ROBIN SOGALLA

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RESEARCH INTERESTS

International Trade, Environmental Economics, Climate Policy, Industrial Policy

REFERENCES

Prof. Tomaso Duso	Prof. Gianmarco Ottaviano	Prof. Pol Antràs
DIW/Technical University Berlin	Bocconi University	Harvard University
tduso@diw.de	gianmarco.ottaviano@unibocconi.it	pantras@fas.harvard.edu

EDUCATION

Since 10/2020	**DIW Berlin and Technical University Berlin**, PhD Candidate in Economics
09/2024 – 11/2024	**Harvard University**, Visiting Fellow
09/2018 – 09/2020	**Bocconi Univesity**, M.Sc., Economic and Social Sciences, GPA: 111/110 cum laude
09/2019 – 06/2020	**Yale University**, Visiting Exchange Scholar
09/2014 – 07/2017	**University of Mannheim, Germany**, B.Sc. Economics, GPA: 1.3/5 (A-)
09/2016 – 12/2016	**Chinese University of Hong Kong**, Exchange Semester

RESEARCH POSITIONS

since 10/2020	**DIW Berlin, Firms and Markets Department** Research Associate
11/2020 - 07/2021	**Bocconi University** Research Assistant for Prof. Gianmarco Ottaviano Contribution to the Handbook Chapter in International Economics
03/2017 – 07/2018 06/2019 – 08/2019	**University of Mannheim** Research Assistant for Prof. Markus Fröhlich Monitoring of a Randomized Controlled Trial in Zambia

TEACHING

Summer 2021	Lecture in Econometrics (Berlin School of Law and Economics)

RESEARCH

Job Market Paper

Unilateral Carbon Pricing and Heterogeneous Firms

Unilateral pricing of domestic emissions raises concerns about carbon leakage, prompting calls for protecting exposed industries through subsidies or carbon border adjustments. To quantify the impact of these unilateral carbon pricing tools, this paper develops a quantitative general equilibrium trade model with input-output linkages and heterogeneous firms. Taking firm heterogeneity into account allows for an analytical and quantitative decomposition of the emission intensity effect of unilateral carbon pricing into within and across-firm differences and leads to selection effects which generate economies of scale at the sector-level. Applying the model to EU climate policy, I find that more stringent carbon pricing decreases emissions mainly through within-firm adjustments. Input-output linkages and selection effects aggravate carbon leakage and the real income loss of domestic carbon pricing. Comparing subsidies to a carbon border adjustment as carbon leakage protection, I find that the former leads to a lower real income loss while border adjustments are more effective in targeting leakage.

Working Papers

New Trade Models, Same Old Emissions?
with Joschka Wanner and Yuta Watabe

This paper investigates the role of firm heterogeneity in environmentally extended new trade models, contrasting Eaton-Kortum and Melitz models to Armington and Krugman models. We show that when emissions per sales are constant across firms – a standard assumption in the literature – all four models predict identical emission responses. However, when emissions per quantity are constant across firms, this equivalence breaks. We propose a generalized framework that nests both assumptions. Calibrating the model with multiple industries and estimating the key elasticity between emission intensity and productivity using German firm-level data, we find that firm heterogeneity considerably raises emissions from trade liberalization.

Work in progress

Heterogeneous Sourcing, CO2 Emissions, and Exporting

with Till Köveker, Philipp Richter and Alexander Schiersch

International trade decouples the location of emissions generation from their (implicit) final consumption, leading to a significant share of emissions being embodied in traded goods. Moreover, firms within narrowly defined industries vary in their emission intensity, with most studies focusing solely on direct emissions from production. This paper integrates these two observations by employing a comprehensive firm-level carbon accounting approach that includes emissions embedded in intermediate inputs. We construct a unique dataset that combines an administrative panel of German manufacturing firms with firm-level customs data and measures of the emission intensity of intermediate inputs from Input-Output tables. Our analysis reveals that embodied emissions constitute over 50% of the average firm's total emissions. Furthermore, we reassess the established finding that exporters are less emission-intensive, considering the emissions embedded in their intermediate inputs.

