

# Céline Nauges

Senior Research Fellow  
French Institute for Research in Agriculture (INRA) & Toulouse School of Economics

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## MAIN DATA

### Personal data:

Date of birth: November 11th, 1973  
Citizenship: French  
Languages: French (native), English, Spanish

### Major fields of interest:

Microeconometrics applied to agriculture, natural resources, and environmental management; Urban water management in developed and developing countries; Risk and uncertainty in agriculture; Panel data econometrics.

### Academic positions:

Aug 2015 - present: Senior research fellow at the French Institute for Research in Agriculture (INRA) and Toulouse School of Economics (France).

Aug 2011 - Jul 2015: Australian Research Council Future Fellow, The University of Queensland (Australia).

Dec 2008 - Jul 2011: Senior research fellow at the French Institute for Research in Agriculture (INRA) and Toulouse School of Economics (France).

Aug 2000 - Nov 2008: Junior research fellow at the French Institute for Research in Agriculture (INRA) and Toulouse School of Economics (France).

## Visiting academic positions

July 2010 - Feb 2011: Visiting fellow at the School of Economics, The University of Queensland.

Nov 2007 - Apr 2008: Visiting fellow at the School of Economics, The University of Queensland.

July-Aug 2007 & 2006: Visiting fellow at MTT Agrifood Research (Helsinki, Finland).

March-May 2004 and Oct-Nov 2004: Visiting fellow at the University of California, Berkeley (USA).

Sept 2000 - Sept 2001: Postdoctoral Research Fellow, University College London (UK).

## Education

Habilitation à diriger des recherches (University of Toulouse, France), 2007.

Ph.D. in Economics (University of Toulouse, France), 1999.

MA in Economics (University of Toulouse, France), 1996.

## PUBLICATIONS

### Published and forthcoming research articles

Elicitation of irrigators' risk preferences from observed behaviour (with Sarah Wheeler and Alec Zuo), *Australian Journal of Agricultural and Resource Economics*, forthcoming.

Water hauling and girls' school attendance: Some new evidence from Ghana (with Jon Strand), *Environmental and Resource Economics*, forthcoming.

The impact of perceptions in averting-decision models: An application of the special regressor method to drinking water choices (with Christophe Bontemps), *American Journal of Agricultural Economics*, 2016, 98(1): 297-313.

Pesticide handling practices: The case of coffee growers in Papua New Guinea (with Maria Belen Zapata Diomedi), *Australian Journal of Agricultural and Resource Economics*, 2016, 60(1): 112-129.

A diagnostic tool for estimating the incidence of subsidies delivered by water utilities in low- and medium-income countries, with illustrative simulations (with Dale Whittington, David Fuente, and Xun Wu), *Utilities Policy*, 2015, 34: 70-81.

Farmers' exposure to risk and their temporary water trading (with Alec Zuo and Sarah Wheeler), *European Review of Agricultural Economics*, 2015, 42(1): 1-24.

Evaluating greening farm policies: A structural model for assessing agri-environmental subsidies (with Marita Laukkanen), *Land Economics*, 2014, 90(3): 458-481.

Technical efficiency and conversion to organic farming: The case of France (with Laure Latruffe), *European Review of Agricultural Economics*, 2014, 41(2): 227-253.

Information transmission in irrigation technology adoption and diffusion: Social learning, extension services and spatial effects (with Phoebe Koundouri, Margarita Genius and Vangelis Tzouvelekas),

*American Journal of Agricultural Economics*, 2014, 96(1): 328-344. **This paper received the 2014 Quality of Policy Contribution Award in honour of Giovanni Anania.**

Households' pro-environmental habits and investments in water and energy consumption: Determinants and relationships (with Maria A. Garcia-Valiñas and Roberto Martínez-Españeira), *Journal of Environmental Management*, 2014, 133: 174-183.

The willingness to pay for access to piped water: A hedonic analysis of house prices in Southwest Sri Lanka (with Caroline van den Berg), *Letters in Spatial and Resource Sciences*, 2012, 5(3):151–166.

Uncertainty and technical efficiency in Finnish agriculture: A state-contingent approach (with Christopher O'Donnell and John Quiggin), *European Review of Agricultural Economics*, 2011, 38(4): 449-467. **This paper received the 2011 Outstanding ERAE Journal Article Award.**

Environmental and production cost impacts of no-till in Finland: Estimates from observed behavior (with Marita Laukkanen), *Land Economics*, 2011, 87(3): 508-527.

