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BROWN UNIVERSITY

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Pre-Doctoral Studies:

M.A., Economics, Miami University, 2011

B.S., Business-Economics, Miami University, *summa cum laude*, 2010

B.A., International Studies, Miami University, *summa cum laude*, 2010

Doctoral Studies:

Brown University, 2011 to present

Ph.D. Candidate in Economics

Thesis Title: *“Health Impacts of Environmental Exposure to Toxins”*

Job Market Paper: *“Going Beneath the Surface: Petroleum Pollution, Regulation, and Health”*

Expected Completion Date: May 2017

References:

Professor Anna Aizer

Economics Department, Brown University

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Professor Emily Oster

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Professor Matthew Turner

Economics Department, Brown University

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Teaching and Research Fields:

Fields: Health, Environmental, Applied Microeconomics

Teaching Experience:

Spring 2016 Introduction to Spatial Statistics, Brown S4 GIS Institute, Instructor

Summer 2015 Applied Microeconomics, Brown Pre-College Program, Instructor

Spring 2015 Introduction to Spatial Statistics, Brown S4 GIS Institute, Co-Instructor

Fall 2014 Economics of Education I, Brown, TA for Professor John Tyler

Summer 2014 Applied Microeconomics, Brown Pre-College Program, Instructor

Fall 2013 Health Economics, Brown, Instructor

Spring 2013 Economics of Education II, Brown Graduate Program, TA for Professor John Tyler

Fall 2012 Economics of Education I, Brown, TA for Professor John Tyler

Research Experience:

Summer 2015 Brown University, RA for Professor Anna Aizer
Summer 2013 Brown University, RA for Professor Anna Aizer
Spring 2012 Brown University, RA for Professor Anna Aizer
Spring 2011 Miami University, RA for Professor Mark McBride
2009-2010 Miami University, RA for Professor Deborah Fletcher

Presentations:

2016 Population Health Sciences Research Workshop (PHS2016), Boston University
2016 American Society of Health Economists (ASHEcon), University of Pennsylvania
2016 Applied Microeconomics Lunch Seminar, Brown University
2015 Applied Microeconomics Lunch Seminar, Brown University
2015 Third Annual S4 Graduate Fellow Lecture, Brown University
2015 Population Association of America Conference (PAA), San Diego, CA
2015 Thinking the Earth: International Conversations on Stewardship of the Commons, IBES, Brown University
2014 Applied Microeconomics Lunch Seminar, Brown University

Professional Activities:

2012-2013 Co-coordinator, Applied Microeconomics Lunch Seminar, Brown University

Awards, Fellowships, and Grants:

2016-2017 Demography Trainee Fellowship from the NICHD, PSTC, Brown
2016-2017 Interdisciplinary Opportunity Fellowship, The Watson Institute, Brown (declined)
2015-2016 Joseph L. Fisher Doctoral Dissertation Fellowship, Resources for the Future (RFF)
2015-2016 Senior Fellow, S4, Brown
2015-2016 Demography Trainee Fellowship from the NICHD, PSTC, Brown (declined)
2015 Graduate Student Paper Prize, S4, Brown
2015 Graduate Fellowship, IBES, Brown (declined AY support)
2015 Graduate Research, Training, & Travel Award, IBES, Brown
2014 Core Curriculum Development Grant, Continuing Education, Brown
2014 Third Year Paper Prize in Economics: Abramson Award, Brown
2014 Graduate Teaching Award, Brown
2011-2012 Graduate School Fellowship, Brown
2010 William McKinstry Award for Business-Economics, Miami University

Affiliations:

Senior Fellow, Spatial Structures in the Social Sciences (S4), Brown University
Demography Trainee, Population Studies and Training Center (PSTC), Brown University
Affiliate, The Institute at Brown for Environment and Society (IBES), Brown University

Skills:

Stata, ArcGIS, LaTeX, Python, Matlab

Research Papers:

“Going Beneath the Surface: Petroleum Pollution, Regulation, and Health” (Job Market Paper)

