fall 2018, Spring 2018, Fall 2017

Conference Presentations

Southern Economic Association Annual Conference: 2022, 2021, 2020

International Symposium on Human Capital and Labor Markets (Beijing): 2022, 2021, 2020

Asia Conference on Business and Economic Studies: 2022

Referee Experience

Labour Economics ($\times 2$), Economics of Education Review ($\times 1$), Eastern Economic Journal ($\times 4$)

Selected Honors and Awards

IAC Graduate Conference Presentation Award ($750), Georgia Institute of Technology, 2022

Graduate Student Instructor in Economics of the Year, Georgia Institute of Technology, 2021

3rd-Year Paper Award of School of Economics ($500), Georgia Institute of Technology, 2020

Graduate Teaching Assistant in Economics of the Year, Georgia Institute of Technology, 2019

German Scholarship ($350/month), German Federal Ministry of Education and Research, 2014, 2015

Swedish Linnaeus-Palme Scholarship ($900/month), Jönköping University, 2012

Top Prize Scholarship ($500), Shanghai University, 2010, 2011, 2012

References

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Karen Yan
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Paper Abstracts

"Classmates and Friends Matter! Peer Effects on Cognitive Ability Formation", Accepted at *China Economic Review*

In this paper, I investigate the impact of peer effects on cognitive ability formation at two different levels–class peers and close friends simultaneously. I use random class assignments in the China Education Panel Survey (CEPS) to deal with ability sorting and self-selection into classroom when estimating class peer effects. In addition, I include initial human capital to control for time-invariant unobservables based on which students make friends. I find significant positive peer effects on student cognitive ability formation at both levels. Peer effects are heterogeneous across student ability. Peer effects work through two channels–peer conformity and peer complementarity. I find both channels generate positive peer effects and jointly determine the size of overall estimated peer effects.

"Does the Closeness of Peers Matter? An Investigation Using Online Training Platform Data and Survey Data", with Haizheng Li, Job Market Paper, Submitted to *Journal of Public Economics*

We study peer effects in online training participation using unique data from a large-scale online teacher training program. The platform data allow us to observe the accurate duration of attendance for every individual-lecture pair, overcoming the challenges in estimating peer effects. The sample includes 138,032 observations from 8,627 trainees in 16 lectures. We categorize peers into global peers, local peers, and close peers based on their relationships. By controlling for unobserved heterogeneity by individual and lecture fixed effects, we find positive effects of close and local peer appearance on one joining a lecture and staying longer. However, global peers generate a negative but economically insignificant impact. The results show that close and local peers generate complement effects, but global peers generate substitution effects. In our context, the substitution effects may result from the possibility that absence or early leave may not be noticed to affect reputation. In contrast, the complementary effects occur if the pressure from peers makes one follow group actions to attend and stay longer in a lecture. Overall, peer effects differ by group and increase with the relationship closeness. Using the survey data, we investigate the mechanisms and find that social interactions facilitate online peer effects. Peer pressure and reputation concerns also help explain our findings. Our results shed new light on how peer effects can be utilized to improve online learning effectiveness.

"Peer Effects with Sample Selection", with Haizheng Li, Zhongjian Lin, and Xun Tang, Under Review at *Journal of Econometrics*

This paper studies peer effects in the presence of sample selection. Nonrandom selection in group participation is fundamental in social interactions studies. With peer effects and simultaneity, individual selection bias leads to a group-level selection bias. We propose to include correction terms for both selection biases and use them to solve the reflection problem. We apply our method to study peer effects in an online training program. We document significant peer effects and selection bias in the duration of lecture attendance among the trainees. Ignoring sample selection would yield misleading results of the peer effects.

"Does Your Cohort Matter? Evidence from a Field Experiment on Online Learning Decisions", with Lanfang Deng and Yiting Xu

We conduct a randomized controlled trial (RCT) and assign trainees into 1 control and 4 treatment groups that are comparable in personal characteristics and historical learning outcomes. We send text messages that specify peers' occupation status, tenured or untenured, and reveal their historical learning outcomes to the treatment groups. Using the difference-in-differences (DID) model, we find that the treatment effects on the after-treatment learning outcomes are mainly driven by knowing peers' pre-treatment attendance duration, rather than peers' pre-treatment participation propensity. Moreover, we find that trainees who are tenured teachers do not change their online learning behaviors when receiving the information about their peers who are also tenured teachers. In contrast, untenured teachers respond strongly to the information about their peers, especially about those who are untenured teachers as well. In addition, underperforming trainees are more likely to attend and stay longer in the post-treatment lectures, while outperforming trainees reduce the effort in participation.