MIT Economics

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DOCTORAL STUDIES

Massachusetts Institute of Technology (MIT)
PhD, Economics, Completed June 2016
DISSERTATION: "Essays on Housing, Poverty, and Public Health"

DISSERTATION COMMITTEE AND REFERENCES

Professor Michael Greenstone
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Professor James Poterba
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RELEVANT POSITIONS

Interim Executive Director 2017-2018
UChicago Energy & Environment Lab

Postdoctoral Scholar 2016-present
UChicago Energy & Environment Lab. Supervisor: Michael Greenstone

PRIOR EDUCATION

Bocconi University, Italy 2010
M.Sc. 110/100 *cum laude* in Economics and Social Sciences

Bocconi University, Italy 2008
B.A. 110/100 *cum laude* in Economics and Social Sciences

CITIZENSHIP Italian **GENDER:** Female

LANGUAGES English (fluent), Italian (native), German (fluent)

FIELDS

Primary Fields: Environmental Economics, Health Economics

Secondary Fields: Labor Economics, Urban Economics

TEACHING EXPERIENCE

Data Analysis for Social Scientists	2016
Research and Communication in Economics: Topics, Methods, and Implementation	2016

FELLOWSHIPS, HONORS, AND AWARDS

BFI Data Acquisition Grant: "Using Satellite Data to Track and Regulate Oil and Gas Methane Emissions in Colorado" *with Thomas Covert, Michael Greenstone, Olga Rostapshova*	2019
J-PAL: "Using Remote Sensing to Reduce Vehicle Emissions in California" *with Fiona Burlig, Michael Greenstone, Olga Rostapshova*	2019
LJAF: "Automated Enforcement of Outdoor Watering Restrictions" *with Oliver Browne, Michael Greenstone*	2018
HUD: "National Evaluation of the Housing and Neighborhood Impact of the HUD Lead-Based Paint Hazard Control Program" *with Steve Billings, Michael Greenstone, Kevin Schnepel*	2018
Joyce Foundation: "Willingness to pay for child health screening: Evidence from lead poisoning prevention in Illinois"	2016
George and Obie Shultz Fund grants	2015
Bonaldo Stringher Fellowship, Bank of Italy	2013
Giovanna Crivelli Fellowship, Unicredit Group	2011
Roberto Franceschi Prize for outstanding research thesis	2010
Merit Award Fellowship, Bocconi University	2008

PROFESSIONAL ACTIVITIES

Referee: *American Economic Journal: Applied Economics, American Economic Journal: Economic Policy, American Economic Review: Insights, Econometrica, Journal of Environmental Economics and Management, Journal of Human Resources, Journal of Public Economics, Journal of Policy Analysis and Management, Plos One.*

Talks: TWEEDS, Harvard School of Public Health, Bocconi University, University of Bologna, Marco Fanno Workshop, AERE, ASHEcon, NBER, Indiana University, AFE, Tufts University, RAND	2019
H2D2, ASHEcon, APPAM, Northeastern University, ASSA	2018
Federal Reserve Board of Governors, NBER, Upjohn Institute	2016
EIEF; XVI EU Conference, Fondazione Rodolfo De Benedetti	2013

PUBLICATIONS

"Policy changes and child blood lead levels by age 2 for children born in Illinois 2001-2014" *with Ali Abbasi, Bridget Pals* (Accepted American Journal of Public Health)

The threshold defining elevated blood lead levels (EBLLs) has decreased over time. What are the consequences for optimal lead screening policy? We link birth records from 2.37 Illinois children to 4.19 million lead testing records and data on housing age, industrial emissions, and roads. We use multinomial logistic regression to determine predictors of EBLL at different thresholds, controlling for zip code random effects. While pre-1930 housing is associated with over 2-fold increased risk of EBLL at all thresholds, housing built in 1951-1978 is only associated with increased risk of EBLL at the 5μg/dL threshold. These findings suggest screening guidelines may need updating with the new threshold.

