# Gretchen C. Sileo

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1415 N Taft Street, #484, Arlington, VA 22201

## EDUCATION

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

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

## WORKS IN PROGRESS

*"Infrastructure Spending as a Dynamic Investment: Evidence from Kentucky Water Systems"*

I study the tradeoff between proactive and reactive infrastructure projects using the investment decisions of water utility managers in Kentucky. I first use natural language processing techniques to classify investments based on language contained in project descriptions. I find empirical evidence that these two types of investments are distinctly impactful at reducing the probability of a health-based water quality violation. I then construct and estimate a dynamic discrete choice model of infrastructure investment where utility managers make cost-minimizing decisions to invest proactively in infrastructure or to delay investment for the future. Investment delays lead to increased likelihoods of having to undertake less efficient reactive projects and violating federal water quality standards. I estimate that infrastructure investment levels are currently too small to successfully mitigate the decay of water infrastructure quality. Despite the lower effectiveness of a reactive project, a government policy that fully subsidizes large, reactive expenditures incentivizes utility managers to minimize unnecessary investments and maintain quality levels consistently above federal quality standards.

*"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.

## WORKING PAPERS

*"An Empirical Study of Inmate Telecommunication Service Procurement*" with Nathan Miller and Marleen Marra

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

## RESEARCH EXPERIENCE

Georgetown University

**Research Assistant to Professor Nathan Miller**, Washington, DC — *Fall 2021–Spring 2022*
*Inmate Telecommunication Service Procurement Project*

**Research Assistant to Professor Nathan Miller**, Washington, DC — *Fall 2019,*
*Concentration and Markups in the Cement Industry Project* — *Fall 2020–Spring 2021*

**Research Assistant to Professor Dan Cao**, Washington, DC — *Fall 2018*
*Bank Risk Taking Project*

U.S. Department of Justice, Antitrust Division

**Graduate Economics Intern,** Washington, DC — *Summer 2019*

## TEACHING EXPERIENCE

Graduate Teaching Assistant

PECO-201 – Analytical Tools for Political Economics — *Fall 2022*
ECON-122 – Introduction to Econometrics — *Fall 2018, Spring 2019*
ECON-121 – Economic Statistics — *Spring 2020*

## PROFESSIONAL EXPERIENCE

Deloitte & Touche LLP

**Senior Consultant, Business Risk,** Boston, MA — *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,** Boston, MA — *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

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

## 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*