Luis SARMIENTO
Doctoral Candidate

🌐 luissarmiento.net
@ asarmiento@DIW.de
in linkedin.com/in/luis-sarmiento-eco
📱 +49 030 897890
📍 Mohrenstraße 58, Berlin, Germany 10117

Doctoral candidate in environmental and energy economics, specialized in the inference of causality with the use of econometric designs and techno-economic modeling of energy systems. Current research encompasses the effects of several environmental externalities as air pollution, climate, and energy infrastructure on several realms of human affairs as health, labor supply, and productivity. Additionally, I also work in the analysis of public policies for the renewable transition of energy systems.

🎓 FORMATION

2016 — Present	Doctoral candidate in Industrial Economics — Berlin Institute of Technology— Germany
	Dissertation : The economic effects of air pollution *Committee* : Christian Von Hirschhausen (Chair), Christian Traxler, Juan Rosellón Visiting Ph.D. student at the center for economic research and teaching (CIDE) in Mexico City
2014 — 2016	Master of Science in Economics and Management — Humboldt University of Berlin— Germany
2007 — 2012	Bachelor in International Business — University of Lasalle Bajio— Mexico

☰ RESEARCH INTERESTS

Environmental Economics	Focus on the analysis of environmental externalities : pollution, climate, transit
Energy Economics	Specialized in the transformation of energy systems towards renwable technologies
Econometrics	Application of econometric models to causality assessments.
Numeric Models of Energy Systems	Familiarity with Techno-economic bottom up numeric models of energy systems
Data Science	Construction of data sets and manipulation of big data

🖥 RESEARCH PAPERS

Waiting for my Sentence : Air Pollution and the Productivity of Court Rulings
2017 - 2019
Luis Sarmiento

Job Market Paper
I assert that nitrogen oxides affect the cognitive productivity of lawyers, judges, and prosecutors participating in Mexican court hearings. This is the first article to document an effect of nitrogen oxides on labor productivity and the first to study the effect of pollution on judicial workers. I analyze the connection between both variables by merging hourly pollution measures with individual-level hearing data under the assumption that the length of the hearing approximates the productivity of involved participants. Causality comes from the use of panel and instrumental variable techniques alongside a substantial set of robustness and placebo tests. In the preferred specification, one standard deviation increase of nitrogen oxides increases the length of judiciary hearings by 3.68%.

2019 American Economic Association Meeting ; Atlanta U.S   2019 EARE ; Manchester U.K.

Make Sure the Kids are OK : Indirect Effects of Ground-Level Ozone on Well-Being
2018 - 2019
Luis Sarmiento, Aleksandar Zaklan, and Julia Rechliz

Under Review in the Journal of Human Resources Since the 9th of Oct. 2019
We posit that pollution affects welfare outcomes directly, through a person's health, and indirectly, through their children's health. This paper is the first to consider the indirect channel to welfare losses from pollution by analyzing the effect of ozone on subjective health and life satisfaction, using a panel of German individuals and highly granular pollution data. Individuals with children suffer losses in life satisfaction, while those without do not. Ozone does not affect the health satisfaction of either group. We show that ozone leads to losses in workdays to care for a sick child, providing evidence on the mechanism.

2018 Dressden-Duisburg Health Economics Conference ; Essen Germany   2018 LACEA-LAMES Conference ; Guayaquil Ecuador

Analyzing Scenarios for the Integration of Renewable Energy Sources in the Mexican Energy System
2018 - 2019

Luis Sarmiento, Thorsten Burandt, Konstantin Löffler, and Pao-yu Oei

Published in Energies

This paper uses numerical techno-economic modeling to analyze the effect of current national renewable targets and climate goals on the cost and structural composition of the Mexican energy system. For this, we construct a scenario analysis to compare current policies with two alternative states of the world : one without climate policies and one attaining full decarbonization. Furthermore, an additional iterative routine allows us to estimate the cost-optimal share of renewable technologies in the energy sector and the effect that deviating from this share has on total discounted system costs, emissions, and the structure of the energy mix.

