

## ARE Faculty Profile: Aaron Smith



Aaron D. Smith  
Assistant Professor  
Agricultural and Resource Economics  
UC Davis

Since 2001, Aaron Smith has held a position as an assistant professor in the Department of Agricultural and Resource Economics at UC Davis. Prior to coming to Davis, Aaron earned a Ph.D. in Economics from UC San Diego and taught at the University of Virginia and UC Santa Barbara. He grew up in New Zealand, where his family operates a sheep farm.

Professor Smith's research addresses price behavior in commodity markets, including cotton, corn, natural gas, crude oil, and electricity. In addition, he works on developing new statistical methods for predicting and understanding the dynamic behavior of commodity prices and other economic variables.

In one line of research, Aaron studies the nature of price fluctuations in commodity futures markets. Futures contracts enable the purchase or sale of a commodity at a fixed price at a fixed location in a particular month in the future. In research on the corn and

cotton markets, Aaron shows that futures prices become excessively volatile as the delivery date approaches. This phenomenon arises because only a limited amount of the commodity is available for trade near the delivery location, and it is very expensive to transport the commodity from out of state at short notice. Therefore, when using futures markets to reduce price risk, agricultural producers should avoid futures contracts that are close to the delivery date. With Hiroaki Suenaga, a UC Davis Ph.D. graduate, and Jeffrey Williams of UC Davis, Professor Smith is conducting similar studies of futures markets for natural gas, crude oil, and gasoline.

With Colin Carter of UC Davis, Aaron studied the market impact of a prominent food scare. In 2000, a genetically modified corn variety called StarLink, that was not approved for human consumption, was discovered in the food-corn supply. Smith and Carter showed that this contamination event led to a 6.8 percent discount in corn prices and that the suppression of prices lasted for at least a year. The StarLink case continues to surface around the world as an example of policy error in managing biotechnology adoption.

In collaboration with a UC Davis Ph.D. graduate, Konstantinos Metaxoglou, Smith showed that the California electricity reserves market operated inefficiently before, during, and after the 2001 electricity crisis. The reserves market ensures the availability of extra generating capacity in case of unexpected spikes in electricity demand, and it operates separately from the market for electricity itself. In the reserves

market, generators offer to keep their spare capacity on standby in case it is needed. They offer this standby capacity in two separate hourly auctions: one, a day ahead, and the other, an hour ahead of the delivery hour. Aaron and Konstantinos showed that utilities were forced to procure most of their standby capacity in the day-ahead market rather than the hour-ahead market, even though the day-ahead prices averaged 35 percent higher. This outcome raised the costs to utilities, and ultimately consumers, by hundreds of millions of dollars between 1999 and 2002.

Aaron lives in Walnut Creek with his wife, Heather Rose, who works as a research economist at the Public Policy Institute of California in San Francisco. When Smith is not tackling economic data, he spends his time tackling large human beings on the rugby field. As a New Zealander, he has played rugby since he was young and sees it as a natural part of life. For the last five seasons, he has played in the USA Rugby Super League for the San Francisco Golden Gate club. However, the fifth season may have been his last—he claims he's now too old to keep up.

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*Aaron Smith can be contacted by telephone at (530) 752-2138 or by e-mail at [asmith@primal.ucdavis.edu](mailto:asmith@primal.ucdavis.edu).*