

# Aaron Smith

---

University of California, Davis  
Department of Agricultural and Resource Economics  
One Shields Ave  
Davis, CA 95616

Email: [adsmith@ucdavis.edu](mailto:adsmith@ucdavis.edu)  
Web: <http://asmith.ucdavis.edu>  
Twitter: [@ASmithUCD](https://twitter.com/ASmithUCD)  
Phone: +1 (530) 752-2138

---

**Employment**    **DeLoach Professor of Agricultural Economics**, 2019-present, Department of Agricultural and Resource Economics, UC Davis  
**Professor**, 2014-present, Department of Agricultural and Resource Economics, UC Davis  
**Associate Professor**, 2007-2014, Department of Agricultural and Resource Economics, UC Davis  
**Assistant Professor**, 2001-2007, Department of Agricultural and Resource Economics, UC Davis  
**Visiting Assistant Professor**, 2000-2001, Department of Economics, UC Santa Barbara  
**Visiting Assistant Professor**, 1999-2000, Department of Economics, University of Virginia  
**Lecturer**, 1994-1995, 1996, 2000, Department of Economics, University of Canterbury, New Zealand

**Education**    **Ph.D.**, Department of Economics, UC San Diego, June 1999  
Dissertation title: “Stochastic Permanent Breaks”  
Chair of dissertation committee: Robert Engle  
**B.S.** (first class honors), University of Canterbury, New Zealand, May 1994

## Publications

1. Ghanem, D. & Smith, A. “[What are the Benefits of High-Frequency Data for Fixed Effects Panel Models](#)”. *Journal of the Association of Environmental and Resource Economists* (2020).
2. Irwin, S. H., Sanders, D. R., Smith, A. & Main, S. “[Returns to Investing in Commodity Futures: Separating the Wheat from the Chaff](#)”. *Applied Economic Perspectives and Policy* (2020).
3. Metaxoglou, K. & Smith, A. “[Productivity Spillovers from Pollution Reduction: Reducing Coal use Increases Crop Yields](#)”. *American Journal of Agricultural Economics* **102**, 259–280 (2020).
4. Fishe, R. P. & Smith, A. “[Do Speculators Drive Commodity Prices Away from Supply and Demand Fundamentals?](#)” *Journal of Commodity Markets* **15**, 100078 (2019).
5. Metaxoglou, K., Pettenuzzo, D. & Smith, A. “[Option-Implied Equity Premium Predictions via Entropic Tilting](#)”. *Journal of Financial Econometrics* **17**, 559–586 (2019).

