

Juan Pablo Sesmero

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Education

University of Nebraska, Lincoln	Ag Economics	PhD	2010
Universidad Nacional del Nordeste	Economics	BS	2002

Employment History and Academic Appointments

2017-current	Associate Professor of Agricultural Economics, Purdue University
2010-2017	Assistant Professor of Agricultural Economics, Purdue University
01/2016-current	Fellow, Robert B. Daugherty Water for Food Institute, University of Nebraska-Lincoln.
2005-2010	Research Assistant, Ag. Economics, Univ. of Nebraska, Lincoln
2002-2006	Research Staff, Office of Science and Technology, Argentina

Awards and Honors (latest)

2017:	Advisor to Whitney Hodde. Winner of an Honorable Mention for Second Best Master's Thesis in the Department of Agricultural Economics. Department of Agricultural Economics, Purdue University.
2014:	<i>Early Career Professional Leadership Award</i> , Council on Food, Agricultural and Resource Economics (C-FARE).
2014:	Co-Advisor (with Jacob Ricker-Gilbert) to Aaron Cook. Winner of the Best Master's Thesis in the Department of Agricultural Economics. Department of Agricultural Economics, Purdue University.
2014:	Advisor to Carlos Iglesias. Winner of an Honorable Mention for Capstone Project, MS-MBA in Food and Agribusiness Management, Purdue University.

Teaching

- Dynamic Optimization, PhD, since 2016.
- Advanced Topics in Energy, Environmental, and Resource Economics, PhD, Purdue University, since 2011.
- Environmental Policy Analysis, MS, Purdue University, since 2011.
- Quantitative Analysis for Firm Decision Making, Undergraduate (Jr/Sr), Purdue University, since 2011.

Research Interests/Expertise and Synergistic Activities

1. Research interests. Sesmero's *methodological* research is focused on modeling and quantification of biases in econometric estimation of structural models in strategic environments, with an application to certification policies in ag/food markets. Sesmero's *applied theory* research focuses on equilibrium displacement in dynamic markets with asymmetric information (with applications to storage technology in developing countries), and oligopoly intermediation (with applications to spatial markets in food and agriculture). Sesmero's *applied* research spans issues of market structure and welfare distribution in

biofuel markets, the cost-effectiveness of competing policies for energy and water conservation, and the effect of climate change on agricultural production decisions in developed and developing countries.

2. Other synergistic activities. Topic Leader, Production Economics Section, Agricultural and Applied Economics Association (2013-2015). Topic Leader, Natural Resource Economics Section, Agricultural and Applied Economics Association (2015-2017). Panel Reviewer for National Science Foundation, EPSCoR program. Abstract reviewer for the Agricultural and Applied Economics Association Annual Meeting (2010-2013). Selected paper reviewer, 2012 and 2015, International Association of Agricultural Economics Tri-annual Meeting.

Journal Articles (23)

([†] student co-author; ^s shared senior authorship; * corresponding author)

Sesmero, J. *, Ricker-Gilbert, J, and Cook, A [†]. How Do African Farm Households Respond to Changes in Current and Past Weather Patterns? A Structural Panel Data Analysis from Malawi. American Journal of Agricultural Economics (forthcoming).

Sesmero, J.*, Perrin, R., and Fulginiti, L. A Nonparametric Frontier Measure of Marketing Efficiency: An Illustration with Corn Ethanol Plants. Agribusiness: An International Journal (forthcoming).

Sesmero, J.* Spatial Pricing in Uncontested Procurement Markets: Regulatory Implications. Journal of Agricultural and Food Industrial Organization (forthcoming).

Giannakas, K.*, Fulton, M. and Sesmero, J., 2016. Horizon and free-rider problems in cooperative organizations. Journal of Agricultural and Resource Economics, 41(3), pp.372-392.

Sesmero, J.* and Fulginiti, L., 2016. Sustainable Consumption with an Essential Exhaustible Resource Re-Examined. Theoretical Economics Letters, 6(03), p.464.

Sun, S. [†]*, Delgado, M., Sesmero, J.P., 2016. Dynamic adjustment in agricultural practices to economic incentives aiming to decrease fertilizer application. Journal of environmental management, 177, pp.192-201.

Sesmero, J. *, Jung, J. [†], and Tyner, W., 2016. The effect of current and prospective policies on photovoltaic system economics: An application to the US Midwest. Energy Policy, 93, pp.80-95.

Sesmero, J.P.* , Perrin, R.K. and Fulginiti, L.E., 2016. A Variable Cost Function for Corn Ethanol Plants in the Midwest. Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie, 64(3), pp.565-587.

Sesmero, J. *, Balagtas, J., and Pratt, M [†]. 2015. The Economics of Spatial Competition for Corn Stover. Journal of Agricultural and Resource Economics, 40(3), pp.425-441.