Arsenic mitigation in Bangladesh: A household labor market approach (with Richard Carson and Phoebe Koundouri), *American Journal of Agricultural Economics*, 2011, 93(2): 407-414.

The impact of tap connection on water use: The case of household water consumption in Dakar, Senegal (with Anne Briand, Jon Strand, and Muriel Travers), *Environment and Development Economics*, 2010, 15(1): 107-126.

Estimation of water demand in developing countries: An overview (with Dale Whittington), *World Bank Research Observer*, 2010, 25(2): 263-294.

Household adoption of water-efficient equipment: The role of socio-economic factors, environmental attitudes and policy (with Katrin Millock), *Environmental and Resource Economics*, 2010, 46(4): 539-565.

Spatial heterogeneity in the cost structure of water and sanitation services: A cross-country comparison of conditions for scale economies (with Caroline van den Berg), *Oxford Development Studies*, 2010, 38(2): 199-217.

Identifying the effect of unobserved quality and experts' reviews in the pricing of experience goods: Empirical application on Bordeaux wine (with Pierre Dubois), *International Journal of Industrial Organization*, 2010, 28(3): 205-212.

Les déterminants du choix d'approvisionnement en eau des ménages de Dakar (with Anne Briand and Muriel Travers), *Revue d'Economie du Développement*, 2009, 3: 83-108.

Carafe ou bouteille ? Le rôle de la qualité de l'environnement dans la décision du consommateur (with Christophe Bontemps), *Economie et Prévision*, 2009-2, 188: 61-79.

The effects of EU agricultural policy changes on farmers' risk attitudes (with Phoebe Koundouri, Marita Laukkanen and Sami Myyrä), *European Review of Agricultural Economics*, 2009, 36(1): 53-77. **This paper received the 2009 Best Paper in the ERAE award.**

The value of water connections in Central American cities: A revealed preference study (with Jon Strand and Ian Walker), *Environment and Development Economics*, 2009, 14(3): 349-370.

Demand for piped and non-piped water supply services: Evidence from Southwest Sri Lanka (with Caroline van den Berg), *Environmental and Resource Economics*, 2009, 42(4): 535-549.

The effect of uncertainty on pollution abatement investments: Measuring hurdle rates for Swedish industry (with Åsa Löfgren and Katrin Millock), *Resource and Energy Economics*, 2008, 30(4): 475-491.

“Economies of density, scale and scope in the water supply and sewerage sector: A study of four developing and transition economies” (with Caroline van den Berg), *Journal of Regulatory Economics*, 2008, 34(2): 144-163.

Clean air regulation and heterogeneity in US gasoline prices (with Ujjayant Chakravorty and Alban Thomas), *Journal of Environmental Economics and Management*, 2008, 55(1): 106–122.

The story of the moment: Risk averse Cypriot farmers respond to drought management (with Ben Groom, Phoebe Koundouri and Alban Thomas), *Applied Economics*, 2008, 40(3): 315-326.

Estimation of non-tap water demand in Central American cities (with Jon Strand), *Resource and Energy Economics*, 2007, 29(3): 165-182.

The pricing of experience goods: The case of *en primeur* wine (with H la Hadj Ali), *American Journal of Agricultural Economics*, 2007, 89(1): 91-103.

Effets de la d l gation sur le prix de l’eau potable en France : une analyse   partir de la litt rature sur les effets de traitement (with Alain Carpentier, Arnaud Reynaud and Alban Thomas), *Economie et Pr vision*, 2006-3, 174 : 1-20.

Technology adoption under production uncertainty: Theory and application to irrigation technology (with Phoebe Koundouri and Vangelis Tzouvelekas), *American Journal of Agricultural Economics*, 2006, 88(3): 657-670.

Ex post evaluation of an earmarked tax on air pollution (with Katrin Millock), *Land Economics*, 2006, 82(1): 68-84.

On production function estimation with selectivity and risk considerations (with Phoebe Koundouri), *Journal of Agricultural and Resource Economics*, 2005, 30(3): 597-608.

Is really all domestic water consumption sensitive to price control? (with Roberto Mart nez-Espi eira), *Applied Economics*, 2004, 36(15): 1697-1703.