6. Andersen, M. A., Alston, J. M., Pardey, P. G. & Smith, A. “A Century of US Farm Productivity Growth: A Surge then a Slowdown”. *American Journal of Agricultural Economics* **100**, 1072–1090 (2018). **Honorable Mention. Outstanding AJAE Article Award, AAEA, 2019.**
7. Janzen, J. P., Smith, A. & Carter, C. A. “Commodity Price Comovement and Financial Speculation: The Case of Cotton”. *American Journal of Agricultural Economics* **100**, 264–285 (2018).
8. Lade, G. E., Cynthia Lin Lawell, C. & Smith, A. “Designing Climate Policy: Lessons from the Renewable Fuel Standard and the Blend Wall”. *American Journal of Agricultural Economics* **100**, 585–599 (2018).
9. Lade, G. E., Lin Lawell, C.-Y. C. & Smith, A. “Policy Shocks and Market-Based Regulations: Evidence from the Renewable Fuel Standard”. *American Journal of Agricultural Economics* **100**, 707–731 (2018).
10. Main, S., Irwin, S. H., Sanders, D. R. & Smith, A. “Financialization and the Returns to Commodity Investments”. *Journal of Commodity Markets* **10**, 22–28 (2018).
11. Novan, K. & Smith, A. “The Incentive to Overinvest in Energy Efficiency: Evidence from Hourly Smart-Meter Data”. *Journal of the Association of Environmental and Resource Economists* **5**, 577–605 (2018).
12. Yu, J., Smith, A. & Sumner, D. A. “Effects of Crop Insurance Premium Subsidies on Crop Acreage”. *American Journal of Agricultural Economics* **100**, 91–114 (2018).
13. Metaxoglou, K. & Smith, A. “Forecasting Stock Returns Using Option-Implied State Prices”. *Journal of Financial Econometrics* **15**, 427–473 (2017).
14. Metaxoglou, K. & Smith, A. “State Prices of Conditional Quantiles: New Evidence on Time Variation in the Pricing Kernel”. *Journal of Applied Econometrics* **32**, 192–217 (2017).
15. Reed, W. R. & Smith, A. “A Time Series Paradox: Unit Root Tests Perform Poorly When Data are Cointegrated”. *Economics Letters* **151**, 71–74 (2017).
16. Carter, C. A., Rausser, G. C. & Smith, A. “Commodity Storage and the Market Effects of Biofuel Policies”. *American Journal of Agricultural Economics* **99**, 1027–1055 (2016). **Winner of Outstanding AJAE Article Award, AAEA, 2018.**
17. Fishe, R. P., Robe, M. A. & Smith, A. “Foreign Central Bank Activities in US Futures Markets”. *Journal of Futures Markets* **36**, 3–29 (2016).
18. MacEwan, J. P., Smith, A. & Alston, J. M. “The Supplemental Nutrition Assistance Program, Energy Balance, and Weight Gain”. *Food Policy* **61**, 103–120 (2016).
19. Garcia, P., Irwin, S. H. & Smith, A. “Futures Market Failure?” *American Journal of Agricultural Economics* **97**, 40–64 (2015). **Winner of Quality of Research Discovery Award, AAEA, 2016.**
20. Hendricks, N. P., Janzen, J. P. & Smith, A. “Futures Prices in Supply Analysis: Are Instrumental Variables Necessary?” *American Journal of Agricultural Economics* **97**, 22–39 (2015).
21. Hendricks, N. P. & Smith, A. “Grouped Coefficients to Reduce Bias in Heterogeneous Dynamic Panel Models with Small  $T$ ”. *Applied Economics* **47**, 4335–4348 (2015).

22. Knittel, C. R. & Smith, A. “Ethanol Production and Gasoline Prices: A Spurious Correlation”. *The Energy Journal* **36** (2015).
23. Fische, R. P., Janzen, J. P. & Smith, A. “Hedging and Speculative Trading in Agricultural Futures Markets”. *American Journal of Agricultural Economics* **96**, 542–556 (2014). **Winner of Quality of Research Discovery Award, EAAE, 2015.**
24. Hendricks, N. P., Sinnathamby, S., Douglas-Mankin, K., Smith, A., Sumner, D. A. & Earnhart, D. H. “The Environmental Effects of Crop Price Increases: Nitrogen Losses in the US Corn Belt”. *Journal of Environmental Economics and Management* **68**, 507–526 (2014).
25. Hendricks, N. P., Smith, A. & Sumner, D. A. “Crop Supply Dynamics and the Illusion of Partial Adjustment”. *American Journal of Agricultural Economics* **96**, 1469–1491 (2014). **Winner of Outstanding AJAE Article Award, AAEA, 2015.**
26. Janzen, J., Carter, C. A., Smith, A. & Adjemian, M. “Deconstructing Wheat Price Spikes: A Model of Supply and Demand, Financial Speculation, and Commodity Price Comovement”. *USDA-ERS Economic Research Report* (2014).
27. Lybbert, T. J., Smith, A. & Sumner, D. A. “Weather Shocks and Inter-Hemispheric Supply Responses: Implications for Climate Change Effects on Global Food Markets”. *Climate Change Economics* **5**, 1450010 (2014).
28. Merel, P., Smith, A., Williams, J. & Wimberger, E. “Cars on Crutches: How Much Abatement do Smog Check Repairs Actually Provide?” *Journal of Environmental Economics and Management* **67**, 371–395 (2014).
29. Adjemian, M., Garcia, P., Irwin, S. H. & Smith, A. “Non-Convergence in Domestic Commodity Futures Markets: Causes, Consequences, and Remedies”. *USDA-ERS Economic Information Bulletin* (2013).
30. Chen, P. & Smith, A. “The Nonlinear Multidimensional Relationship Between Stock Returns and the Macroeconomy”. *Applied Economics* **45**, 4985–4999 (2013).
31. Adjemian, M. K. & Smith, A. “Using USDA Forecasts to Estimate the Price Flexibility of Demand for Agricultural Commodities”. *American Journal of Agricultural Economics* **94**, 978–995 (2012).
32. Fische, R. P. & Smith, A. “Identifying Informed Traders in Futures Markets”. *Journal of Financial Markets* **15**, 329–359 (2012).
33. Lybbert, T. J., Lybbert, T. C., Smith, A. & Warren, S. “Does the Red Flag Rule Induce Risk Taking in Sprint Finishes? Moral Hazard Crashes in Cycling’s Grand Tours”. *Journal of Sports Economics* **13**, 603–618 (2012).
34. Smith, A. “Markov Breaks in Regression Models”. *Journal of Time Series Econometrics* **4** (2012).
35. Taylor, J. E., Boucher, S. R., Smith, A., Fletcher, P. L. & Yúnez-Naude, A. “Immigration and the US Farm Labour Supply”. *Migration Letters* **9**, 87–99 (2012).
36. Carter, C. A., Rausser, G. C. & Smith, A. “Commodity Booms and Busts”. *Annual Review of Resource Economics* **3**, 87–118 (2011).
37. Suenaga, H. & Smith, A. “Volatility Dynamics and Seasonality in Energy Prices: Implications for Crack-Spread Price Risk”. *The Energy Journal* **32**, 27–58 (2011).

