

Do Gasoline Price Changes Shift Mobility Choices? Evidence from German Walking Behavior

Boyi Yuan

University of Calgary, Calgary, Canada

Extended Abstract

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Abstract Summary

Gasoline price policies are central to transportation decarbonization, yet little is known about whether higher fuel costs shift behavior toward non-motorized travel. This paper examines how gasoline price changes affect walking in Germany using regional daily step data from consumer wearables between 2020 and 2022. I study walking responses to both routine gasoline price fluctuations and large, salient price shocks. I find robust evidence that higher gasoline prices causally increase walking. Responses are modest for routine price variation but substantially larger for policy-driven shocks. By contrast, I find no clear evidence that geopolitical-conflict-driven price shocks generate a larger response than routine fluctuations. Overall, the findings suggest that fuel price policies can induce low-carbon mobility shifts along an overlooked margin and may also generate meaningful short-run health co-benefits through increased walking.

Presenting Author Biography

Boyi Yuan is a PhD candidate in Economics at the University of Calgary, specializing in energy and environmental economics and applied econometrics. His research focuses on behavioral responses to energy prices and energy policies. He holds a Master of Arts in Economics from the University of Sydney and a Bachelor of Arts in Economics from Simon Fraser University.