Some ex-post evidence on environmental taxes (with Katrin Millock and Thomas Sterner), *CESifo DICE Report - Journal for Institutional Comparisons*, 2004.

Consistent estimation of dynamic panel data models with time-varying individual effects (with Alban Thomas), *Annales d’Economie et de Statistique*, 2003, 70: 53-75.

Long run study of residential water consumption (with Alban Thomas), *Environmental and Resource Economics*, 2003, 26(1): 25-43.

Vente en primeur et investissement : une  tude sur les grands crus de Bordeaux (with H la Hadj Ali), *Economie et Pr vision*, 2003, 159: 93-103.

Estimation de la demande domestique d’eau potable en France (with Arnaud Reynaud), *Revue Economique*, 2001, 52(1): 167-185.

Privately-operated water utilities, municipal price negotiation, and estimation of residential water demand: The case of France (with Alban Thomas), *Land Economics*, 2000, 76(1): 68-85.

Dynamique de la consommation domestique d'eau potable des ménages : une étude sur un panel de communes françaises (with Alban Thomas), *Economie et Prévision*, 2000, numéro spécial « Economie de l'environnement et des ressources naturelles », 175-184.

### **Book chapters**

A simulation model for understanding the consequences of alternative water and wastewater tariff structures: A case study of Fayoum, Egypt (with Dale Whittington and Mohamed El-Alfy), In *Understanding and Managing Urban Water in Transition* (Springer, The Netherlands), edited by R.Q. Grafton, K.A. Daniell, C. Nauges, J.D. Rinaudo, and W.W. Chan, 2015.

Pricing urban water services: the case of France (with Alban Thomas), In *Water Resources, Planning and Management* (Cambridge University Press, England), edited by R.Q. Grafton and K. Hussey, February 2011.

### **Books**

*Understanding and Managing Urban Water in Transition*. R.Q. Grafton, K.A. Daniell, C. Nauges, J.D. Rinaudo, W.W. Chan (Eds). ISBN 978-94-017-9801-3. Springer, Dordrecht (The Netherlands), 2015.

*Economic Instruments for Water Management - The cases of France, Mexico and Brazil*. R. Seroa da Motta, A. Thomas, L. Saade Hazin, J.G. Feres, C. Nauges, A. Saade Hazin. Edward Elgar, Cheltenham (UK), 151 p., Oct. 2004.

### **Working papers**

Returns to fertilizer use: does it pay enough? Some new evidence from sub-Saharan Africa (with Estelle Koussoubé), DIAL-IRD Working Paper, no. 2015-07, 2015, in submission.

State-contingent analysis of farmers' response to weather variability: Irrigated dairy farming in the Murray Valley, Australia (with Thilak Mallawaarachchi, Orion Sanders and John Quiggin), in submission.

The negative rebound effect of high-cost water and energy mitigation on climate change concern (with Sarah Wheeler), Toulouse School of Economics Working Paper n° 15-611, in submission.

Evaluating the performance of alternative municipal water tariff designs: Quantifying the trade-offs between cost recovery, equity and economic efficiency (with Dale Whittington), in submission.

Greening household behaviour and water, OECD Environment Working Papers, No. 73, OECD Publishing, 2014; <http://dx.doi.org/10.1787/5jxrclrr79f7-en>.

Water markets, price volatility, and production decisions (with Philippe Bontemps), mimeo.

Nonparametric detection of patterns of technological change: an application to food industry (with Christophe Bontemps, Vincent Réquillart and Michel Simioni), mimeo.

Farm performance and technology adoption: a study of organic farming in the French dairy sector (with Laure Latruffe and Yann Desjeux), mimeo.

What are households willing to pay for better tap water quality? A cross-country valuation study (with Olivier Beaumais, Anne Briand and Katrin Millock), Nota di Lavoro 24.2014, Milan, Italy: Fondazione Eni Enrico Mattei.

Gasoline content regulation and compliance behavior among US refineries (with Ujjayant Chakravorty and Henry Thille), CESifo Working Paper No. 3978 (October 2012).

Heterogeneous responses to water conservation programs: The case of residential users in Los Angeles (with Michael Hanemann), Working paper n°1026, Department of Agricultural and Resource Economics, University of California, Berkeley.

Unit roots: Identification and testing in micro panels (with Stephen Bond and Frank Windmeijer), Working paper CWP07/05, Centre for Microdata Methods and Practice, Institute for Fiscal Studies.