38. Suenaga, H., Smith, A. & Williams, J. “Volatility Dynamics of NYMEX Natural Gas Futures Prices”. *Journal of Futures Markets* **28**, 438–463 (2008).
39. Balagtas, J. V., Smith, A. & Sumner, D. A. “Effects of Milk Marketing Order Regulation on the Share of Fluid-Grade Milk in the United States”. *American Journal of Agricultural Economics* **89**, 839–851 (2007).
40. Boucher, S. R., Smith, A., Taylor, J. E. & Yúnez-Naude, A. “Impacts of Policy Reforms on the Supply of Mexican Labor to US Farms: New Evidence from Mexico”. *Review of Agricultural Economics* **29**, 4–16 (2007).
41. Carter, C. A. & Smith, A. “Estimating the Market Effect of a Food Scare: The Case of Genetically Modified Starlink Corn”. *The Review of Economics and Statistics* **89**, 522–533 (2007). **Winner of Quality of Research Discovery Award, AAEA, 2008.**
42. Metaxoglou, K. & Smith, A. “Efficiency of the California Electricity Reserves Market”. *Journal of Applied Econometrics* **22**, 1127–1144 (2007).
43. Metaxoglou, K. & Smith, A. “Maximum Likelihood Estimation of VARMA Models Using a State-Space EM Algorithm”. *Journal of Time Series Analysis* **28**, 666–685 (2007).
44. Smith, A., Naik, P. A. & Tsai, C.-L. “Markov-Switching Model Selection Using Kullback–Leibler Divergence”. *Journal of Econometrics* **134**, 553–577 (2006).
45. Smith, A. “Forecasting in the Presence of Level Shifts”. *Journal of Forecasting* **24**, 557–574 (2005).
46. Smith, A. “Level Shifts and the Illusion of Long Memory in Economic Time Series”. *Journal of Business and Economic Statistics* **23**, 321–335 (2005).
47. Smith, A. “Partially Overlapping Time Series: A New Model for Volatility Dynamics in Commodity Futures”. *Journal of Applied Econometrics* **20**, 405–422 (2005).
48. Smith, A., Goe, W. R., Kenney, M. & Paul, C. J. M. “Computer and Internet use by Great Plains Farmers”. *Journal of Agricultural and Resource Economics*, 481–500 (2004).
49. Engle, R. F. & Smith, A. “Stochastic Permanent Breaks”. *Review of Economics and Statistics* **81**, 553–574 (1999).

