Economic Decline and Climate Trade-Offs: Voter Behavior and Green Party Dynamics

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Abstract

How is people's priority for climate protection and preference for green parties shaped by short-term personal economic circumstances? Postmaterial theory suggests that economic considerations trump environmental concerns. Previous research has established that green parties succeed under economic prosperity and suffer under a recession. Whether these dynamics travel to the micro-level – meaning voters' personal finances – remains unanswered. Using panel data from Germany, I estimate the effect of perceived personal economic decline on people's trade-off between climate protection and economic growth and their green party preferences. In addition, I exploit an exogenous pricing shock to provide causal evidence on the effects of short-term personal economic decline. The overall results indeed show that people's priorities shift towards economic growth instead of climate protection and that their preference for the greens diminishes during personal economic downturns. These findings have important implications for our understanding of climate change politics and electoral competition.

1   Introduction

Climate change poses a fundamental threat to human life on earth. Taking adequate climate action to curb its effects will be one of the dominant political challenges of the coming decades. Correspondingly, climate change mitigation is an important issue in elections and for electoral competition. Interestingly, international surveys find widespread agreement on the urgency of addressing climate change. Andre et al. (2024) report that, across their representative survey of 125 countries, a vast majority supports pro-climate norms and demands further climate action. Moreover, more than two thirds of respondents express a willingness to contribute one percent of their personal income to address climate change (Andre et al., 2024). Climate change skepticism or denial thus seems to be a non-issue.

Surprisingly, green parties across Europe have not benefitted electorally from this consensus, as one might expect. Even though green parties are renowned for their ambitious climate change positions, they have not celebrated electoral successes on the wave of widespread public belief in the necessity of ambitious climate policies. Borrowing a differentiation introduced by Easton (1975), the diffuse support for intensified political action regarding climate change does not seem to translate into specific support for many green policies as well as green parties. In the following, I want to contribute to our understanding of why that might be.

My argument is that once removed from the idealistic survey setting, people's green attitudes exist in a constant trade-off relationship with other political self-interests. Most importantly, I argue their economic security and status (or the perception thereof) is a decisive factor in shaping people's prioritization of climate protection versus economic interests. I propose that perceived personal economic circumstances shape whether the widespread, diffuse support for climate action materializes into specific green party support. The contention is that if voters do not feel sufficiently economically secure, economic growth takes precedence to climate protection, as materialist values precede postmaterialist values in the hierarchy of people's needs (following e.g. Inglehart, 1971, 2008).

In the context of electoral competition, previous research has investigated the link between macroeconomic performance and green party success. Abou-Chadi and Kayser (2017) show that governing parties that enact green policies under economic downturns are punished and that parties associated with a green agenda succeed under economic prosperity. Similarly, Gourley and Khamis (2023) find that green parties specifically increase their vote share in times of economic growth. Regarding macroeconomic performance, the expectations derived from postmaterial theory regarding people's green preferences thus do seem to hold.

The question that remains unanswered is whether these dynamics persist on the individual level. Is the micro-level mechanism behind these findings that voters personally struggle economically under a recession and thus prioritize economic interests over climate protection – adjusting their preference for green parties in the process? Or do voters not see green parties as a viable political option in times of economic downturns, regardless how they might be affected personally? Evidence that voters adjust their prioritization of climate protection versus economic growth as well as their preference for green parties when they experience changes in their personal economic fortunes, regardless of the overall macroeconomic dynamics, would lend support to the former explanation.

I investigate this question via two avenues using panel data from Germany. First, I analyze the association between perceived downward mobility in economic terms and people's trade-off attitudes between climate protection and economic growth as well as their preference for Green parties. Economic mobility has been shown to impact people's perception of their own economic situation, as well as their political attitudes and behavior (Ares, 2020; Gidron & Hall, 2017; Paskov et al., 2021; Peng, 2021). For this long-term analysis, I leverage a panel data set with 37,000 respondents and 25 waves over the course of 7 years. Second, I exploit the abrupt commodity price increases following Russia's attack on Ukraine as an exogenous shock to causally estimate the effect of a short term hit on people's personal finances on the above described attitudes. Here my contention is that poor respondents are immediately impacted by the price increases, experiencing economic deterioration, while strong income individuals are more insulated against these impacts. Employing a difference-in-differences design, I estimate the effects with a subset of 11,600 respondents from the aforementioned panel data set.

