

## CAROLINE ANNE HOPKINS

### CONTACT

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### EDUCATION

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#### **Carnegie Mellon University, Pittsburgh, PA**

Ph.D. in Economics

Expected 2021

M.S. in Economics

2017

#### **Washington and Lee University, Lexington, VA**

B.A. in Economics

2012

### TEACHING AND RESEARCH FIELDS

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Applied Microeconomics, Public Economics, Environmental Economics, Urban Economics

### RESEARCH

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#### PUBLISHED:

**Hopkins, Caroline A. "Convergence bids and market manipulation in the California electricity market" *Energy Economics*, Volume 89, June 2020**

#### WORKING PAPERS:

**"Flood Hazard Mitigation and the Role of Government: A Dynamic Model of Local Government Investment in a Public Good"**

*Job Market Paper*

This paper studies the role of local governments in providing hazard mitigation using reduced form and structural methods. First, this research estimates the value of flood hazard mitigation and flood insurance discounts using hedonic analysis. Second, the hedonic estimates are used in a dynamic discrete choice model of local government hazard mitigation decisions to estimate the perceived costs of investment. Third, counterfactual analyses are used to study how alternative policies can effect investment in hazard mitigation. I find that on average and across all risk types homeowners are willing to pay approximately \$4,000 annually for a one unit increase in flood hazard mitigation, changes in insurance premiums are overcapitalized, and that participation in flood hazard mitigation has positive spillover effects within county. Further, the counterfactuals demonstrate that updating the FEMA flood risk maps or increasing insurance premiums will increase participation in hazard mitigation, and that insurance discounts are an effective way to increase hazard mitigation on average. However, communities with relatively lower housing values will benefit from a cost subsidy instead of an insurance discount.

**"Combating Hysteresis in the Context of Climate Change: The Role of Information in the Real Estate Market Response to Flood Risk." With Nicholas Z. Muller**

*Revise and Resubmit at Management Science (Previous version: NBER Working Paper No. 2598)*

This study uses hedonic property models to explore how coastal real estate markets subject to heterogeneous information treatments respond to flood risk. We identify reactions to flood risk, distinctly from price effects due to flood damage, by examining non-local flooding events. Utilizing a difference-in-difference methodology, we test whether the coastal real estate market in New Jersey responds to several well-publicized hurricanes that did not strike the Atlantic seaboard. We find that homes in high flood risk zones situated in towns that participate in public

flood awareness activities incur a 7 to 16 percent decrease in price after the non-local shock. Further, we show that firms are more responsive to risk information than individuals and that markets exposed to such information are less adversely affected by future disasters.

### **“Why Local Governments Provide Hazard Mitigation: Evidence from the Community Rating System”**

#### *Under Review*

This paper studies public investment in hazard mitigation through both a theoretical model and an empirical application. First, I build a model of the local government’s decision to provide a public good that mitigates hazard risk. Second, I use participation in the Community Rating System in New Jersey to empirically test the hypotheses generated by the theoretical model in the context of flood hazard mitigation. Consistent with the model predictions, the empirical results show that an array of factors affect participation: income, population, housing values, risk, value of amenity access, information, and whether the local jurisdiction type is mayor-council. This paper further contributes to the literature on optimal public good provision by showing that incomplete information, weak government accountability, and lobbying can lead to inefficient levels of hazard mitigation.

#### WORKS IN PROGRESS:

**“How do risk perceptions change after a disaster? Evidence from a Survey of Hurricane-Prone Counties”** With Timothy Hyde

**“Housing Values and Changing Information about Air Pollution”** With Nicholas Z. Muller.

### RESEARCH EXPERIENCE AND OTHER EMPLOYMENT

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#### **Research Assistant to Karam Kang**

Carnegie Mellon University, Pittsburgh, PA

2017 - 2018

#### **Research Analyst**

The Brattle Group, Washington, D.C.

July 2012 – July 2015

#### **Research Assistant to Lori Pollock and Sara Sprenkle**

Washington and Lee University and University of Delaware

2009

### TEACHING EXPERIENCE

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#### **Instructor of Record:**

Principles of Microeconomics (Undergraduate) – Rating 4.5 out of 5

2019

#### **Teaching Assistant:**

Econometrics (Undergraduate)

2020

Principles of Microeconomics (PhD)

2020

Principles of Microeconomics (Undergraduate)

2019

Energy Policy and Economics (Masters)

2019, 2020

Environmental Policy and Economics (Undergraduate)

2018, 2019

Foundations of Microeconomics (Undergraduate)

2018, 2019

**PRESENTATIONS (INCLUDING SCHEDULED)**

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**“Flood Hazard Mitigation and the Role of Government: A Dynamic Model of Local Government Investment in a Public Good”**

AERE Sponsored Session at SEA Annual Meeting  
 AERE Annual Meeting

November 2020  
 June 2020

**“Why Do Local Jurisdictions Invest in Flood Protection?”**

AERE Sponsored Session at SEA Annual Meeting  
 UEA Annual Meeting

November 2019  
 October 2019

**“The Role of Information in Homeowners’ Response to Flood Risk: Evidence from New Jersey”**

World Congress of Environmental and Resource Economists

June 2018

**AWARDS AND FELLOWSHIPS**

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William Larimer Fellowship, Carnegie Mellon University	2015-2019
Co-recipient of the Kim Family Prize for Best Senior Capstone in Economics	2012
Co-recipient of the John McKenzie Gunn Scholarship	2011
Robert E. Lee Research Grant (Computer Science)	2009
Distributed Research Experience for Undergraduates Grant	2009

**OTHER**

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Software: Stata, Python, R, LaTeX, Microsoft Office, ArcGIS, SQL, VBA  
 Citizenship: USA  
 Languages: English

**REFERENCES**

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Nicholas Z. Muller (Chair)  
 Tepper School of Business  
 Carnegie Mellon University  
 412-268-8121  
[nzm@andrew.cmu.edu](mailto:nzm@andrew.cmu.edu)

Karam Kang  
 Tepper School of Business  
 Carnegie Mellon University  
[kangk@andrew.cmu.edu](mailto:kangk@andrew.cmu.edu)

Dennis Epple  
 Tepper School of Business  
 Carnegie Mellon University  
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