

Juliette Coly

Landau Economics Building, Stanford University
Stanford, CA, 94305

650-709-6400
jcoly@stanford.edu
juliettecoly.github.io

EDUCATION

- **Stanford University** Stanford, CA
Ph.D. in Economics *Sep. 2022 - Now*
- **Ecole Normale Supérieure** France
MSc and BS in Quantitative Economics *Sep. 2017- Jun. 2020*

WORK EXPERIENCE

- **Stanford University** Stanford, CA
Graduate research assistant with Prof. Guido Imbens *Sep. 2023 - Now*
Coded econometric models (among which matrix completion estimators) to compare their performance on panel data with different structures.
- **Quantco** Berlin, Germany
Data science intern *Jun. 2024-Sep. 2024*
Employed causal inference models (such as IPW, IV, and metalearners) alongside microeconomic theory to estimate the effect of deductibles on profits in the auto insurance industry. Resulted in a new pricing model for the insurance company.

PROJECTS AND WORK IN PROGRESS

The political effects of transport infrastructure This paper investigates how spatial integration fostered nation-building during French railroad expansion (1870–1900). I combine historical data on the railroad network, speed, and stations since 1840 with a novel dataset on languages spoken across 544 municipalities as a proxy for cultural outcomes. OLS estimations yield two key findings: (i) Railroad travel time is a significant predictor of linguistic distance, even after controlling for Euclidean distance, and (ii) Connectivity to areas speaking better French is a stronger determinant of linguistic outcomes than mere network centrality. A permutation-test approach confirms the robustness of these results to the endogeneity of railroad connectivity in 1900.

Text as outcome within a causal inference framework (Project Link)

I investigated the evolution of topics in political speeches by Republicans and Democrats before and after 9/11, using a causal inference framework. I analyzed how different topic modeling approaches—LDA and BERTopic—affected the estimation of treatment effects. Interestingly, both models indicated that Democrats increased their focus on war-related topics more than Republicans post-9/11. However, BERTopic revealed an additional nuance: Republicans significantly increased their focus on terrorism, potentially shifting attention away from war topics. This study underscored the pivotal role of textual representation in shaping the interpretation of causal estimates.

Work in progress :

- Urban renewal and firm clustering in 19th-century Paris.
- The impact of AI on scientific discoveries.

Programming Languages: Python (Scikit-Learn, PyTorch), R, SQL