

## MICHELLE M. MARCUS

### **Contact Information:**

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### **Appointments:**

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

### **Degrees Earned:**

Ph.D., Economics, Brown University, May 2017  
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

### **Research Interests:**

Health, Environmental, Applied Microeconomics

### **Teaching Experience:**

Health Economics, Undergraduate, Vanderbilt University: Fall 2017, Spring 2018, Fall 2018  
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

### **Awards, Fellowships, and Grants:**

2018	Discovery Grant, Vanderbilt
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*, Volume 54, July 2017, Pages 98-123.

*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*”

*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.

“*Testing the Water: Drinking Water Quality, Public Notification, and School Absences*”

*Abstract:* This is the first paper to estimate the effect of water quality violations on school absences and test scores in the United States. Many common water pollutants have the potential to affect child health. Microorganisms, such as coliform bacteria, pose immediate threats to gastrointestinal health, while other contaminants can cause dizziness, sleepiness, and headaches in the short-term and developmental effects and cancer in the long-term. These health effects may be difficult to observe in traditional health data, such as emergency room visits, which can only capture extreme health episodes. Poor water quality may be more likely to translate into school absences, reduced concentration, or reduced performance during school. Using administrative data on school attendance, water quality violations, and community water supply systems, I quantify the effect of health-based water quality violations on school absences and test scores in North Carolina. Exposure to acute and monthly coliform bacteria violations increases school absences by 7 and 4 percent, respectively. Although both acute and monthly coliform violations worsen school outcomes, only acute violations increase bottled water purchases. Unlike monthly coliform violations, acute violations require immediate 24 hour public notice, which suggests that the method and timing of notification has an important impact on avoidance behaviors.

### **Selected Research in Progress:**

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

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

“*The Impact of Maritime Emissions Standards on Air Quality and Infant Health*” (with Jamie Hansen-Lewis)

### **Presentations:**

2019 American Economic Association (AEA) Annual Meeting, Atlanta, GA (scheduled)  
2018 Miami University, Oxford, OH (scheduled)  
2018 Southern Economic Association (SEA) Annual Meeting, Washington, D.C. (scheduled)  
2018 University of Kansas, Lawrence, KS (scheduled)  
2018 Population Health Sciences Research Workshop (PHS2018), Boston, MA (scheduled)  
2018 University of Colorado, Denver, CO (scheduled)  
2018 NBER Summer Institute, Children Session, Boston, MA  
2018 American Society of Health Economists (ASHEcon), Emory University  
2018 University of Kentucky, Lexington, KY  
2018 University of Cincinnati, Cincinnati, OH  
2018 Vanderbilt Law School, Nashville, TN  
2018 Vanderbilt Empirical Applied Micro workshop, Nashville, TN  
2018 Vanderbilt Institute for Energy and Environment, Nashville, TN  
2017 U.S. EPA, Washington, D.C.  
2017 Vanderbilt Empirical Applied Micro workshop, Nashville, TN  
2017 NBER Summer Institute, Children Session, Boston, MA  
2017 International Health Economics Association (iHEA) conference, Boston, MA  
2017 Boston University, Questrom School of Business, Boston, MA  
2017 The Ohio State University, Columbus, OH  
2017 Princeton University, Princeton, NJ  
2017 University of California, Los Angeles, CA  
2017 University of Tennessee, Knoxville, TN  
2017 Stony Brook University, Stony Brook, NY  
2017 Southern Methodist University, Dallas, TX  
2017 Rensselaer Polytechnic Institute, Troy, NY  
2017 Vanderbilt University, Nashville, TN  
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 Service:**

Referee *American Economic Journal: Applied Economics, American Economic Journal: Economic Policy, Journal of Health Economics, Journal of Human Resources, Journal of the Association of Environmental and Resource Economists*