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### **Education**

Ph.D. in Economics, New York University, 2016-2022 (expected)

Thesis Title: Essays in Empirical Industrial Organization

M.Phil. in Economics, New York University, 2020

B.S. in Economics, B.S. in Mathematics, summa cum laude, University of Kentucky, 2012-2016

#### References

Professor Alessandro Lizzeri Professor Daniel Waldinger

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### **Teaching and Research Fields**

Fields: Industrial Organization, Environmental Economics, Applied Microeconomics

# **Teaching Experience**

Spring & Fall 2020, Spring 2021 Statistics, NYU, TA for Timothy Roeper

Fall 2019 Industrial Organization, NYU, TA for Sylvain Chassang

Spring 2019 Statistics, NYU, TA for Lucius Riccio

Spring 2018 Introduction to Microeconomics, NYU, TA for Marc Lieberman

### **Research Experience and Other Employment**

2019 RA for Daniel Waldinger 2018 RA for Paul Scott 2015–2016 RA for William Hoyt

<b>Presentations</b>	
2021	Economics Graduate Student Conference at Washington
	University in St. Louis
	NYU internal seminars (IO, Applied Micro Lunch)
2020	NYU internal seminars (Stern Workshop, Applied Micro Lunch)
2019	International Industrial Organization Conference
	NYU internal seminars (Applied Micro Lunch)

## Honors, Scholarships, and Fellowships

2021–2022	NYU Department of Economics Dissertation Fellowship
2016–2021	NYU MacCracken Fellowship
2016	James W. Martin Most Outstanding Graduating Senior in
	Economics Award
2016	Most Outstanding Graduating Senior in Chinese Award
2016	Departmental Honors in Mathematics, Economics
2014	Phi Beta Kappa

# **Research Papers**

Investment, Emissions, and Reliability in Electricity Markets (Job Market Paper)

This paper studies how to design electricity markets to reduce emissions and prevent blackouts. Zero-emission renewable energy sources, such as wind and solar, are intermittent, which can lead to blackouts if the addition of renewables causes more reliable power plants to retire. To quantify the impact of electricity market policies, I build a structural equilibrium model of investment and dis-investment in generators of different energy sources. Oligopolistic firms make dynamic decisions to build or retire generators based on the profits they receive from wholesale electricity markets, which respond to the composition of generators in the market. Using data from the electricity market in Western Australia, I estimate this model and use it to simulate investment and production under counterfactual policies. Carbon taxes reduce emissions but, for certain values, can result in an increase in the likelihood of blackouts by causing retirement of coal and gas plants. Subsidizing capacity prevents this from occurring, but at the expense of a higher level of emissions. Using both policies together, however, keeps reliable, emissions-intensive generators in the market but prevents them from being used unless necessary, substantially lowering emissions while keeping the likelihood of blackouts low. I also explore alternative environmental policies, which are less effective at reducing emissions but have a lower cost to consumers.

Market Structure, Investment, and Technical Efficiencies in Mobile Telecommunications (with Georges V. Houngbonon, Marc Ivaldi, and Paul T. Scott)

We develop a model of competition in prices and infrastructural investment among mobile network providers. Market shares and service quality (download speed) are simultaneously determined, for demand affects the network load just as delivered quality affects consumer demand. While consolidation typically has adverse impacts on consumer surplus, economies of scale, which we derive from physical principles, push in the other direction. We find that consumer surplus is maximized at a relatively high number of firms, and that the optimal number of firms is higher for lower-income consumers. Total surplus, meanwhile, is maximized at a moderate number of firms. Our modeling framework allows us to quantify the marginal social value of allocating more spectrum to mobile telecommunications, finding it is roughly five times an individual firm's willingness to pay for a marginal unit of spectrum.

#### **Research In Progress**

Patient-Specific Information and New Drug Adoption: Evidence from Digital Health (with Milena Almagro)

With the rise of digital health technologies, health care professionals increasingly have access to detailed real-time data on their patients. We evaluate to what extent access by physicians to this patient-specific information leads to more efficient patient-drug matches, especially in the context of the introduction of new drugs. To do so, we use data on hemophiliacs from a digital health app that allows patients to record treatments and symptoms (bleeding). A unique feature of our data is that we observe whether physicians access patient information and what information they observe. We leverage this aspect of the data to establish how patient information about drugs' effects influences own prescriptions and the adoption of new drugs, which vary in effectiveness and in the rate of adoption. Additionally, we examine how the information diffuses across patients common to a physician and also within physicians' social networks. We find that patient-specific information has a significant effect on the probability of adoption of new drugs and that there are large spillover effects across a physician's patients as well as within physicians' social networks.

Private Hospital Capacity in a Single-Payer System: Evidence from Denmark (with Anders Munk-Nielsen and Daniel Waldinger)

### **Other Information**

Programming: Python, R, Stata, Matlab, C++, LaTeX

Languages: English (native), Chinese (intermediate), Spanish (basic), Russian (basic)

Citizenship: USA

Updated: Oct 29, 2021