

SunLee Stechuk

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Economist experienced in designing and conducting experiments, building models, and applying quasi-experimental methods to large datasets. Skilled in causal inference (RCTs, difference-in-differences, bunching, regression discontinuity), general equilibrium modeling, and machine learning. Proficient in Python, R, SQL, and Stata.

EDUCATION

Ph.D. in Economics, University of Illinois at Urbana-Champaign December 2026 (expected)

- Defended February 20, 2026 / Committee: [Ben Marx \(Chair\)](#), [Don Fullerton](#), [Adam Osman](#), [Erica Myers](#)

B.S. in Economics and Mathematics (Double Major), Syracuse University August 2016 - May 2019

- Phi Beta Kappa / Men's Rowing

RESEARCH

The Effect of Information, Subsidy Payments, and Monitoring on Household Recycling: Evidence from a Randomized Controlled Trial Pilot Study

- **Experimental Design:** Designed, pre-registered, and fielded a 16-week field experiment on 178 single-family households testing whether subsidies, information, and monitoring change recycling quantity and quality.
- **Causal Inference:** Estimated average and heterogeneous treatment effects; null average effects concealed a response concentrated among high-waste households — baseline recyclers in the top quartile of pre-treatment waste reduced their recycling weight by 8.4 lbs per collection ($p = 0.05$; exploratory), consistent with contaminant removal and not reduced participation.
- **Power Analysis:** Conducted serial-correlation-robust power simulations to provide guidance for the design of future studies; stratifying on baseline waste reduces the required sample size by up to 30% for intensive-margin recycling outcomes.

The Good, the Bad and the Ugly, with Don Fullerton

- **Modeling:** Built a series of partial equilibrium (PE) and analytical general equilibrium (GE) models; derived closed-form solutions for second-best optimal tax rates on two disposal methods when a third is untaxable.
- **Calibration & Sensitivity Analysis:** Calibrated models to a hypothetical economy to identify the parameter space where optimal policy subsidizes recycling or, counterintuitively, a polluting disposal method. Showed conditions for which PE substitutes can become GE complements.

Social Security and Divorce: Examining Changes in Divorce Timing Around the Duration of Marriage Thresholds

- **Quasi-Experimental Setting:** The Social Security Amendments of 1977 reduced the duration-of-marriage requirement to claim benefits on an ex-spouse's earnings record from 20 to 10 years.
- **Causal Inference:** Applied bunching estimation with an asymmetric manipulation window to 5M+ divorce decrees to estimate strategic retiming of divorces around ex-spousal Social Security benefit thresholds in R and Stata; 2.6% of divorces occurring within seven months after 10 years of marriage and 4.1% of divorces occurring within 13 months after 20 years of marriage were re-timed in response to the policy thresholds.

EXPERIENCE

University of Illinois at Urbana-Champaign

Teaching Assistant — Big Data Analytics (FIN 550), Gies College of Business January 2026 - present

- Graduate machine learning and causal inference course taught in Python and R on AWS (EC2, S3); topics include lasso, bagging, trees, random forests, boosting, and neural networks.
- Reviewed and scored student ML projects predicting market values for 10,000 properties from 50,000 training sales; evaluated and ranked model performance using out-of-sample mean squared error.

Research Assistant — Gies College of Business September 2022 - present

- Executed a recycling field experiment end-to-end including measurement protocols, data collection, management of three undergraduate RAs, incentive payments, and focus groups.
- Secured stakeholder approval from local elected officials, senior waste hauler management, and nonprofit leaders.

Teaching Assistant — Department of Economics August 2020 - December 2025

- Led 28 weekly discussion sections for Microeconomic Principles and Intermediate Microeconomic Theory, teaching a total of 1,109 students; ranked *outstanding* by students (94th percentile departmental rank, 2024; 92nd percentile, 2025).

CONFERENCES AND AWARDS

Association of Environmental and Resource Economists (AERE) Summer Conference May 2024

- Presented: *How to Increase Recycling: A Randomized Control Trial of Two Interventions* in the Field Experiments session.

JoAnn Heffernan Heisen Award, Syracuse University May 2019

SKILLS AND INTERESTS

- **Programming and Tools:** Python (NumPy, Pandas, scikit-learn, statsmodels, Matplotlib), SQL, R, Stata, AWS (EC2, S3), Git
- **Econometrics and Causal Inference:** Difference-in-Differences, Instrumental Variables, Regression Discontinuity, Bunching, Field Experiments, Randomized Controlled Trials, Survival Analysis, Power Analysis
- **Interests:** Basketball, Poker, Personal Finance (Tax Planning), Chinese Language (Conversational), Local LLMs