Gretchen Sileo

1415 N Taft Street, #484, Arlington, VA 22201
Website: https://gretchensileo.com/
Email : gretchen.sileo@gmail.com
Mobile : 774.278.1006

Education

Georgetown University — Washington, DC
Ph.D. Candidate Economics — August 2017–Present
M.A. Economics
Advisors: Nathan Miller and John Rust

Rensselaer Polytechnic Institute — Troy, NY
M.S. Applied Mathematics — August 2010–May 2014
B.S. Mathematics and Psychology, Minor in Economics

Works In Progress

Proactive and Reactive Infrastructure Investment

Properly functioning infrastructure is maintained through investment. A proactive investment strategy prevents failures but requires expenditures before quality deteriorates. A reactive investment strategy accepts some risk of failure to avoid unnecessary expenditures. I explore proactive and reactive investments in a newly collected dataset on Kentucky water systems to assess the ability of system managers to maintain infrastructure quality. I establish that proactive and reactive investments differentially reduce the probability of a future system failure, and that both managers and consumers are sensitive to system quality. I construct and estimate a dynamic discrete choice model of system manager infrastructure investment decisions incorporating the empirical relationships and investment strategy intuition. Through simulations, I determine that investment is currently too low to successfully prevent the decline of water infrastructure quality. Counterfactual policies that promote only proactive projects lead some systems to make unnecessary investments even as others become vulnerable to extreme quality decline. By contrast, policies that facilitate more effective reactive policies incorporate more equitable levels of risk, reduce overspending, and enable all systems to maintain system quality.

The Evolution of Concentration and Markups in the United States Cement Industry
with Nathan Miller, Matthew Osborne, and Gloria Sheu

We examine local market concentration and markups in the United States cement industry over 1974-2016. We estimate a model in which buyers use a second-score auction to procure cement from spatially differentiated plants. The model matches aggregated economic outcomes observed in the data, and the implied transportation costs and shipping distances are consistent with external sources. We infer local market concentration and markups from the model. At the county-level, the average HHI rises from 1,890 to 2,800 during the sample period. Average markups increase modestly, but prices do not rise. We attribute the changes to a technological innovation—the precalciner kiln—that lowered marginal costs, increased plant-level capacities, and also contributed to an industry shakeout in which many plants closed.

An Empirical Study of Inmate Telecommunication Service Procurement
with Marleen Mara and Nathan Miller

A Dynamic Discrete Choice Model of Electronic Toll Adoption in the U.S

Research Experience

Georgetown University — Washington, DC
Research Assistant to Professor Nathan Miller — *Fall 2019–Spring 2022*
- Inmate Telecommunication Services Procurement Project
- Concentration and Markups in the Cement Industry Project

Research Assistant to Professor Dan Cao — *Fall 2018*
- Bank Risk-Taking Project

U.S. Department of Justice, Antitrust Division — Washington, DC
Graduate Economics Intern — *Summer 2019*

Teaching Experience

Georgetown University — Washington, DC
Graduate Teaching Assistant — *Fall 2018–Fall 2022*
- PECO-201 – Analytical Tools for Political Economics
- ECON-121 – Economic Statistics
- ECON-122 – Introduction to Econometrics

Professional Experience

Deloitte & Touche LLP Boston, MA

Senior Consultant, Business Risk *Spring 2016–Winter 2016*

- Facilitated a post-merger integration for one of the world's largest pharmaceutical companies; owning the process of data integration for thousands of pharmaceutical products and their associated supply chains
- Analyzed pharmaceutical data and successfully converted pricing and costs of products from a legacy SAP system to a custom-made product tracking system
- Solicited retirements and collected data from key client stakeholders including the developers of the product tracking system, administrators of the SAP system, and Directors of Tax, Inventory, and Supply Chain

Consultant, Business Risk *Fall 2014–Spring 2016*

- Assessed business processes for three strategic clients in the financial services industry
- Managed offshore team to assign tasks, review work, and communicate progress with onshore management

Skills Summary

Programming Languages: Python, C++, SQL

Statistical Software: PyData Stack (pandas, numpy, scipy, scikit-learn), Stata, MATLAB, R

Other Software: Python (numba, joblib, geopandas, shapely, selenium, requests)

Other Computer Skills: LaTeX, SAP, Microsoft Office Suite

Honors and Awards

Georgetown University Summer Dissertation Fellowship *Summer 2020*

Georgetown University Graduate School Fellowship *Fall 2017–Spring 2018*

Deloitte Outstanding Performance Award *Spring 2015*

Rensselaer Polytechnic Institute Summa Cum Laude *Spring 2014*

Rensselaer Polytechnic Institute Founders Award for Excellence *Fall 2013*