## Books

1. Smith, A. & Taylor, J. E. *Essentials of Applied Econometrics* (University of California Press, 2016).

## Book Chapters

1. Fische, R. P. H. & Smith, A. in *Commodities: Markets, Performance, and Strategies* (eds Baker, H. K., Filbeck, G. & Harris, J. H.) (Oxford University Press, 2018).
2. Smith, A. in *The Economics of Food Price Volatility* (eds Chavas, J.-P., Hummels, D. & Wright, B.) 253–259 (University of Chicago Press, 2014).

## Outreach and Policy Articles

1. Smith, A. & Smith, V. *Will Battle Between 'Big Corn' And 'Big Oil' Stall Next Generation Biofuels?* Investor's Business Daily. 2018.
2. Smith, A. *Biofuels, the Renewable Fuel Standard, and the Farm Bill*. American Enterprise Institute. 2017.
3. Smith, A. & Smith, V. *Time to Reform Renewable Fuel Policies for the Public Interest*. The Hill. 2017.
4. Smith, A. *Biofuel Policies: Robbing Peter to Pay Paul*. Agricultural and Resource Economics Update. 2016.
5. Smith, A. *Biofuels Policy in Limbo*. Agricultural and Resource Economics Update. 2014.
6. Adjemian, M., Garcia, P., Irwin, S. & Smith, A. *Solving the Commodity Markets' Non-Convergence Puzzle*. Amber Waves. 2013. **Winner of Quality of Communication Award, AAEA, 2014.**
7. Abu-Sneneh, F., Carter, C. & Smith, A. *Comment on Request for a Waiver of the Renewable Fuels Standard*. EPA Docket ID: EPA-HQ-OAR-2012-0632. 2012.
8. Abu-Sneneh, F., Carter, C. & Smith, A. *Do Gasoline Prices Account for Ethanol's Lower Energy Content?* Agricultural and Resource Economics Update. 2012.
9. Knittel, C. & Smith, A. *Don't Blame It on the Rain: The Ethanol Mandate Is a Bad Idea in Any Year*. Huffington Post. 2012.
10. Smith, A. *Giving an Inch and Keeping a Mile: Why the Corn Lobby Let the Ethanol Tax Credit Expire*. Agricultural and Resource Economics Update. 2012.
11. Carter, C., Rausser, G. & Smith, A. *The Food Price Boom and Bust*. Agricultural and Resource Economics Update. 2008.
12. De Wit, J. & Smith, A. *What is the Price of Oil?* Agricultural and Resource Economics Update. 2008.
13. Smith, A. *Children of the Corn: The Renewable Fuels Disaster*. American Enterprise Institute. 2008.
14. Smith, A. *Commodity Futures: Exploring Price Determination and Volatility*. GARP Risk Review. 2008.
15. Smith, A. & Morrison Paul, C. *Does the Internet Increase Farm Profits?* Agricultural and Resource Economics Update. 2005.
16. Smith, A. *New Hedging Techniques to Reduce Cotton Price Risk*. Agricultural and Resource Economics Update. 2004.

**Awards**      Outstanding AJAE Article Award, Honorable Mention, 2019.  
                   Outstanding AJAE Article Award, 2018.  
                   Quality of Research Discovery Award, AAEA, 2016.  
                   Erskine Fellow, University of Canterbury, February-March 2016.  
                   Outstanding AJAE Article Award, 2015.  
                   Quality of Research Discovery Award, EAAE, 2014.  
                   Quality of Communication Award, AAEA, 2014.

Quality of Research Discovery Award, AAEA, 2008.  
AARES/AAEA Young Professional's Exchange Travel Award: Heading South, 2005.  
Alfred P. Sloan Doctoral Dissertation Fellowship 1998-99.