SELECTED RESEARCH PAPERS

"Hassles and Environmental Health Screenings: Evidence from Lead Tests in Illinois" (Job Market Paper)

Lead paint, a harmful environmental hazard, can still be found in millions of homes in the United States. Due to high inspection and clean-up costs, prevention programs target intervention to the relatively few homes where small children test positive for lead poisoning. Because children have to visit a doctor to get tested, only households willing to undergo this hassle self-select into screening. Is self-selection an effective targeting mechanism? I study screening take-up by analyzing geocoded 2001-2016 lead screening data on 2 million Illinois children. My empirical strategy exploits variation in travel costs due to healthcare providers' openings and closings. I find that travel costs reduce screening among low- and high-risk households alike, without improving targeting. Consistent with low poisoning rates, high-risk households are only willing to pay $4-29 more than low-risk households for screening. Despite poor targeting, screening incentives may be cost-effective because of the externalities of lead exposure.

"The Price and Allocation Effects of Targeted Mandates: Evidence from Lead Hazards" (R&R Journal of Urban Economics)

Several states require owners to mitigate lead hazards in old houses with children present. I estimate the mandates' effects on housing markets. My empirical strategy exploits differences by state, year, and housing vintage. The mandates decrease the prices of old houses by 7.1 percent, acting as a large tax on owners. Moreover, families with children become 14.6 percent less likely to live in old houses. Increases in rents for family-friendly houses suggest that the mandates have important distributional consequences. These findings are relevant for evaluating similar mandates such as healthy home standards.

"Collective Reputation in Trade: Evidence from the Chinese Dairy Industry" *with Jie Bai, Yukun Wang* (R&R The Review of Economics and Statistics)

Collective reputation implies an important externality. Among firms trading internationally, quality shocks about one firm's products could affect the demand of other firms from the same origin country. We study this issue in the context of a large-scale scandal that affected the Chinese dairy industry in 2008. Leveraging firm-product level administrative data and official quality inspection reports, we

find that the export revenue of contaminated firms dropped by 84% after the scandal, and the spillover effect on noncontaminated firms is 64% of the direct effect. Notably, firms deemed innocent by government inspections did not fare any better than noninspected firms, highlighting the challenges governments face in signaling quality. Spillover effects are smaller in destinations where people have better information about parties involved in the scandal. New firms are more vulnerable to the collective reputation damage than established firms.

"Enforcement and Deterrence with Certain Detection: An Experiment in Water Conservation Policy" *with Oliver Browne, Michael Greenstone, Olga Rostapshova*
New technologies are poised to transform regulatory enforcement by automating costly inspections and driving violation detection rates to 100%. We conduct a randomized field experiment to evaluate the adoption of smart meters for enforcing outdoor water-use regulations in a major US city facing water shortage. We randomize 88,905 households into 12 groups varying enforcement methods (automated or visual inspection) and fine levels. Automated enforcement decreases water use by 3% and violations by 17%. However, fines increase by 13,800% and customer service calls increase by 545%, leading to backlash that might make maximum enforcement politically untenable.

SELECTED RESEARCH IN PROGRESS

"On Peer Effects and Pollution: Does Exposure to Lead Affect Everyone in the Classroom?" *with Claudia Persico, Sandra Spirovska*
Lead harms children's cognitive development and behavior. We know substantially less about how one child's lead exposure might affect that child's peers in the classroom. We examine this overlooked social cost of lead exposure: the externality of lead exposure on peers' achievement and behavior in school. We estimate the negative spillovers caused by children with elevated blood lead levels (BLLs) using a novel dataset that links children's BLLs to education data from public schools in North Carolina. We compare siblings in the same school but with observably different peer cohorts and find important spillover effects of lead-exposed peers.

"Using Remote Sensing to Reduce Vehicle Emissions in California" *with Fiona Burlig, Michael Greenstone, Olga Rostapshova*
Particulate matter (PM) air pollution presents a substantial threat to human health. The transportation sector, particularly the heavy duty trucking industry, is a major contributor to PM. Yet, enforcing vehicle emissions regulations has proven prohibitively costly. We use new remote sensing technology to detect high emitters at greatly reduced cost. We leverage these data in a randomized trial to determine the impact of remote monitoring on regulatory compliance. Partnering with CARB, we randomly assign high-emitting trucks in California to receive letters that (1) inform fleet owners their vehicle is likely in violation of emissions standards, and (2) specify a penalty for failing to comply.