

# Jiameng Zheng

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LBJ School of Public Affairs

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## EDUCATION

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### University of Texas at Austin

*Ph.D. in Public Policy*

*May 2021 (Expected)*

- **Dissertation:** Essays on the Economics of Water Pollution

### University of Maryland, College Park

*M.P.S in Public Administration*

*2014*

### Wuhan University

*Bachelor of Economics*

*2012*

## TEACHING AND RESEARCH FIELDS

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**Fields:** Environmental Economics and Policy

**Sub-Fields:** Labor Economics, Development Economics

## PUBLICATIONS

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### Published journal article

Yusuke Kuwayama, Sheila M.Olmstead, , Derek C. Wietelman and **Jiameng Zheng**, 2020. Trends in nutrient-related pollution as a source of potential water quality damages: A case study of Texas, USA. *Science of The Total Environment*, 724, p.137962.

### Non-Peer Reviewed Publications

Libin Zhang, Sheng Shao, Fang Dong, and **Jiameng Zheng**, 2020. Access to Water for Hydraulic Fracturing in China. In *Regulating Water Security in Unconventional Oil and Gas* (pp. 113-134). Springer, Cham.

## WORKING PAPERS

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### A more comprehensive estimate of the value of water quality

*with Yusuke Kuwayama and Sheila Olmstead, in revise and resubmit at **Journal of Public Economics***

- Prior work suggests that, unlike air pollution regulation, the marginal cost of ambient water pollution regulation in the United States often exceeds its marginal benefit. This paper provides some intuition, theory and empirical evidence suggesting that the typical hedonic property model – a common revealed-preference approach in the literature valuing environmental amenities – may tend to understate MWTP for the improved recreational opportunities that better water quality affords to local homeowners. Using the case of nutrient pollution in Tampa Bay, Florida, we estimate MWTP for water quality improvements by combining a recreation demand model with a hedonic housing model, allowing households to optimize over regional aquatic recreation opportunities (influenced by pollution in recreational waters) as well as ambient water quality very close to homes. Results indicate that homeowners have significant MWTP for both improvements in local ambient water quality and improvements in regional recreational waters. Our recreational benefit estimates are much larger than those we estimate for local amenity values, suggesting that prior hedonic studies may underestimate the value of water pollution control.

### Suicide and Lithium in the Public Water Supply of 870 US Counties

*with Sheila Olmstead and Paul von Hippel*

- Several studies have reported that suicide rates are lower in areas with higher concentrations of lithium in drinking water. Some authors have recommended adding lithium to the public water supply. We estimate the association between suicide and drinking-water lithium in the largest dataset yet used for this purpose. In 870 US counties, we regress county suicide rates on lithium concentrations in groundwater and surface water. We control for spatial correlation and county-level correlates of suicide rates, including economic conditions and religious, racial, and ethnic composition. With or without covariates, we find no significant association between county suicide rates and the concentration of lithium in the water supply. Our results do not support a policy of adding lithium to the water supply.

## **Policy instruments for water pollution control in developing countries**

*with Sheila Olmstead, conditional accept at the **Review of Environmental Economics and Policy***

- This paper surveys the economic theory behind regulatory and other solutions to the stark ambient water pollution problems that exist in many developing countries, and what is known from the empirical economics literature about the effectiveness of these solutions. We also consider challenges for water pollution control policies that may be specific to developing country settings and summarizes gaps in the empirical literature on water pollution policy impacts in developing countries.

## **WORKS IN PROGRESS**

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### **Lead exposure, human capital formation, and inequality: the impacts of lead exposure on short-run and long-run educational outcomes**

*Job Market Paper*

- This paper estimates the short-run and long-run impacts of early childhood lead exposure from drinking water on educational outcomes, the spatial and demographic distribution of these impacts, and the welfare impacts of lead abatement policies. I merge data from the U.S. Environmental Protection Agency on lead violations under the Safe Drinking Water Act with data on individual standard test scores, educational attainment, and wages from restrictive-use Texas data. I also match lead concentration in drinking water with education and labor-market outcomes in Texas to understand the dose-response impacts of lead in drinking water. I find that lead exposure at birth from drinking water has significant negative impact on students' 3rd grade standard test scores and on students' ability to passing standard tests. In the long run, it also significantly reduce the high school graduation rate.

### **Do River Chiefs Reduce Surface Water Pollution in China?**

- In 2016, the central government in China passed on new policy appointing local government officials as river chiefs across the country, making them responsible for water resource management. The river chief mechanism assigns each section of rivers and lakes in China with river chiefs by the end of 2018. Since the announcement of this new policy, an ongoing debate has begun on the possible effectiveness of river chiefs in reducing pollution. In this paper, I contribute to the debate by empirically investigating the effect of the River Chief Mechanism on water quality in China. I construct a data set combining surface water quality data from various sources in China and collect data on the dates each province and city make initial announcements of its river chiefs. An event study analysis is performed to understand the impact of river chief assignment on water quality.

### **Subway opening and air quality in China**

*with Xue Gao*

- Using data on subway openings and daily air quality in China from 2002-2017, we measure the impact of subway openings on air quality. Existing studies have linked subway openings to air quality improvements in both developed and developing countries. But some studies found heterogeneous impacts of subway openings in Chinese cities. This study adds to the literature by focusing on subway openings and extensions to all Chinese cities from 2002-2017. Using traffic congestion data, we also test for the mechanism that could explain the impacts of subway openings on air quality.

## **RESEARCH EXPERIENCE AND OTHER EMPLOYMENT**

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2019	Resources for the Future, Short-term consultant
2018-2019	Office of Water, The World Bank, Short-term consultant
2016-2018	University of Texas at Austin, Research Assistant for Prof. Sheila Olmstead
2013-2015	University of Maryland College Park, Research Assistant for Prof. Elisabeth Gilmore

## TEACHING EXPERIENCE

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Fall, 2019            Microeconomics (graduate)  
Teaching Assistant, for Prof. Andrew Waxman

Spring, 2018        Environment and Resource Economics and Policy (graduate)  
Teaching Assistant, for Prof. Sheila Olmstead

Fall, 2017            Microeconomics (graduate)  
Teaching Assistant, for Prof. Sheila Olmstead

Summer, 2017-2018 Quantitative Foundation for Public Policy (undergraduate)  
Teaching Assistant, for Prof. Williams Spelman

Summer, 2014        Math Refresher (graduate)  
Teaching Assistant, Prof. Michael Busse

## SCHOLARSHIPS AND FELLOWSHIPS

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2019            EAERE-FEEM European Summer School Scholarship

2018-2019        University Graduate Continuing Fellowship, University of Texas at Austin

2018            Academic Competitive Scholarship, University of Texas at Austin

2014-2016        Dean's Fellowship, University of Maryland – College Park

2014            Society of Risk Analysis Travel Grant

## PROFESSIONAL ACTIVITIES

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### Conferences

2019            EAERE-FEEM European Summer School in Resource and Environmental Economics

2017            Public Affairs Colloquium, University of Texas at Austin

2013, 2014        Society of Risk Analysis Annual Meeting

**Service**        Paper discussant, Annual Conference of Society of Benefit-Cost Analysis, March 2018

## PROGRAMMING SKILLS

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ArcGIS, Stata, R, Python, L<sup>A</sup>T<sub>E</sub>X

## PROFESSIONAL AFFILIATION

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Special Sworn Status, U.S. Census Bureau, November 2020 to present

## ACADEMIC REFERENCES

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**Prof. Sheila Olmstead (Chair)**

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**Prof. Lynn Katz**

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**Prof. Yusuke Kuwayama**

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**Prof. Andrew Waxman**

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