**Activity**      **Associate Editor** of American Journal of Agricultural Economics, 2009-2011.  
**Contractor**, Commodity Futures Trading Commission, Office of the Chief Economist, 2009-2013.  
**Program Chair and Local Organizer**, NBER-NSF Time Series Conference, September 2009.  
**Referee** for American Economic Review, American Economic Journal: Economic Policy, Review of Economics and Statistics, Journal of Public Economics, Journal of Economic Surveys, Journal of Business and Economic Statistics, Journal of Applied Econometrics, Journal of Econometrics, Econometric Theory, Journal of Computational Statistics and Data Analysis, Journal of Economic Dynamics and Control, Journal of Time Series Analysis, Econometric Reviews, Journal of Forecasting, International Journal of Forecasting, Econometrics Journal, Journal of Multivariate Analysis, Journal of Finance, Journal of Futures Markets, Journal of Financial Econometrics, Journal of Empirical Finance, Journal of International Money and Finance, Journal of Behavioral and Experimental Finance, Economics Letters, Empirical Economics, Applied Economics, Journal of Productivity Analysis, Review of Development Economics, Eastern Economic Journal, American Journal of Agricultural Economics, Review of Agricultural Economics, Journal of Agricultural and Resource Economics, Journal of Agricultural Economics, Canadian Journal of Agricultural Economics, Agricultural Economics, Applied Economic Perspectives and Policy, Giannini Foundation Monograph Series, Journal of the Association of Environmental and Resource Economists, Journal of Environmental Economics and Management, Energy Journal, Energy Economics, Marine Resource Economics, National Science Foundation, National Institute of Food and Agriculture.

**Grants**      UC Davis Institute for Transportation Studies, 2018-19.  
National Wildlife Federation, 2017-18.  
USDA NIFA, 2016-18.  
Energy Foundation, 2014-15.  
Resources for the Future, 2014.  
USDA ERS, co-operative agreements, 2010-11, 2011-13.  
USDA Office of the Chief Economist, co-operative agreement, 2010-11.  
UC Center for Energy and Environmental Economics, 2010.  
Giannini Foundation Minigrants, 02-03, 3-04, 4-05, 06-07, 09-10, 12-13, 13-14, 14-15, 15-16, 18-19.  
Projects in Econometric Analysis Fellowship, UCSD, 1997-98.

### **Seminar and Conference Presentations**

UC Riverside, Department of Economics, February 2020.  
University of Nebraska-Lincoln, Department of Agricultural Economics, February 2020.

UC Davis Institute for Transportation Studies, 2018-19.  
AAEA Annual Meeting, Atlanta, July 2019.  
Purdue University, Department of Agricultural Economics, April 2019.  
Agricultural Commodity Futures Conference, Kansas City, April 2018.  
American Enterprise Institute, December 2017.  
University of Maryland, Dept of Agricultural and Resource Economics, February 2017.  
Cornell University, Dyson School, October 2016.  
American Enterprise Institute, May 2016.  
University of Illinois, Urbana-Champaign, Dept of Ag and Consumer Econ., April 2016.  
Lincoln University, Christchurch, New Zealand, March 2016.  
Ministry of Business, Innovation & Employment, Wellington, New Zealand, March 2016.  
University of Otago, Department of Economics, March 2016.  
University of Canterbury, Department of Economics and Finance, February 2016.  
Motu, Wellington, New Zealand, February 2016.  
Resources for the Future Forum on Federal Environmental Regulations, October 2015.  
USDA Economic Research Service, October 2015.  
AAEA Annual Meeting, San Francisco, July 2015.  
NBER Summer Institute, July 2015.  
American Enterprise Institute, February 2015.  
Oklahoma State University, Department of Agricultural Economics, November 2014.  
Federal Reserve Bank of St Louis, Econometrics Workshop, November 2014.  
Colorado School of Mines, School of Economics and Business, October 2014.  
Society for Financial Econometrics Annual Conference, Toronto, June 2014.  
AAEA Annual Meeting, Washington DC, August 2013.  
NBER/NSF Time Series Meeting, Texas A&M University, October 2012.  
California Econometrics Conference, UC Davis, September 2012.  
Economics of Food Price Volatility Conference, Seattle, August 2012.  
UC Davis, Department of Economics, May 2012.  
Berkeley Bioeconomy Conference, UC Berkeley, March 2012.  
Iowa State University, Department of Economics, September 2011.  
Chicago Mercantile Exchange, Chicago, September 2011.  
CFTC Conference on Commodity Markets, Washington DC, August 2011.  
USDA Office of the Chief Economist, August 2011.  
Commodities, the Economy and Money Conference, Calgary June 2011.  
Federal Reserve Bank of St Louis, Applied Econometrics Workshop, April 2011.  
University of Illinois, Urbana-Champaign, Dept of Ag and Consumer Econ., January 2011.  
University of Maryland, Dept of Agricultural and Resource Economics, November 2010.  
NBER/NSF Time Series Meeting, Duke University, October 2010.  
UC Center for Energy and Environmental Economics, June 2010.  
UC Davis, Graduate School of Management, June 2010.  
UC Davis, Department of Economics, May 2010.  
Commodity Futures Trading Commission, May 2010.  
University of Illinois, Urbana-Champaign, Dept of Ag and Consumer Econ., April 2010.  
UC Riverside, Department of Economics, February 2010.  
CFTC Round Table, Washington DC, June 2009.

