

MICHELLE M. MARCUS

Contact Information:

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Appointments:

Assistant Professor, Department of Economics, Vanderbilt University, 2017 to present

Doctoral Studies:

Ph.D., Economics, Brown University, May 2017
Thesis Title: “*Essays on the Economics of Health and the Environment*”
Job Market Paper: “*Going Beneath the Surface: Petroleum Pollution, Regulation, and Health*”

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

Teaching and Research Fields:

Health, Environmental, Applied Microeconomics

Teaching Experience:

Health Economics, Undergraduate, Vanderbilt University: Fall 2017
Applied Microeconomics, Pre-College, Brown University: Summer 2014, 2015, 2017
Introduction to Spatial Statistics, S4 GIS Institute, Brown University: Spring 2015, 2016
Health Economics, Undergraduate, Brown University: Fall 2013
Economics of Education II, TA, Graduate, Brown University: Spring 2013
Economics of Education I, TA, Undergraduate, Brown University: Fall 2012, 2014

Selected Presentations:

2017 NBER Summer Institute, Children Session, Boston, MA
2017 International Health Economics Association (iHEA) conference, Boston, MA
2017 Society of Labor Economists (SOLE) conference, Raleigh, NC
2016 Population Health Sciences Research Workshop (PHS2016), Boston University
2016 American Society of Health Economists (ASHEcon), University of Pennsylvania
2015 Third Annual S4 Graduate Fellow Lecture, Brown University
2015 Population Association of America Conference (PAA), San Diego, CA
2014 Applied Microeconomics Lunch Seminar, Brown University

Professional Activities:

2017 Referee, American Economic Journal: Applied
2017 Referee, Journal of Human Resources
2012-2013 Co-coordinator, Applied Microeconomics Lunch Seminar, Brown University

Awards, Fellowships, and Grants:

2017	George Borts Dissertation Prize, Brown
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

Publications:

“On the Road to Recovery: Gasoline Content Regulations and Child Health.” *Journal of Health Economics*, July 2017.

Abstract: Gasoline content regulations are designed to curb pollution and improve health, but their impact on health has not been quantified. By exploiting both the timing of the regulation and spatial variation in children's exposure to highways, I estimate the effect of gasoline content regulation on pollution and child health. 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 and heavy traffic areas. Stringent gasoline content regulations can improve child health, and may diminish existing health disparities.

Working 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.

Selected Research 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 the substantial decline in influenza-related mortality driven by new medical technologies and advancement in hygiene practices. Consequently, the impact of the modern day non-pandemic influenza season may be substantially different from the impact of pandemics occurring in the early part of the 20th century. This paper exploits exogenous variation in vaccine match rate quality and addresses the endogeneity of seasonal influenza severity and vaccination rates by using absolute humidity and an exogenous vaccine supply shock as instruments, in order to quantify the impact of seasonal influenza severity and vaccine effectiveness on birth outcomes in a developed, modern day context. Findings indicate that a one-standard-deviation increase in the vaccine match rate or the vaccination rate leads to a 4 percent or 2 percent decrease in the probability of low birth weight and a 9 percent or 4 percent decrease in the probability of preterm birth, respectively.

“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.