- Sesmero, J.* and Sun, X.[†], 2016, “The Influence of Feedstock Supply Risk on Location of Stover-Based Biofuel Plants”, Global Change Biology Bioenergy, 8(2), pp.495-508.
- Sun, S.[†]*, Sesmero, J., and Schoengold, K. 2016. “The role of common pool problems in irrigation inefficiency: a case study in groundwater pumping in Mexico.” Agricultural Economics, 47(1), pp.117–127.
- Sesmero, J.*, Pratt, M.[†] and Tyner, W., 2015. Supply Response, Marginal Cost, and Soil Erosion Implications of Stover-based Biofuels. Applied Economic Perspectives and Policy, 37(3), pp.502-523.
- McCarty, T.[†], and Sesmero, J.* (2014). “Uncertainty, irreversibility, and investment in second-generation biofuels.” BioEnergy Research, 8(2), 675-687.
- Irfanoglu, B.^s, Sesmero, J.^s*, and Gollub A. (2015). “Potential of border tax adjustments to deter free riding in international climate agreements.” Environmental Research Letters, 10(2), 024009.
- Iglesias, C.[†] and Sesmero, J.P.* , 2015. Economic analysis of supplementing sugarcane with corn for ethanol production in Brazil: a case study in Uberaba. BioEnergy Research, 8(2), pp.627-643.
- Sesmero, J. P*. Corn Residue Supply in the Irrigated Corn Belt. BioEnergy Research, 7(2), 728-743, 2014.
- Sesmero, J. P*. Cellulosic biofuels from crop residue and groundwater extraction in the US Plains: The case of Nebraska. Journal of Environmental Management, 144, 218-225, 2014.
- Sesmero, J. P.*, and Gramig, B. M. Farmers’ Supply Response, Price of Corn Residue, and Its Economic Viability as an Energy Feedstock. BioEnergy Research, 6(2), 797-807, 2013.
- Horowitz, John B.*^s, Michael A. Karls^s, Juan Sesmero^s, and T. N. van Cott^s. "Innovation, parallel shifts of supply, and welfare." Agricultural Economics Review, 14(1), 37-44, 2013.
- English, A. *[†], Tyner, W. E., Sesmero, J., Owens, P., and Muth, D. J. Environmental tradeoffs of stover removal and erosion in Indiana. Biofuels, Bioproducts and Biorefining, 7(1), 78-88, 2013.
- Sesmero, J. P.*, Perrin, R. K., and Fulginiti, L. E. Environmental efficiency among corn ethanol plants. Biomass and Bioenergy Journal, 46, 634-644, 2012.
- Perrin, R.K.*, Sesmero, J.P., Wamisho, K., Megeresse, D. Biomass Supply Schedules for Great Plains Delivery Points. Biomass and Bioenergy Journal, 37, 213-220, 2012.
- Perrin, R. K.*, Fretes, N., and Sesmero, J. P. Efficiency in Midwest US Corn Ethanol Plants: A Plant Survey. Energy Policy, 37(4), 1309-1316, 2009.

Book Chapters

Tong, H., Fulginiti, L., and Sesmero, J. “Chinese Regional Agricultural Productivity: 1994-2005”, *Edited Volume, Causes and Consequences of Agricultural Productivity Growth, USDA-ERS, 2011.*

In Submission

Hodde, W., Sesmero, J., Gramig, B., Vyn, T., and Doering, O. “Climate Change and the Economics of Conservation Tillage”, *revision requested by the Journal of Soil and Water Conservation.*

Sesmero, J., Sun, S., Ricker-Gilbert, J., Bezabeh, S., Abadi, G., and Dadi, L. “The Effect of Irrigation and Nutrition Education on Dietary Diversity in Ethiopia”, *under review.*

Trull, N., Sesmero, J., and Gramig, B. “Competition intensity, feedstock mix, and the environmental footprint of cellulosic biofuels”, *under review.*

Song, Ch., Sesmero, J., and Delgado, M. “Tenure Stability and Air Pollution: A study of Chinese cities”, *under review.*

Policy and Technical reports

“Coal-Power Plants Rejuvenated with Biomass: An Economic, Social, and Environmental Sustainable Transition to Clean Power”. Report commissioned and published through USDA.

“The effect of irrigation and nutrition education on dietary diversity in Ethiopia: Phase II. Identifying mechanisms behind the link between SSI and DDI and reviewing any potential linkages between NED”. Presented to Catholic Relief Services, 2015.

“The effect of small scale irrigation on dietary diversity: a comparative study in Ethiopia”. Presented to Catholic Relief Services, 2014.

Grants and Contracts (\$4,365,957 with direct responsibility for \$973,662; external to Purdue: \$4,230,495 with direct responsibility for \$881,338)

1. “WaterSmart: A cyberinfrastructure-based integrated agro-geoinformatic decision-support web service system to facilitate informed irrigation decision-making”, \$142,000, NSF, role: PI of sub-award. Personally responsible for \$142,000. Period: 2017-2020.
2. “Sustainable Food, Energy, and Water Systems (SFEWS)”, \$2,900,000, NSF, role: co-PI. Personally responsible for \$290,000. Period: 2017-2022.
3. “Integrating Theory, Experiments, and Econometrics to Advance the Economics of Competition in Agricultural and Food Markets”, \$483,495, NIFA, role: PI. Personally responsible for \$167,000. Period: 2017-2020.
4. “Coal-power plants rejuvenated with biomass: An economic, social, and environmental sustainable transition to clean power”, \$500,000, NIFA, role: co-PI. Personally responsible for \$150,000. Period: 2016.
5. “Agricultural Livelihoods Program Theory of Change: assumptions and related metrics”, \$15,000, Catholic Relief Services, role: PI. Personally responsible for \$15,000. Period: 2016.