Industry Compensation in Emissions Trading and Carbon Leakage

with Till Köveker

Carbon pricing policies are usually combined with some form of industry compensation to prevent carbon leakage. In the EU Emissions Trading System (EU ETS), industry compensation has been provided in the form of free allocation of emission certificates. Using a firm-level administrative panel of German manufacturing firms, we exploit a change in the EU ETS' free allocation rules in 2013 to obtain firm-level identifying variation in the amount of free allocation. This allows us to study the effect of free allocations on various channels of carbon leakage using a novel extended two-way fixed effects (ETWFE) estimator. We investigate carbon leakage via the export channel by estimating the effect of free allocation on non-EU exports. The effect of free allocation on EU-sales is informative for carbon leakage via the import channel. Finally, we study how the effect varies by sector to analyze heterogeneity of carbon leakage risk across sectors. A better understanding of this heterogeneity is important for the future design of free allocation rules.

POLICY WRITINGS

Broad Electricity Price Subsidies for Industry Are Not a Suitable Relief Instrument,
with Lea Bernhardt, Tomaso Duso and Alexander Schiersch. DIW Weekly Report 38, 2023

The New European Carbon Border Adjustment Mechanism
DIW Weekly Report 22, 2023

Deutschlands Gasversorgung ein Jahr nach russischem Angriff auf Ukraine gesichert, kein weiterer Ausbau von LNG-Terminals nötig,
with Franziska Holz, Christian v. Hirschhausen, Lukas Barner, Björn Steigerwald, Claudia Kemfert. DIW focus 86, 2023.

Energy Supply Security in Germany Can Be Guaranteed even without Natural Gas from Russia,
with Franziska Holz, Christian v. Hirschhausen, Claudia Kemfert. DIW focus 7, 2022.

Knappes Gas – Optionen zur Verringerung der Deckungslücke in Deutschland,
with Franziska Holz, Claudia Kemfert. Zeitschrift für Wirtschaftspolitik 71 (2022), 2, S. 126-137

Zukunft des europäischen Energiesystems: Die Zeichen stehen auf Strom,
with Georg Zachmann, Franziska Holz, Alexander Roth, Ben McWilliams, Frank Meissner, Claudia Kemfert. DIW Weekly Report 6, 2022

Decarbonisation of Energy: Determining a robust mix of energy carriers for a carbon-neutral EU,
with Georg Zachmann, Franziska Holz, Alexander Roth, Ben McWilliams, Frank Meissner, Claudia Kemfert. Report for the European Parliament

Nuclear Turn: Closing Down Nuclear Power Plants Opens up Prospects for the Final Repository Site Search,
with Mario Kendziorski, Claudia Kemfert, Christian v. Hirschhausen, Björn Steigerwald, Ben Wealer, Richard Weinhold, Christoph Weyhing. DIW Weekly Report 47, 2021

PRESENTATIONS

2024	Graduate Student Workshop in International Economics (Harvard) Boston College (International Trade PhD class) Graduate Student Workshop in Environmental Economics (Harvard) Berlin Climate Macro Workshop (Potsdam) Workshop "Internationale Wirschaftsbeziehungen" (Göttingen) FIW Research Conference in International Economics (Vienna)
2023	European Trade Study Group (Guildford) Mannheim Conference on Energy and the Environment EAERE-ETH Winter School (Ascona)
2022	EAERE Annual Conference (Rimini) BSE Insights Workshop (Berlin)

GRANTS, AWARDS AND SCHOLARSHIPS

since 2022	Internal DIW "bridge-project" grants for the projects: "International Trade and Climate Policy - Implications of Firm Heterogeneity" and "Development of a structural trade model"
02/2024	Best Paper Award at 16th FIW Research Conference "International Economics"
10/2021 – 03/2025	Scholarship of the German Business Foundation (SdW)
10/2020 – 10/2021	Scholarship of the DIW Graduate Center
09/2018 – 10/2020	Scholarship of the German Academic Exchange Service (DAAD)
03/2015 – 10/2020	Scholarship Evangelisches Studienwerk Villigst

PARTICIPATION IN THIRD-PARTY FUNDED PROJECTS

07/2021 – 02/2022	Decarbonization of Energy, one of seven authors of the report, funded by the European Parliament

OTHER SKILLS

Languages	German (native), English (fluent), French and Italian (basic)
Computer	Stata, R, LaTex, Python, Microsoft Office (proficient)

NON-ACADEMIC PROFESSIONAL EXPERIENCE

06/2016 – 08/2016	Intern at KPMG, Operations Consulting
08/2013 – 04/2014	Voluntary Service in India