The results indicate that there is a negative effect of perceived downward mobility on people's prioritization of climate protection over economic growth, as well as on their preference for green parties. After experiencing downward mobility, respondents prioritize economic growth over climate protection and express less favor for the Greens. The causal analysis into the aftermath of the war supports this pattern. After abrupt price increases, poor respondents shift their attitudes in the described direction in comparison to participants considered insulated to the price change due to their higher income.

These findings contribute to our understanding of electoral competition in Europe, especially where green parties are present. The preliminary indication is that voters' personal economic circumstances affect their green party preferences, regardless of broader macroeconomic trends. As the social implications of the transformations encompassing climate action

will be a continuous focus, green parties might have to look at solidifying their social policy and economic policy platform, if they want to be a viable option for all voters anytime.

Concerning policymaking, the analysis further underlines the importance of considering social impacts of climate policy whenever it is designed or implemented that has been previously pointed out elsewhere (Bolet et al., 2023; Lamb et al., 2020). If the goal is to ensure widespread and stable support for the changes encompassing climate action, the main threat is negatively affecting people's livelihoods and economic circumstances.

The results also add to the existing research into effects of economic mobility on political behavior. Here, the focus so far has been on radical voting patterns or abstention rates (see e.g. Burgoon et al., 2019; Gidron & Hall, 2017; Im et al., 2023; Kurer & Van Staalduinen, 2022; Paskov et al., 2021; Sipma et al., 2023). As environmental policy is inherently interlinked with economic impacts, an extension of these analyses to green preferences appears timely. Intergenerational mobility, whose long-lasting impacts for attitude formation have been studied in other contexts, should especially be revisited in regard to environmental attitude formation.

2   Literature and theoretical expectations

There is some, but scarce, evidence how economic indicators on the macro level impact attitudes and behavior around climate change. Around the turn of the century, environmental concern declined all around the world, but with smaller declines in wealthy nations (Franzen & Vogl, 2013). Moreover, Scruggs and Benegal (2012) come to the conclusion that the Great Recession and its economic downturn deteriorated belief in climate change and threat perceptions in the US. It has also been shown that the state of the economy impacts people's attitudes towards the mitigation of greenhouse gas emissions (Shum, 2012). Similarly, studies show that green parties or parties connected with environmental policies suffer electoral losses during a recession and benefit in times of economic growth (Abou-Chadi & Kayser, 2017; Gourley & Khamis, 2023). Kenny (2020) indicates, though, that general measures of economic growth are less relevant, but that negative effects of an economic downturn are mainly driven by rising unemployment rates. Mildenberger and Leiserowitz (2017), on the other hand, do not find evidence for an economy-environment tradeoff in their analysis in the US. Looking at panel data from young people, Uba et al. (2023) show that especially respondents who experienced financial hardship between waves show a declined concern for climate change and environmental issues. Overall, there are first hints that the personal economic situation does impact climate action attitudes. However, much of the existing research focuses on

aggregated indicators of economic prosperity. Evidence that is properly causally identified or goes beyond demographically limited samples is so far lacking.

The expectations of this analysis follow the findings on the relationship between macroeconomic indicators and climate concern as well as green party support. These are in line with postmaterial theory in the sense that we see higher concern for climate change in wealthy nations and a decline in concern under recessions. Moreover, green parties succeed under economic prosperity while experiencing losses during economic downturns. Consequently, the main two hypotheses for this analysis are the following:

- **H1:** The experience of downward economic mobility causes people to prioritize economic growth over climate protection.

- **H2** The experience of downward economic mobility causes a decreased preference for green parties.

Why focus on mobility in status perceptions as a predictor? People's perceptions of their economic position have been proven to be distorted (Cruces et al., 2013; Gimpelson & Treisman, 2018). Generally speaking, people at the lower end of the distribution do not identify as poor and people at the top end do not identify as affluent. Moreover, their general evaluation of and concern for inequality is not driven by factual assessments. Perceptions do shape policy preferences on the other hand, regardless of their accuracy, rather than the factual positioning in the income or wealth distribution (Fehr et al., 2022; Gimpelson & Treisman, 2018). Personal experiences matter for individual perceptions, as people consider past events as overly likely to happen again, regardless of their knowledge of the actual likelihood (Malmendier, 2021). Constantino et al. (2022) find, for example, that people who experienced hardship due to Covid-19 or severe weather events also show higher concern for the pandemic or climate change respectively.