Estimating residential water demand under block rate pricing: A nonparametric approach (with Richard Blundell).

## GRANTS AND CONSULTANCY

2015: Consultancy for the World Bank on the *measurement of performance of water and wastewater utilities in Africa*.

2012: Consultancy for the OECD on *environmental policy and water-saving behaviour and investment*.

2011-2015: Australian Research Council Future Fellowship.

2011-2012: Consultancy for USAID (Chemonics) on *Egypt Water Project Regulatory Reform*.

2011-2012: Consultancy for the World Bank on *irrigation practices in Jordan*.

2011: Consultancy for the OECD on *environmental policy and organic food consumption*.

2011: Consultancy for the World Bank on *water infrastructure and school attendance in Ghana*.

2010-2012: Grant from INRA for a research project on *performance and conversion to organic farming in France* (coordinator: Laure Latruffe, INRA).

2010: Consultancy for the German Technical Cooperation for a *water and wastewater tariff study in Egypt*.

2010: Grant from the French Ministry of Ecology, Energy, and Sustainable Development for a research project on *economic instruments to mitigate polluting emissions from the industrial sector into the air*.

2010: Fellowship from the OECD Trade and Agriculture Directorate Co-operative Research Programme for a six months visit at the University of Queensland, Australia.

2009-2011: Grant from the French National Research Agency for a research project on the *efficiency and productivity of food industries* (coordinator: Vincent Réquillart, GREMAQ).

2009: Consultancy for the World Bank on *energy efficiency of Brazilian water utilities*.

2008-2010: Grant from the French Ministry of Ecology, Energy, and Sustainable Development for a research project on the *quantitative management of water resources in South-West France* (coordinator: Arnaud Reynaud, INRA).

2008-2009: Consultancy for the OECD on *household behaviour and environmental policy*.

2006-2007: Grant from LACEEP (Latin American and Caribbean Environmental Economics Program) for a research project on *the role of economic instruments for environmental management: Water charges in the Paraíba do Sul river basin* (coordinator: José Feres, IPEA Brazil).

2006: Consultancy for the World Bank on *economies of scale and density in water supply and sewerage service provision*.

2005-2006: Grant from the Department of Economics Scientific Committee of INRA for a research project on optimal water pricing (with Richard Blundell, UCL, and Jon Strand, IMF).

2005: Consultancy for the World Bank on *water and sanitation policies in South West Sri Lanka*.

2004-2005: Grant from the Department of Economics Scientific Committee of INRA for a research project on *urban water management* (with Pr. Hanemann, University of Berkeley, USA).

2004: Grant from the Climate Change Center (University of California, Berkeley) for a 5-months visit at UC Berkeley, for a research project on *urban water management* (with Pr. Hanemann, University of Berkeley, USA).

2003-2004: Grant from the French Ministry of Ecology and Sustainable Development for a project on *water prices in France* (with INRA-ESR Rennes, France and CREST Paris, France).

2002-2003: Consultancy for the InterAmerican Development Bank for the project “*Water Charge Instruments for Environmental Management in Latin America: From Theoretical to Practical Issues*” (with IPEA, Brazil).

2001-2003: Grant from the CNRS (French National Centre for Scientific Research) for a research project on the *regulation of air pollution* (with CIRED-CNRS, France, INERIS, France, and the University of Göteborg, Sweden).

2000-2001: Marie Curie individual fellowship Category 30 - Program: “Improving Human Research Potential and the Socio-Economic Knowledge Base” – Funding of the project “Residential water demand: economic and econometric improvements”. Location: University College London (UK).

1996-1999: Bourse Lavoisier granted by the French Ministry of Foreign Affairs for the project “Residential water demand: economic and econometric improvements” (declined).

## SELECTED COMMUNICATIONS

### Seminars

Adelaide University (Australia); University of Queensland, Brisbane (Australia); Monash University, Melbourne (Australia); Institute of Water Policy, National University of Singapore; University of Heidelberg (Germany); World Bank, Washington D.C. (USA); University of Western Australia, Perth (Australia); University of Paris I (France); University of Alberta, Edmonton (Canada); MTT Agrifood Research, Helsinki (Finland); Oviedo University, Oviedo (Spain); Crawford School of Economics and Government, Australian National University; IPEA (Institute of Applied Economic Research), Rio de Janeiro (Brazil); Goteborg University, Gothenburg (Sweden); University of Crete, Rethymon (Greece); Athens University of Economics and Business, Athens (Greece).

