

# JOHANNES GALLÉ

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## RESEARCH FIELDS

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Development Economics, Environmental Economics, Regional Economics

## EDUCATION

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Ruhr University Bochum - Economics, PhD 2019 - 2023  
(Member of the DFG Research Training Group 2484: Regional Disparities and Economic Policy)

University of Freiburg - Economics, M.Sc. 2016 - 2019

University of Auckland - Economics and Development Studies 2018

University of Freiburg - Economics, B.Sc. 2014 - 2016

University of Mainz - Economics 2012 - 2014

## PUBLICATIONS

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**“Place-based policies, structural change and female labor: Evidence from India’s Special Economic Zones”**, with Daniel Overbeck (U Mannheim), Nadine Riedel (U Münster) and Tobias Seidel (U Duisburg-Essen)  
*Journal of Public Economics, 2024*

This paper quantifies the local economic impact of Special Economic Zones (SEZs) that were established in India between 2005-2013. Based on a novel data set that combines census data on the universe of Indian firms with georeferenced data on SEZs, we find that SEZs increased manufacturing and service employment with positive spillover effects up to 10km. This employment gain was paralleled by a decline in local agricultural employment, in particular of women, suggesting that the policy contributed to structural change. We find no evidence for heterogeneous effects between privately and publicly run SEZs or zones with different industry denominations.

**“Indian Agriculture under Climate Change: The Competing Effect of Temperature and Rainfall Anomalies”**, with Anja Katzenberger (PIK Potsdam)  
*Economics of Disasters and Climate Change, 2024*

The latest generation of global climate models robustly projects that monsoon rainfall anomalies in India will significantly increase in the 21st century due to global warming. This raises the question of the impact of these changes on the agricultural yield. Based on annual district data for the years 1966-2014, we estimate the relationship between weather indices (amount of seasonal rainfall, number of wet days, average temperature) and the most widely grown kharif crops, including rice, in a flexible non-parametric way. We use the empirical relationship in order to predict district-specific crop yield based on the climate projections of eight evaluated state-of-the-art climate models under two global warming scenarios for the years 2021-2100. We find that the loss in rice yield by the end of the 21st century lies on average between 3 - 22% depending on the underlying emission scenario. Potential gains due to increasing rainfall are more than offset by the negative impacts of increasing temperature. Adaptation efforts in the worst-case global warming scenario would need to cut the negative impacts of temperature by 50% in order to reach the outcome of the sustainable scenario.

## WORKING PAPER

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### **”City Shape and Air Pollution”**

*Ruhr Economic Papers, #1012*

Air pollution has become an increasing health threat for the local population in many cities around the world. Using high resolution remote sensing data on nightlights and fine particulate matter (PM<sub>2.5</sub>) for the years 1998-2013, I study the contemporary nexus between city shape and air pollution in India. I find that the compactness of a city has statistically significant and negative effects on local air quality. The results are more pronounced in larger cities and robust with respect to different compactness measures. While geographic dispersion allows for more fresh air corridors, differences in commuting patterns could serve as an additional explanation. People in less compact cities are more likely to use public transport and thereby reducing the overall road traffic within cities translating into less pollution. However, the statistically significant effects do not translate into substantial changes in the relative risk of PM<sub>2.5</sub>-induced diseases.

## SELECTED WORK IN PROGRESS

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**”Carbon Taxation and Firm Behavior in Emerging Economies: Evidence from South Africa”**, with Daniel Overbeck (U Mannheim), Rodrigo Oliveria (UNU-WIDER), Nadine Riedel (U Münster) and Edson Severnini (Boston College)

This paper provides the first comprehensive analysis of how firms in emerging economies respond to carbon taxation, leveraging detailed administrative data from South Africa – a potential trailblazer for other developing countries with limited state capacity amid the growing global push for carbon pricing. We examine the dynamic impacts of the carbon tax on firm-level outcomes – such as profits, sales, capital, and labor inputs – across manufacturing and mining firms, which are key sectors in the context of the carbon tax. Contrary to concerns that carbon taxes may hinder economic growth or reduce employment, our findings show no evidence of negative average impacts on firm performance or jobs. However, this overall result masks significant heterogeneity in the tax’s effects across sectors, driven by the sector-specific design elements of the South African carbon tax. Firms expecting higher effective tax rates may have intensified their use of emission-intensive machinery and depreciated capital in anticipation of the tax. This behavior appears to stem from firms resolving regulatory uncertainty or seeking to recover costs from stranded assets.

**”Distributional Effects of the European Union Carbon Border Adjustment Mechanism”**, with Timothé Beaufile (PIK Potsdam), Michael Jakob (CT Economics), Matthias Kalkuhl (PIK Potsdam), Jan Steckel (PIK Potsdam) and Joschka Wanner (U Würzburg)

This paper quantifies distributional effects of the recently proposed EU-CBAM on Households in EU trading partner countries. We develop a Ricardian type trade model to derive sectoral income and price effects of the CBAM. We combine the model output with detailed household-level consumption data and thereby explore horizontal and vertical distributional impacts of the EU-CBAM at the household-level.