| 2018 World Conference of Environmental and Resource Economists; Gothenburg Sweden | 2019 IAEE Latin American Conference; Buenos Aires Argentina. |

The effects of the 2013 floods on Germany's road freight traffic
2018 - 2019

Luis Sarmiento and Julio Fournier

Revize and resubmit (Transportation research part D)

This article quantifies the consequences of the 2013 floods on heavy vehicle's traffic in Germany by using automatic traffic counter (ATC) data to locate affected roads and measure the stringency of the damage. The research design treats each counter as an independent time series and endogenously identifies shocks to determine the effects and dates on which the flood affected each counter. Results show a cumulative negative effect on average weekly freight traffic volumes. Although the largest number of shocks happened along the highway (Bundesstraßen) network with an overall positive effect, motorways (Autobahns) experienced larger shocks with an overall negative effect. The most affected regions were the states of Bavaria and Saxony-Anhalt, with Rosenheim (Bavaria) being the district with the largest traffic losses and Rottal-Inn (Bavaria) the one with the largest gains. Understanding the effect of repetitive meteorological events on the road network is relevant for the formulation of policies aiming to improve resilience and recovery.

Mexico and U.S. Power Systems Under Variations in Natural Gas Prices
2019 - 2019

Luis Sarmiento, Juan Rosellón, Sauleh Sidiqui, Max Brown, Avraam Charalampos, Anahi Molar,

Working Paper

In this article we analyze the impact of natural gas prices on the power systems of Mexico and the United States. We optimize both systems under three different price scenarios and quantify the effect of each scenario on the structure of the power mix, system costs, natural gas markets, and emissions. We develop an integrated modeling framework by soft linking five different techno-economic bottom-up models. Our results show that in the short-term, high natural gas prices increase the use of carbon-intensive technologies, while in the long-run, it favors electricity generation with renewable sources across both nations. Additionally, the effect of low natural gas prices exhibits mixed and worth discussing results.

Pollution And Discharge Times For Respiratory Emergency Room Visits
2018 - 2019

Luis Sarmiento

Working Paper

I propose that pollution increases the length of treatment for respiratory emergency room visits in Mexico City. The analysis is the first to look at the impact of pollution on the length of treatment, the first to study heterogeneous effects across contaminants, and the first to study the effect of hourly variations in exposure. I infer causality with spatial and temporal panel techniques that control for a battery of relevant variables and use fixed effects to control for unobservable time consistent and seasonal covariates. In the preferred specification, one standard deviation increase in carbon monoxide, fine particle matter, and ozone lead to respective increments of 22.3%, 17.7%, and 25.9%.

⌨ ONGOING PROJECTS

Fracking and health related absenteeism
2018 - 2019

Nicole Waegner— Luis Sarmiento

The role of energy storage in the uptake of renewable energy : a model comparison approach
2019 - 2019

Luis Sarmiento, Sara Giarola, Kathleen Vaillancourt, Max Brown, Anahi Molar, Ivan Garcia Kerdan

Criteria Pollutants and Their Effect on Crimes
2018 - 2019

Luis Sarmiento

The Impact of Electricity Transmission Infrastructure on Households' Well-Being
2017 - 2018

Luis Sarmiento, Aleksandar Zaklan, and Alexander Zerrah

Google It, Broadband Infrastructure and Economic Activity — the Case of Senegal 2019 - 2019
Luis Sarmiento, Maximilian Schaefer

The Effect of Extreme Temperatures on Mortality : Heterogenous Effects Across Different Labor Groups 2019 - 2019
Luis Sarmiento, Thomas Longden