Mobility has also been shown to impact people's economic perceptions, with the upward mobile feeling less poor and the downward mobile feeling more poor, regardless of their factual position (Peng, 2021). These experiences and resulting perceptions do impact political preferences. Contexts of high downward mobility and status risk in terms of occupational class, employment status or income have especially been connected to more radical voting patterns, right-wing voting (Burgoon et al., 2019; Gidron & Hall, 2017; Im et al., 2023; Kurer & Van Staalduinen, 2022; Paskov et al., 2021; Sipma et al., 2023) as well as changed economic preferences (Ares, 2020). More specifically, Langsæther et al. (2022) show that mobility in terms of occupational class mainly impacts economic attitudes, but does not affect plausibly

unconnected issues like gender equality. The authors also find that the effect of mobility is not driven by income alone, but rather a compound effect of future income expectations, job security and workplace socialization that change people's self-interest perceptions (Langsæther et al., 2022). Status loss especially can also foster feelings of frustration and unfairness, as people's feeling of wellbeing needs to be interpreted in relative terms (Burgoon et al., 2019).

In summary, there are first investigations into the association of macroeconomic performance and green attitudes that come to the conclusion that support for climate protection and green parties improves under economic prosperity. Evidence from the micro level, focussing on people's personal economic circumstances apart from the overall economy, is lacking so far. Moreover, experiences of economic mobility, which are consequential for people's perceptions of their own economic situation, have previously only been connected to political participation, redistributive policies or radical voting patterns. This analysis extends both these discussions by investigating the effect of individual experiences of economic loss on people's green attitudes and green party preferences.

3 Case selection

Germany is an established democracy at the center of European as well as world politics and both an influential and consequential player in the global effort to contain climate change. Historically, Germany is the fourth highest carbon polluting country, while currently ranking sixth behind China, the US, India, Russia and Japan[1]. Germany's multi-party parliamentary democracy is comparable to many major European democracies. Moreover, the German party landscape includes a green party. The German Greens are well established and are currently part of the federal governing coalition as well as several state governments. After a surge before the 2021 federal election, where they briefly became the highest polling party, they are recently on a downwards trajectory – currently polling at around 11 to 13 percent.

As mentioned in the introduction, surveys indicate that the global support for climate action is immense. This is also true for Germany. As Andre et al. (2024) show, more than 80% of German respondents agree that their government should do more to combat climate change and that other citizens should do more as well. Regarding attitudes, Germany is thus representative of climate attitudes around the world. Additionally, Germany provides a great context to investigate a Green party as an established political player and less of a niche party, now having been in power on the state as well as the federal level.

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[1]Data from 2020. https://www.ucsusa.org/resources/each-countrys-share-co2-emissions

In terms of social and economic mobility, recent research indicates that upward mobility in Germany has been decreasing (Bönke et al., 2024), comparable to trends in other major postindustrial democracies (Chetty et al., 2017). Hardest hit is the middle class, where absolute upward mobility shares dropped by more than 30 percentage points from the 1962 to 1988 birth cohorts (Bönke et al., 2024). In terms of perception, Germans' view of mobility rates seems more pessimistic than in other European countries, while being quite accurate regarding the share of upward mobile citizens (Bellani et al., 2021). In terms of economic prosperity and opportunity, Germany thus likewise provides a case that compares well with other postindustrial societies.

4   Long term analysis

The analysis is split into to parts. First, I will investigate the association between perceived downward mobility and people's trade-off between climate protection and economic growth as well as their preference for green parties over the entire course of the available data. Second, I employ a difference-in-differences design to exploit the price increases following Russia's attack on Ukraine as an external shock to people's economic livelihoods for causal identification.

4.1   Design, data and estimation

The proposed analysis requires panel data to observe individual changes in economic status over time. Many long-running sociological panels provide detailed items on economic circumstances, but only sporadically provide nuanced measures of political attitudes. Consequently, this analysis relies on panel data from the German Longitudinal Election Study (GLES). The GLES includes a panel study that has been running since 2016 with 37,000 respondents over a total of now 25 waves. The most recent available GLES panel wave was fielded in October 2023.

