

EDUCATION	<b>University of Illinois at Urbana-Champaign</b> <i>Ph.D. in Economics</i> Advisor: Prof. Tatyana Deryugina	Champaign, IL May 2026 ( <i>expected</i> )
	<b>University of Illinois at Urbana-Champaign</b> <i>M.S. in Policy Economics</i>	Champaign, IL Dec 2019
	<b>University of International Business and Economics (UIBE)</b> <i>B.S. in Economics (Minor in French)</i>	Beijing, China Jun 2018
	<b>University of California, Berkeley</b> <i>Exchange student</i>	Berkeley, CA Jan 2017 - May 2017

RESEARCH INTEREST      **Causal Inference, Environmental Economics, Behavioral Economics**

WORKING PAPERS      **Air Pollution and Economic Activity: Evidence from Foot Traffic Patterns in the U.S.** (Job Market Paper)

I investigate how air pollution affects economic activity. Using over 600 million phone-location-based foot traffic data points from SafeGraph, I conduct a large-scale analysis to examine the causal effect of air pollution on activity patterns across the US. Using changes in local wind direction as an instrumental variable (IV) for air pollution, I find that a  $1 \mu\text{g}/\text{m}^3$  increase in PM2.5 concentration leads to a 0.50% decrease in economic activity, resulting in a nationwide reduction of 43 million trips annually. The reductions are widespread across different economic sectors, with recreational activities experiencing the largest decline. The effect is more pronounced in higher-income counties and areas with a larger share of children, suggesting greater awareness among wealthier or more vulnerable populations.

**Go with the Wind: Polluters' Strategic Response to Wind Directions**

I investigate the strategic responses of polluters in the US. Under the Clean Air Act, data from air quality monitors are crucial for determining whether an area meets environmental standards. Since air pollution can be easily carried by wind, these monitors capture more pollution from upwind areas and less from downwind areas. As a result, polluters may be incentivized to emit less on days when they are upwind and more when they are downwind. I identify such strategic behavior among US power plants, finding that a one-standard-deviation increase in favorable wind direction (i.e., when the wind blows pollutants away from monitors) leads to a 0.8% and 0.5% increase in sulfur dioxide ( $\text{SO}_2$ ) and nitrogen dioxide ( $\text{NO}_x$ ) emissions, respectively. At the same time, fuel input remains unchanged, but the emission rate rises, suggesting that power plants temporarily turn off pollution control equipment. Additionally, the increase is more pronounced when power plants and monitors are in the same state, suggesting that local governments may be more lenient when local polluters' emissions do not negatively impact their monitoring outcomes.

WORK IN PROGRESS      **Natural Disasters and Occupational Mobility: Evidence from the 1927 Mississippi Flood** (joint with Xiaohan Wang)

**Social Networks and Household Protective Investments: Evidence from Wildfire Smoke** (joint with Sanjukta Mitra)

WORKING  
EXPERIENCE

**Gies College of Business, UIUC**

Champaign, IL

Research Assistant to Prof. Tatyana Deryugina

Aug 2022 – present

- Interpolated missing data for hurricane wind speeds and matched them with 9-digit zip codes.
- Performed InMAP simulations to distinguish PM2.5 that directly emitted by a source from PM2.5 that is formed from SO2.
- Formatted and processed 272m+ geo-spatial data.
- Cleaned weather and labor-related data from 1969-2020.
- Established panel fixed-effects models to estimate the marginal effects of climate.

**Department of Economics, UIUC**

Champaign, IL

Research Assistant to Prof. Eunyi Chung

June 2021- Aug 2022

- Assisted in developing two adjusted permutation tests, which are more robust than the traditional permutation test. Wrote corresponding R codes and Packages.
- Implemented a Regression Discontinuity application to this framework.
- Compared the performance of these two adjusted permutation methods in terms of type 1 error and power by running Monte Carlo Simulations using R.

**China Institute for Educational Finance Research, Peking University** Beijing, China

Research Associate

Mar 2020 - Aug 2020

- Assisted in developing and implementing a randomized experiment which aims to study the causal effect of bedtime story on children's development.
- Designed student's non-cognitive evaluation assessments for boarding schools in rural China.
- Recruited and trained 120 student researchers and organized field research and online investigation.

**Risk Management Department, Bank of Communications**

Shanghai, China

Data Analyst Intern

Jun 2017 - Aug 2017

- Sorted and selected mortgage loan data using SQL and conducted data cleaning and feature selection.
- Established Logistic Regression to Predict the Probability of Default of each client.
- Utilized Decision Tree and Support Vector Machine to realize client classification and updated the database by red-flagging high-risk clients.
- Acquired up-to-date housing price data from public networks using a web crawler and analyzed the risks of housing mortgage loans via statistical changes in housing prices.

**School of International Trade and Economics, UIBE**

Beijing, China

Research Assistant to Prof. Deyu Yuan

Sep 2016 - Jan 2017

- Assisted in designing survey instruments for a study on rural infrastructure demand in Beijing.
- Coordinated field data collection across multiple districts.
- Cleaned and validated survey response data, ensuring high data quality.
- Performed preliminary statistical analysis and generated descriptive and correlation statistics.

CONFERENCES AND WORKSHOPS	<b>2025</b> NBER Environmental and Energy Policy and the Economy Conference (Washington, DC), Midwest Economics Association Annual Conference (Kansas City), East Economics Association Annual Conference (New York City), Applied Micro Research Lunch (UIUC), Graduate Student Research Seminar (UIUC)
	<b>2024</b> Occasional Workshop in Environmental and Resource Economics (UCSB), Online Summer Workshop in Environment, Energy, and Transportation (Virtual), Applied Micro Research Lunch (UIUC), Graduate Student Research Seminar (UIUC)
	<b>2023</b> Price Theory Summer Camp (University of Chicago), Applied Micro Research Lunch (UIUC)
	<b>2022</b> Berkeley/Solan Summer School in Environmental and Energy Economics, Applied Micro Research Lunch (UIUC)
TEACHING EXPERIENCE	<b>ECON 102: Microeconomic Principles</b> Fall 2021, Spring 2022 Teaching Assistant
	<b>The Economics of the Firm (EMBA at the University of Warsaw)</b> Fall 2019 Teaching Assistant to Prof. Hadi Esfahani
	<b>Econ 528: Microeconomics for Business</b> Spring 2019, Summer 2019 Course Assistant
AWARDS	• Robert Willis Harbeson Memorial Dissertation Fellowship, University of Illinois 2025
	• Cleo Fitzsimmons Award, University of Illinois 2022
	• Graduate Fellowship, University of Illinois 2020
SKILLS	<b>Languages:</b> Chinese (Native), English (Proficient), French (Basic). <b>Programming:</b> R, Python, Stata, Git, Shell.
REFERENCES	<b>Tatyana Deryugina (Chair)</b> Associate Professor of Finance Gies College of Business University of Illinois at Urbana-Champaign
	<b>George Deltas</b> Professor Department of Economics University of Illinois at Urbana-Champaign
	<b>David Molitor</b> Associate Professor of Finance Gies College of Business University of Illinois at Urbana-Champaign
	<b>Julian Reif</b> Associate Professor of Finance Gies College of Business University of Illinois at Urbana-Champaign