💼 PROFESSIONAL EXPERIENCE

Present November 2019	Research Associate, HERTIE SCHOOL OF GOVERNANCE, Department of Economics › Research on the effect of traffic on environmental pollution and health. › Development of new research projects. Microeconometrics · Data Science · Analysis of Public Policies
Present April 2017	Research Associate, GERMAN INSTITUTE OF ECONOMIC RESEARCH (DIW, BERLIN), Department of Environment, Energy and Transportation, Germany › Research and publication of scientific articles in the realm of energy and environmental economics. › Scientific support on departmental projects. Microeconometrics · Numerical models · Renewable Transition · Data Science · Analysis of Public Policies
September 2012 September 2014	Small Busienss Executive , BANCO DEL BAJIO S.A., Commercial Branch, Mexico › Financial advice to small and medium-size companies, › Corporate and business loans, letters of credit, corporate leasing, financial factoring, International money transfers and exchange rate advisor. Financial Platforms · Client relations · Financial Instruments
September 2011 August 2012	Small Busienss Executive , BANCO DEL BAJIO S.A., Commercial Branch, Mexico › Client prospecting › customer support › sales of banking products (credit cards, personal credits, auto loans, mortgages) › financial advisor, financial platforms, client relations, financial instruments Financial Platforms · Client relations · Financial Instruments
January 2011 August 20111	Professional Internship as Junior Purchaser, QUIMICA CENTRAL DE MEXICO, Mexico › National and international purchase of raw materials › direct contact with suppliers, negotiations, and integrations of freight costs. Windows Sylvershare · Supply chain Managgement Systems

Teaching Experience

> Teaching assistant of applied econometrics : Infratrain 2019, Berlin Institute of Technology 2019
> Teaching assistant in instrumental variables design : Infratrain 2018, Berlin Institute of Technology 2018

Conferences and Presentations

> The annual meeting of the German Economic Association : Leipzig, Germany 2019
> EAERE 2019 Annual Conference : Manchester, U.K. 2019
> 7th Latin American Energy Economics Meeting : Buenos Aires, Argentina 2019
> 6th World Congress of environmental and resource economists : Götheborg, Sweden 2018 2018
> The annual meeting of the Latin American and Caribbean Economic Association : Guayaquil, Ecuador 2018
> Essen Health Conference 2017 : Essen, Germany 2017 2017
> 7th Mannheim Energy Conference : Mannheim, Germany 2017
> 15th IAEE European Conference : Vienna, Austria 2017

🌐 Languages

Spanish ●●●●●
English ●●●●●
German   ●●●○○

➕ Software

R   ●●●●●
Latex   ●●●●●
GAMS   ●●●●○
WordPress ●●●●○
Python   ●●●○○
STATA   ●●○○○

💬 References

Prof. Dr. Christian Von Hirschausen
Berlin University of Technology
HEAD OF THE GROUP FOR ECONOMICS AND INFRASTRUCTURE
- @ cvh@wip.tu-berlin.de
- ☎ +49-(0)30-314-25048

Prof. Dr. Claudia Kemfert
German Institute of Economic Research (DIW Berlin)
HEAD OF THE DEPARTMENT FOR ENERGY, TRANSPORTATION, AND ENVIRONMENT
- @ sekretariat-evu@diw.de
- ☎ +49 (0)30 89789 - 663

Prof. Dr. Juan Rosellón
Centro de Investigación y Docencia Económicas (CIDE)
TENURED PROFESSOR AT THE DEPARTMENT OF ECONOMICS
- @ juan.rosellon@cide.edu
- ☎ +52 57 27 9800

Prof. Dr. Sauleh Sidiqui
John Hopkins
ASSISTANT PROFESSOR AT JOHN HOPKINS UNIVERSITY
- @ siddiqui@jhu.edu
- ☎ +1 410-516-6411

Dr. Aleksandar Zaklan
German Institute of Economic Research (DIW Berlin)
SENIOR RESEARCHER
- @ azaklan@diw.de
- ☎ +49 (0)30 89789 - 511