Thore Petersen

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Personal

Born 29 October 1995.

German citizen.

Education

Ph.D. Economics, Institute for International Economic Studies, expected 2026.

Yale University, Visiting graduate student, host Michael Peters, 2024.

M.Sc. Quantitative Economics, Kiel University, 2020.

Grade 1.2/ECTS Grade A, Best in class.

NTNU Trondheim, Erasmus exchange, 2019.

B.Sc. Economics (Volkswirtschaftslehre), Kiel University, 2017.

Grade 1.8/ECTS Grade A.

Fields

Primary:	Macroeconomics.
Secondary:	Energy and environmental economics.

Job Market Paper

Can the plants turn green?

What is the potential for substitution from fossil fuels to electricity? I answer this question with microdata from the German manufacturing sector, where fossil fuels account for 70% of primary energy consumption. I document large heterogeneity in the shares of fossil fuels and electricity across plants even within narrow categories of plants. This variation is difficult to explain with observable plant characteristics including location, industry, or products produced, which suggests plants have flexibility in the mix of energy sources. Fossil fuels and electricity respond differently to transitory plant-level demand shocks: For a given change in output, the response of electricity is three times larger than that of fossil fuels. To reproduce this finding, I develop a dynamic model of production with an adjustment cost for fossil fuels. In such a model it is not optimal for plants to fully adjust to transitory shocks, leading to a downward bias in estimates of the elasticity of substitution with canonical methods. I estimate the model using the simulated method of moments, and find an elasticity of substitution of 5, substantially higher than the literature. This implies that a tax on fossil fuels is more effective: A given reduction in fossil fuel use can be achieved at half the cost in foregone output compared to a model with an elasticity from the literature. German plants can, thus, turn green.

Work in Progress

Financial frictions and aggregate risk exposure.

Aggregate exposure to supply chain risks arises from individual firms' decisions to single-source from low-cost suppliers rather than diversify. I study whether industrial policy can improve this allocation in a setting with financial frictions. In a model where entrepreneurs choose between safe and risky technologies subject to a collateral constraint, I characterize three regimes depending on the productivity differences between technologies and aggregate states. Entrepreneurs' choices of technology are efficient, conditional on the ex-ante distribution of wealth. But a planner can increase welfare by redistributing wealth through technology-specific subsidies or taxes on entry costs. I show that such policy can not be implemented due to a time-inconsistency problem. A planner announcing subsidies before entrepreneurs choose technologies cannot credibly commit to the announced policy, since optimal redistribution changes once technology choices are fixed. In anticipation, entrepreneurs make distorted choices, leading to lower welfare than in the absence of policy. The fundamental problem is instrument insufficiency: entry subsidies affect both technology choice and the wealth distribution, but efficient allocation requires independent control of each margin. The results suggest industrial policies targeting aggregate risk exposure require either credible commitment mechanisms or multiple complementary instruments.

Teaching

Teaching Assistant for Macroeconomics 2, Ph.D. (Stockholm University, Per Krusell), 2022.

TA for Time Series Econometrics, Master (Stockholm University, Michael Lundholm), 2022.

TA for Inferential Statistics, Bachelor (Kiel University, Jan Roestel), 2018.

TA for Math Camp, Master (Kiel University, Thomas Lux), 2018.

Experience

Intern at Deutsche Bundesbank (central bank of Germany), Statistics Division, 2020.

Research Assistant to Christoph Trebesch at Kiel Institute for the World Economy, 2019.

Research Assistant to Ulrich Schmidt at Kiel Institute for the World Economy, 2018–2019.

Research Assistant to Till Requate at Kiel University, 2015–2018.

Awards and Scholarships

Elisabeth and Herman Rhodin foundation, and Carl Mannerfelt foundation, 2024, 2025.

100,000 SEK over several travel grants.

Jan Wallanders and Tom Hedelius foundation, 2021.

500,000 SEK to visit to Yale University.

Take-Maracke Prize, *Club of Economic Sciences at the Kiel Institute*, 2017, 2019.

Services

Macro PhD student seminar series and internal conference, organizer, 2024–2025.

Department seminar macro lunch, organizer, 2022.

PhD course evaluator, 2020–2021.

Hamburgischer Verein Seefahrt e.V., accountant, 2016–2019.

Languages

German (native), English (fluent), Swedish (conversational), French (basic).

R, Julia, LaTeX, MS Office.

References

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Updated 10 December 2025.