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Education

Georgetown University, Department of Economics

Ph.D. in Economics

Committee: Nathan Miller (co-chair), John Rust (co-chair), Chenyu Yang, Şafak Yücel

Washington, D.C.
2018-2024 (Expected)

Peking University, National School of Development

M.A. in Economics

Beijing, China

2015-2018

Peking University, School of Economics

B.A. in Economics

Beijing, China

2011-2015

Research Interests

Empirical Industrial Organization, Environmental and Energy Economics

Job Market Paper

The Dynamic Effects of Renewable Subsidies in the Green Energy Transition

Abstract:

The speed at which electricity generation can transition to green energy sources depends in part on the incentives of coal and natural gas plants to enter or exit. I examine how the design of government subsidies and the costs of renewables shape those strategies. To do so, I formulate a nonstationary dynamic model of generator entry and exit that incorporates heterogeneity in entry costs and nests it within a dynamic, hourly model of competition in the wholesale electricity market. I estimate the model using data from Texas. I find that renewable subsidies in place in 2005--20 reduce cumulative CO₂ emissions by 1.71 billion tons through 2060, largely because of a dynamic mechanism: they shift expectations about future competition and thereby reduce the entry of new coal plants very early in the transition. I further show that, by leveraging the dynamic mechanism, a short-horizon subsidy can more effectively reduce carbon emissions with less tax burden by bunching more wind investment and intensifying competition earlier for coal power plants.

Works in Progress

A Welfare Analysis of Reducing Coal Production: Evidence from China (with Xincheng Qiu and Chenyu Yang)

Abstract:

Despite its enormous importance to China's economy and the global environment, there have been few equilibrium analyses of China's coal industry. In this paper, we investigate the equilibrium impacts of a large-scale yet short-lived industrial policy in China's coal market. From June to December 2016, major coal-producing provinces in China were mandated to reduce their capacities by 16%, leading to a 60% price surge. Using a novel monthly-level dataset about coal transportation within and across provinces, we estimate a parsimonious model of China's coal demand and supply. Our model considers transportation costs across provinces, production subject to assigned quotas, and various related regulations. We find that the policy results in 160 billion RMB welfare transfers from the demand to the supply side and 100 billion RMB of deadweight loss in the short run, with limited environmental benefits. This partly explains why the government was forced to suspend the policy quickly.

Entry, Price, and Capacity Allocation: Evidence from Airline Market in China (with Yihui Fu)

Presentations

IMF
University of Maryland

2023
2023

Fellowships and Grants

Razin Prize Winner (best paper by graduate students) – Georgetown University	2023
6 th Year Funding Competition Winner – Georgetown University	2023
Graduate Student Travel Grant – Georgetown University	2022
Summer Research Grant – Georgetown University	2021
Ph.D. Fellowship – Georgetown University	2018-2019
Graduate Academic Scholarship – Peking University	2015-2017
Hana Financial Group Scholarship – Peking University	2014

Research Experience
Georgetown University

R.A. for Professor Nathan Miller Fall 2020

Peking University

R.A. for Professor Ping Yan 2017-2018

Teaching Experience
Georgetown University

Washington, D.C.

Guest Lecture in PhD IO: Dynamic Games 2023

Tutor to the First Year Ph.D. Students for Comprehensive Exams 2020

Recitation Instructor, Introduction to Econometrics 2019-2022

Graduate T.A., Undergraduate Industrial Organization Fall 2023

Peking University

Beijing, China

Graduate T.A., Introduction to Econometrics 2015-2017

Computer Skills

MATLAB, Python, Julia, Stata

References
[Nathan Miller](#)

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[Şafak Yücel](#)

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