

Faculty Profile: Katrina K. Jessoe (Clark)



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Katrina Jessoe joined the faculty of the Department of Agricultural and Resource Economics at UC Davis as an assistant professor in August 2009. Katrina earned her Ph.D. in environmental and natural resource economics from the School of Forestry and Environmental Studies at Yale University. She received a B.A. in Ecology and Evolutionary Biology from Princeton University, and a Masters in Environmental Management from the Bren School at the University of California, Santa Barbara. While at UCSB, she worked as a summer intern at Resources for the Future.

Katrina's dissertation, "The Economics of Drinking Water Quality," evaluates the impacts of drinking water regulations in rural India and the United States. In rural India, her research examines whether the expansion of protected groundwater supplies, a government-sponsored intervention

designed to improve human health, reduced private expenditure on drinking water quality, offsetting some of the water quality and health gains from source protection. She finds that source protection reduces the probability of in-home treatment by 27 to 39 percentage points, offsetting some of the quality gains from improved sources. Her research demonstrates that behavioral choices partly counteract the health benefits from source water quality improvements.

At Davis, she plans to continue researching questions at the intersection of environment and economic development. An ongoing research project (co-authored with Reena Badiani) explores the impact of subsidized electricity tariffs for agricultural users on groundwater extraction, agricultural productivity, and industrial development. Preliminary results suggest that a 10% decrease in subsidies would reduce groundwater extraction by 5.5%, costing farmers 12% in agricultural revenue. The authors are now considering the implications of these subsidies for crop choice, rural wages, and electricity theft in the rural and industrial sectors.

A second portion of Katrina's dissertation (co-authored with Lori Ben-near and Sheila Olmstead) investigates if the regulatory design of the Total Coliform Rule (TCR), a rule governing bacterial contaminants in drinking water supplies, motivates water suppliers to strategically avoid drinking water violations. The structure of the TCR—a percentage-based rule—provides incentives for some piped drinking water systems to avoid violations by taking additional water quality samples. In the United States, water systems that take at least 40 samples in a month incur a monthly TCR violation if more than 5% of those samples test positive.

Water suppliers that are in violation of the TCR may strategically draw additional negative samples to remain below the 5% violation threshold. This research estimates the prevalence of this behavior and its potential impact on violations using monthly data for more than 500 Massachusetts water systems. Results provide evidence that strategic over-sampling is occurring and find that almost one-third of monthly TCR violations may go undetected due to this strategic behavior.

Since moving to Davis, Katrina has begun collaborations with UC Davis professors Jeffrey Williams and David Rapson. Jessoe and Rapson, have partnered with a Connecticut electric utility to implement a randomized controlled trial to assess the value of home area network technology (a portfolio of devices that provides real-time electricity information to customers), and compare this value to that of other interventions designed to manage energy consumption.

Their research will weigh in on the debate surrounding the comparative power of price and non-price interventions to influence individual behavior. It will also contribute to policy discussions about the impact and importance of a next-generation residential energy technology that is central to energy conservation strategies in the United States.

Katrina lives in San Francisco with her husband, Austin Clark. In her free time, Katrina enjoys being outdoors—whether it be playing tennis, hiking, or exploring the neighborhoods of San Francisco—traveling, and spending time with her family.

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