The analysis aims to investigate the effect of changes in economic status. The GLES has only included socio-demographic items in its profile waves and does not repeatedly ask respondents their occupation or income. The analysis thus relies on the item asking respondents to evaluate their current personal economic situation from "very good" to "very bad" on a five point scale. If a person changes their evaluation from the previous wave, they are considered subjectively upward or downward mobile for the current wave. Figure 1 shows that mobility experiences have not been constant over the years, but that a consistent share of respondents makes such experiences.

Figure 1: Share of upward and downward mobile respondents in GLES panel (2016-2024)

The analysis will consider two main outcomes. The first is people's climate protection versus economic growth trade-off. In the GLES, respondents have to place themselves on a seven point scale between "Prioritizing the fight against climate change, even if it harms economic growth" and "Prioritizing economic growth, even if it makes combating climate change more difficult". The item has been part of every wave since the panel's introduction. The second outcome is respondent's regard for the Green party. The GLES includes an item on every party, asking people to rate them on an 11-point scale between "don't think much of the party" and "think very highly of the party".

Conventional two-way fixed effects models have been to be biased when treatment timings are heterogeneous and units switch in and out of treatment (De Chaisemartin & D'Haultfœuille, 2020; Imai & Kim, 2019). Consequently, the estimation uses a two-way fixed effects counterfactual estimator introduced by Liu et al. (2024). The method considers the mobility indicator as a quasi-treatment and uses the control observations to impute the counterfactual outcomes for the treated units and averages the individual treatment effects to acquire an estimate of the average treatment effect on the treated (ATT) (Liu et al., 2024). This estimation procedure uses all available data to fit the models used for the imputation, while not being hindered by missing data. As the name indicates, the estimator includes unit and time fixed effects to ensure the estimate is not biased by unit characteristics or time trends. Furthermore, the accompanying R package is ready for implementation and offers several diagnostic tools to test the underlying assumptions. The base model used in all later estimations fits a regression of the respective treatment indicator on the outcome of interest without including additional covariates apart from the unit and time fixed effects. No

other time-varying variables enter the estimation as controls. As these estimations connect people's self-assessment of their economic circumstances simultaneously measured with the considered outcomes, plausible arguments can be made that the arrow of causality goes both ways. Consequently, the results of the long-term analysis have to be interpreted as correlational.

4.2   Long-term results

As mentioned previously, the analysis for Germany relies on a mobility indicator based on respondents' evaluation of their personal economic situation. First, I present estimation results regarding the effect of perceived downward economic mobility on the trade-off between economic growth and climate protection. Figure 2 plots the period-wise effects and their uncertainty. The estimated effect is positive and significant ($p = 0.01$). Providing confirmatory evidence for H1, this means that after experiencing perceived downward economic mobility, respondents move up the scale towards prioritizing economic growth over climate protection.

Figure 2: Estimation results for the effect of perceived downward economic mobility on the economic growth vs. climate protection trade-off
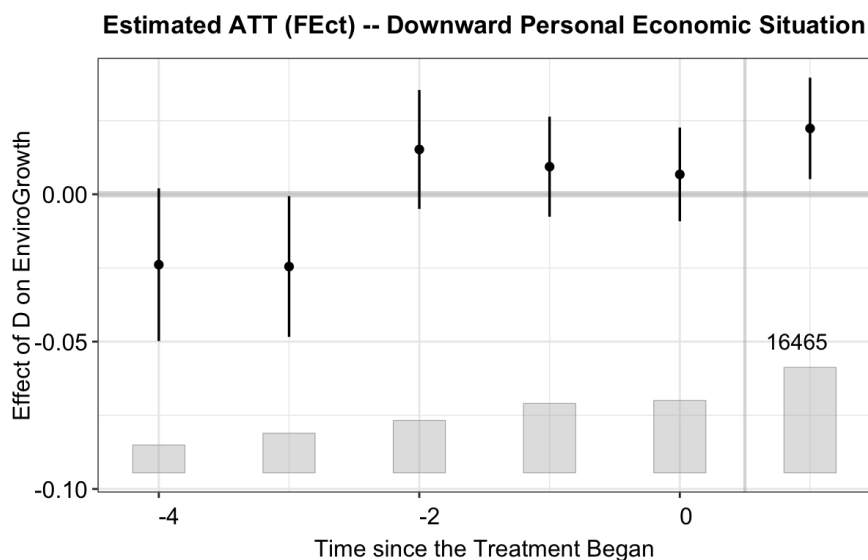
Does this change in prioritization also spillover to party preferences? Figure 3 presents results for the estimation with respondent's evaluation of the German green party as the outcome. Here, the estimated effect is negative and significant ($p = 0.000$). In line with H2, respondents think significantly less of the green party than before after experiencing downward economic mobility