**”Welfare-optimal Policy Response to Border Carbon Adjustments: An Emerging Economy Perspective”**, with Simon Bolz (TU Dresden)

This paper presents a Melitz-style model of asymmetric countries to identify the optimal environmental policy response to a Border Carbon Adjustment (BCA) from an emerging economy perspective. We calibrate the model with detailed Indian firm data on emissions, productivity and exports. In a quantitative simulation, we show that the presence of a BCA strongly reduces the welfare costs of raising India’s emission tax to the level of that of the EU. Further analysis shows that there are substantial differences in the distribution of welfare costs across sectors. Finally, we show that this welfare smoothing effect is decreasing in productivity and thereby limiting the incentive to raise domestic carbon price in the least developed countries.

## OTHER PUBLICATIONS

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**”Distributional Effects of Energy Innovation”**, with Michael Jakob (CT Economics) and Jan Steckel (PIK Potsdam), *Forthcoming in the Handbok of Energy Innovation, 2025*

**”Indiens Weg zur Nachhaltigkeit: Ein Balanceakt zwischen Wirtschaftswachstum und Klimaschutz”**, with Ganesh Gorti (PIK Potsdam) and Jan Steckel (PIK Potsdam), *Prepared for Landeszentrale für Politische Bildung Baden-Württemberg*

**”Place-based policy in India: How Special Economic Zones promoted structural change and women’s employment”**, with Daniel Overbeck (U Mannheim), Nadine Riedel (U Münster) and Tobias Seidel (U Duisburg-Essen), *VoxDev Column, December 2024*

## **AWARDS & GRANTS**

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Mercator-IPC short term fellowship (**Co P.I.**), 10.000 EUR 2024/2025  
(for research stay and workshop organization at the Istanbul Policy Center)

UNU-WIDER research grant (**Co P.I.**), 10.000 USD 2023/2024  
(for project: ”Carbon Taxation in Emerging Economies”)

Friedrich-August-von-Hayek Award 2020, 1.500 EUR 2020  
(for an outstanding dissertation in Economics at the University of Freiburg)

Fellow of the Baden-Württemberg Foundation, 3.600 EUR. 2018  
(scholarship for a semester abroad at the University of Auckland)

## **CONFERENCES & TALKS**

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### **2025**

AUROE (ZEW Mannheim)

### **2024**

German Development Economics Conference (Hannover), What Works Climate Solution Summit (Berlin), International Institute of Public Finance (Prague), VfS Annual Meeting (Berlin), UNU-WIDER Workshop (Pretoria), Leibniz Environment and Development Symposium (Berlin), IPC Research Seminar (Istanbul), Africa in the global economy (IDOS, Bonn)

### **2023**

Royal Holloway University (London), German Development Economics Conference (Dresden), Efd Annual Meeting (Accra)

### **2022**

National Institute of Public Finance and Policy (Delhi), 26th European Spring Meeting of Young Economists (Orléans), German Development Economics Conference (Hohenheim), ZEW Public Finance Conference (Mannheim), UEA North American Meeting (Washington D.C.), Ifo Regional Economics Workshop (Dresden), AUROE (Graz), Leibniz Environment and Development Symposium (Hamburg), World Bank/IZA/UNU-WIDER Jobs for Development Conference (Cape Town)

### **2021**

16th Annual Conference on Economic Growth and Development, 60th ERSA Congress

### **2020**

4th International Conference PEDD (Münster)

## **ACADEMIC SERVICE**

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Refereeing: International Tax and Public Finance, The Annals of Regional Science

## **TEACHING**

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Ruhr University Bochum - Supervision of final theses and seminar papers 2019 - 2023  
University of Freiburg - Global Economic Governance (M.Sc), TA Spring 2019

## RESEARCH ASSISTANCE

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Ruhr University Bochum, RA for Thomas Bauer	2019 - 2023
University of Freiburg, RA for Tim Krieger	2018 - 2019
University of Freiburg, RA for Bernd Raffelhüschen	2014 - 2019

## NON-ACADEMIC WORK EXPERIENCE

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German-New Zealand Chamber of Commerce, Auckland, New Zealand - Internship	Oct 2017 - Feb 2018
Indo-German Chamber of Commerce, Pune, India - Internship	Mai 2016 - Sep 2016
Hohepa Auckland, Auckland, Voluntary Service/ Civilian Service	Jul 2011 - Jul 2012

## OTHER

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<b>Software</b>	STATA, Python, R, QGIS, L <sup>A</sup> T <sub>E</sub> X, Video and Image editing software
<b>Language</b>	German (native), English (fluent), French (intermediate), Spanish (beginner)

Last update. January 28, 2025