Abstract: Governments can address the growing concern over human exposure to environmental pollution through directing cleanup efforts ex-post, regulating industry to reduce future pollution, or warning the public to encourage avoidance behaviors. While we have some evidence of the benefits of large government cleanups, we have less evidence of the benefits of mandated adoption of preventative technology. This paper quantifies the health impacts of a relatively small but widespread pollution source and explores whether the adoption of preventative technologies can improve health. I estimate the effect of exposure to leaking underground storage tanks on infant health using data on maternal addresses to identify precise proximity to sites, and leak timing data to determine exposure during gestation. By exploiting panel data on mothers, I estimate the relative difference in sibling outcomes between exposed and unexposed siblings born to mothers within two narrow distance bands from a leak site. Exposure increases both the probability of low birth weight and preterm birth by about 7 percent. Compliance with regulations requiring preventative technologies ultimately succeeded in mitigating the entire effect of leak exposure on low birth weight. Finally, I exploit this unique setting in which residents are unlikely to know about underground leaks to study the impact of information on avoidance behaviors.

“On the Road to Recovery: Gasoline Content Regulations and Child Health”
(revision requested, Journal of Health Economics)

Abstract: Gasoline content regulations are designed to curb pollution and improve health, but the impact on health has not been quantified. By exploiting both the timing of regulation and spatial variation in children’s exposure to highways, I estimate the effect of gasoline regulation on pollution and child health. Results show that the introduction of cleaner-burning gasoline in California in 1996 reduced asthma admissions by 8 percent in high exposure areas. Reductions are greatest for areas downwind from highways, heavy traffic areas, and children of low socio-economic status. Stringent gasoline content regulations can improve child health, and may diminish existing health disparities.

Research Papers in Progress:

“Aerobic Capacity and Pollution at Schools”

Abstract: Many worry that the EPA’s National Ambient Air Quality Standards (NAAQS) have been set without full knowledge of the health consequences of air pollution. Children are particularly sensitive to air pollution. Although air pollution has been linked to hospitalizations for asthma and infant death, these are severe outcomes. Less extreme effects on respiratory health, even among non-asthmatic children, are possible at levels below the EPA’s thresholds, but these effects are difficult to measure. I use a more sensitive measure, aerobic capacity (VO₂ max), to study the impact of air pollution on respiratory health at levels below current NAAQS thresholds. Using school district level data from the California Physical Fitness Test, I estimate the impact of fluctuations in daily pollution levels during the testing window on the aerobic capacity for students in grades 5, 7, and 9. I find that air pollution affects child aerobic capacity at levels even below the EPA threshold and that Black and Hispanic children are especially affected.

“A Little Pain for Birth Weight Gain: Influenza Vaccine Match Rate and Neonatal Health”
(with Joseph Acquah and Desislava Byanova)

Abstract: Research studying short and long-run impacts of influenza are predominantly focused on flu pandemics, when the negative implications are most stark. However, many of these pandemics occurred in the early 20th century before new medical technologies and advancement in hygiene practices lead to a substantial decline in influenza-related mortality. The impact of the modern day non-pandemic influenza season may be substantially different. This paper exploits exogenous variation in vaccine match rate quality and addresses the endogeneity of seasonal influenza severity by using absolute humidity as an instrument, in order to quantify the impact of seasonal influenza severity and vaccine quality on birth outcomes in a developed, modern day context. Our findings indicate that a one-standard-deviation increase in the vaccine match rate leads to a 5 percent, 6 percent, and 11 percent decrease in the probability of low birth weight, preterm birth, and low Apgar score, respectively. The beneficial effects on health are concentrated among mothers of lower socioeconomic status, including low educated and non-white mothers. Investing in flu vaccine R&D and encouraging vaccination may help mitigate existing health disparities among the population of disadvantaged mothers.

“Fueling Change? The Impact of Gas Station Shutdowns on Health and Neighborhoods”

Abstract: I consider the impacts of gas station closures that resulted from UST regulation. Gas station shutdowns have an ambiguous health effect on the neighboring population, a priori. Reduced air pollution from the shut-down of fueling might improve health, while abandoned leaking underground storage tanks might worsen health. Similarly, it is uncertain what neighborhood changes precipitate and result from gas station closures. This paper explores these questions and contributes to the literature on the health effects of environmental pollution and also the literature on mobility and sorting in response to changes in local amenities.

“Gone with the Wind: Health Effects of Reduced Gas Consumption during Recession”