CIREQ time series conference, Montreal, May 2009.  
Commodity Futures Trading Commission, March 2009.  
UC Berkeley, Department of Agricultural and Resource Economics, March 2009.  
University of Illinois, Urbana-Champaign, Dept of Ag and Consumer Econ., Oct 2008.  
Giannini Foundation Conference, October 2008.  
NBER/NSF Time Series Meeting, Aarhus, Denmark, September 2008.  
UC Davis, Department of Statistics, February 2008.  
NBER/NSF Time Series Meeting, Iowa City, September 2007.  
Federal Reserve Bank of St Louis, Econometrics Workshop, August 2007.  
Stanford Institute for Theoretical Economics, Summer Workshop, June 2007.  
North Carolina State University, Departments of Economics and ARE, November 2006.  
Purdue University, Department of Agricultural Economics, October 2006.  
Federal Reserve Bank of San Francisco, January 2001.  
UC Santa Barbara, Department of Economics, January 2001.  
New Zealand Econometrics Study Group, Dunedin, New Zealand, August 2000  
Society for Nonlinear Dynamics and Econometrics Symposium, Atlanta, March 2000.  
Arizona State University, Department of Economics, October 1999.  
University of Auckland, Department of Economics, August 1998.  
University of Canterbury, Department of Economics, August 1998.  
University of Otago, Department of Economics, August 1998.  
UC Riverside Econometrics Workshop, October 1998.  
Econometrics and Statistics Summer Symposium, UC Berkeley, August 1998.  
NBER Summer Institute, Cambridge MA, July 1998.  
Econometric Society North American Summer Meeting, Montreal, June 1998.  
Econometric Society North American Winter Meeting, Chicago IL, January 1998.  
NBER/NSF Time Series Meeting, Duke University, October 1997.  
UCSD Econometrics Workshop, October 1997.  
UC Riverside, Department of Economics, October 2006.  
UC Davis, Department of Economics, October 2006.  
International Association of Agricultural Economists, Gold Coast, Australia, August 2006  
New Zealand Econometrics Study Group, Dunedin, New Zealand, August 2006  
University of Victoria, Department of Economics, British Columbia, October 2005.  
Marketing Dynamics Conference, Sacramento, September 2005.  
AARES Annual Meeting, Coffs Harbour, Australia, February 2005.  
Commodity Futures Trading Commission, November 2004.  
North Carolina State University, Dept. of Ag. and Resource Economics, November 2004.  
NBER/NSF Time Series Meeting, Dallas, September 2004.  
AAEA Annual Meeting, Denver, August 2004.  
UC Davis, Department of Economics, December 2003.  
UC Berkeley, Department of Agricultural and Resource Economics, November 2003.  
NBER/NSF Time Series Meeting, Chicago, September 2003.  
Joint Statistical Meetings, San Francisco, August 2003.  
American Agricultural Economics Association, Annual Meeting, Montreal, July 2003.  
Conference on Agricultural Policy Reform and the WTO, Capri, Italy, June 2003.  
Econometric Society Summer Meetings, UCLA, July 2002



UC Davis, Department of Economics, April 2002.

UC Davis, Department of Agricultural and Resource Economics, January 2001.