### Conferences

French Association of Environmental and Resource Economists Conference, Toulouse (France), 2015.  
Australian Agricultural and Resource Economics Society Conference, Rotorua (New Zealand), 2015.  
Australian Agricultural and Resource Economics Society Conference, Port Macquarie (Australia), 2014.  
European Association of Environmental and Resources Economists Conference, Toulouse (France), 2013.  
Australian Agricultural and Resource Economics Society Conference, Sydney (Australia), 2013.  
Congress of the Canadian Resource and Environmental Economics Study Group (CREE), Vancouver (Canada), 2012.  
Natural Resource Modelling Conference, Brisbane (Australia), 2012.  
European Association of Environmental and Resources Economists Conference, Prague (Check Republic), 2012.  
Australian Agricultural and Resource Economics Society Conference, Fremantle (Australia), 2012.  
European Workshop of Efficiency and Productivity Analysis, Verona (Spain), 2011.  
Workshop on Water Pricing and Roles of Public and Private Sectors in Efficient Urban Water Management, Granada (Spain), 2011.  
Environmental Economics Symposium, Canberra (Australia), 2010.  
European Association of Agricultural Economists 114<sup>th</sup> seminar, Berlin (Germany), 2010.  
Allied Social Sciences Association (ASSA) meeting, Atlanta (USA), 2010.  
Congress of the Canadian Resource and Environmental Economics Study Group (CREE), Edmonton (Canada), 2009.  
Australian Agricultural and Resource Economics Society Conference, Cairns (Australia), 2009.  
European Association of Environmental and Resources Economists Conference, Gothenburg (Sweden), 2008.  
World Congress of Environmental and Resource Economists, Kyoto (Japan), 2006.

## TEACHING EXPERIENCE

- 2015: Water Economics, Toulouse School of Economics.  
2007: Econometrics of panel data, Institut Sous-régional de Statistique et d'Économie Appliquée de Yaoundé (Cameroun).  
2006: Econometrics of panel data, Athens University of Economics and Business.  
2004-2010: Econometrics of panel data, ENSAI (French National School of Applied Statistics).  
2003-2007: Microeconometrics for environmental management, University of Toulouse.

## OTHER ACTIVITIES

**Associate editor:** Environmental and Resource Economics (2013- )  
Review of Agricultural and Environmental Studies (2013- )  
Water Resources and Economics (2014- )  
American Journal of Agricultural Economics (2016- )

**Member of editorial board:** European Review of Agricultural Economics (2010- )

**Advisor:** South Asian Network for Development and Environmental Economics (SANDEE) (2011- )

**Referee:** American Journal of Agricultural Economics, Environment and Development Economics, Environmental and Resource Economics, European Economic Review, European Review of Agricultural Economics, International Journal of Industrial Organization, Journal of Environmental and Economics Management, Journal of Regulatory Economics, Regional Science and Urban Economics, Resource and Energy Economics, Water Resources Research.

### Member of Ph.D. committees:

Vicente Ruiz (Paris School of Economics, France), expected May 2016  
Alvar Escriva-Bou (Universitat Politècnica de Valencia, Spain), December 2015  
Daniel Andres Herrera Araujo (Toulouse School of Economics, France), September 2015  
Daniel Gregg (Central Queensland University, Australia), April 2015  
María Pérez-Urdiales (University of Oviedo, Spain) – external reviewer, January 2015  
Amandine Loyal Laré (University of Rouen, France), September 2014  
Muhammad Arif Watto (University of Western Australia), August 2014  
Ornella Boutry (University of Poitiers, France), November 2011  
Alberto Ruiz Villaverde (University of Granada, Spain), April 2011  
Sriram Shankar (University of Queensland, Australia), November 2010  
Anne Olivier (EHESS, Paris, France), May 2010

Member of the Scientific Council of the INRA Economics Department (2006-2011).

Member of the INRA Scientific Committee (2007-2010) – in charge of the evaluation of INRA researchers.

Member of hiring committees: lecturer (Ecole Nationale de l'Aviation Civile), INRA junior researcher (2007, 2009, 2011), INRA senior researcher (2009).