6. “Assessing Threshold Benefits Of Conservation Tillage During Drought Years: Implications for Nutrient-Use Efficiency and Water Quality”, \$490,000, NIFA, role: PI of Purdue Sub-award. Personally responsible for \$104,000. Period: 2015-2018.
7. “How do farmers in Africa adapt and respond to Climate Change?”, \$28,662, PRF Research Grant, College of Agriculture, Purdue University, role: PI. Personally responsible for \$28,662. Period: 2013-2015.
8. “The effect of irrigation and nutrition education on dietary diversity in Ethiopia: Phase II. Identifying mechanisms behind the link between SSI and DDI and reviewing any potential linkages between NED”, \$10,000, Catholic Relief Services, role: PI. Personally responsible for \$10,000. Period 2015.
9. “The effect of small scale irrigation on dietary diversity: a comparative study in Ethiopia”, \$10,000, Catholic Relief Services, role: PI. Personally responsible for \$10,000. Period: 2014.
10. “Quantifying Trade-Offs between Energy, Food, and Environmental Services from Corn Stover Removal: Going Beyond Rules of Thumb”, \$35,000, Agricultural Research Program (ARP) Assistantships for the 2011 and 2012 fiscal years, role: PI. Personally responsible for \$35,000. Period: 2011-2012.
11. “Putting Big Data to Work: Using geospatial agro-climatic and economic data to explain land-use change in Indiana”, \$28,662, PRF Research Grant, Purdue University, role: PI.

Invited Presentations

China Agricultural University, Department of Agricultural Economics, Beijing, China, 06/2017
 Chinese Academy of Agricultural Sciences, Beijing, China, 06/2017
 Zhejiang University, Department of Agricultural Economics, Hangzhou, China, 2017
 Spring Forum at the Richard G. Lugar Center for Renewable Energy, Indianapolis, May 2017.
 Michigan State University, Department of Agricultural Economics, 09/2014.
 Environmental Sciences and Engineering Symposium, Purdue University, June 16th, 2011.
 Ball State University, Department of Economics Seminar Series, November 7th 2011.
 University of Nebraska, Lincoln, Department of Agricultural Economics, January 2010.
 Purdue University, Department of Agricultural Economics, February 2010.
 University of Wisconsin, Madison, Department of Agricultural and Applied Economics, 02/2010.
 Purdue University, Department of Agricultural Economics, October 2010.
 Michigan State University, Department of Agricultural Economics, November 2009.

Student Supervision (major professor of 2 PhD and 9 MS students who completed degrees)

Completed PhD Students, Major Professor

Irfanoglu, Burcu Zeynep (graduated 12/2013, co-chair with Tom Hertel). Postdoc position in GTAP center, Department of Agricultural Economics, Purdue University.
 Sun, Shanxia (graduated 06/2016, co-chair with Michael Delgado).

Completed MS Students, Major Professor

Cook, Aaron (Graduated 2013, co-chair with Jacob Ricker-Gilbert), funded by PRF. PhD candidate in the Department of Agricultural Economics, Sociology and Education, Pennsylvania State University. Aaron has also received a best MS Thesis award from the Department of Agricultural Economics.
 Carlos Iglesias (Graduated of MS-MBA, 08/2014, advisor). Currently the head of North American wheat breeding program for Syngenta.

Sun, Xin (Graduated 08/2014, chair).

McCarty, Tanner (Graduated 08/2014, Chair). PhD candidate in the Department of Ag. Economics at Purdue

Homan, Sheng (Graduated 05/2016, chair).

Hodde, Whitney (Graduated 06/2016, chair).

Matin, Saima (Graduated 06/2016, chair).

Trull, Nate (Graduated 05/2017, chair)

Song Chu (Graduated 06/2017, chair)

Current PhD Students, Major Professor

Jinho Jung (expected graduation 05/2018).

Tanner McCarty (expected graduation 05/2018).

Yong Jee Kim (expected graduation 05/2018), co-chair with Brigitte Waldorf.

Francisco Scott (expected graduation 05/2020)

Membership in Professional Societies and Organizations

Agricultural and Applied Economics Association, International Agricultural Economics Association, Association of Environmental and Resource Economists, Australian Agricultural and Resource Economics Society.

Refereeing Service for Peer-Reviewed Publications

American Journal of Agricultural Economics; Agribusiness: An International Journal; Agricultural Economics; Applied Economics Perspectives and Policy; BioEnergy Research; Biomass and Bioenergy Journal; Bioscience; Canadian Journal of Agricultural Economics; Economic Change and Restructuring; Energy Economics; Energy Journal; Energy Policy; Environmental Research Letters; Journal of Agricultural and Applied Economics; Journal of Agricultural and Food Industrial Organization; Journal of Productivity Analysis; Studies in Nonlinear Dynamics and Econometrics.