Overall, the observational results indicate that the expectations hold. When focussing on within unit variance regarding people's perception of their economic situation, respondents

Figure 3: Estimation results for the effect of perceived downward economic mobility on the evaluation of the green party

Estimated ATT (FEct) -- Downward Personal Economic Situation
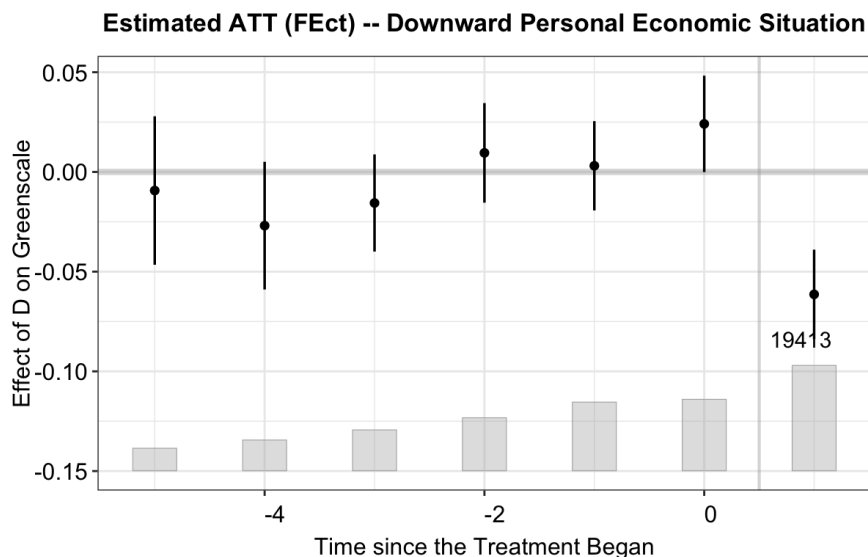
whose assessment has worsened prioritize economic growth over climate protection and show less favor for the Greens as a party. However, the above described associations cannot be interpreted causally, as they rely on people's self-assessments and the relations might be endogenous. Consequently, the following analysis aims to exploit an exogenous shock to see if the results hold.

5   Analysis into short-term pricing shock

To overcome the described limits to causal interpretation in the previous analysis, employ a difference-in-differences design to exploit the price increases following Russia's attack on Ukraine as an external shock to people's economic livelihoods for causal identification.

5.1   Identification and estimation

Plausibly disentangling people's previous attitudes from reactions to their economic wellbeing requires an exogenous shock that did affect parts, but not the whole population. In the following, I argue that Russia's attack on Ukraine and the ensuing price increases for daily commodities provide such an opportunity. First in anticipation and then in the aftermath of Russia's attack on Ukraine, prices for relevant commodities, mainly fossil fuels and energy prices, increased rapidly. As Figure 4 shows, although prices were on the rise before, there is a sizeable jump in anticipation of and reaction to the attack. For comparison, the price increases in the six-month period around the attack *(red dots)* amount to more than two and

a half times the increase in the previous six months *(blue dots)*. Moreover, Figure 1 shows as well that the share of perceived downward mobile respondents spiked after the attack, while the share of upward mobile respondents declined.

My main assumption is that there is heterogeneity in how these short-term price increases affect the population. While short-term price increases do immediately impact the economic security of poorer households, more affluent households are more insulated against these changes (Bach & Knautz, 2022). An increase in costs will not immediately change rich people's perception of their economic wellbeing. Thus, I will exploit this exogenous change in prices following a difference-in-differences logic, considering poor households as my treatment group and rich households as the control group.

I define both groups as follows. As has been mentioned previously, the GLES only measures people's socio-demographic details, including household income, in the initial profile waves. For respondents that joined the panel in 2016, data on income is six years old by 2022. That is why I limit the following analysis to the most recent panel extension in 2020, only including the 11,600 respondents that joined last. Following conventional definitions[2], I define respondents as poor if they make up to 60% of the median household income (poverty risk threshold) and as affluent if they make 150% and more than the median household income. For the given sample and measured categories, this means households with a gross income up to €1,500 are in the treatment group and households with a gross income of €3,000 and more are in the control group. After the Russian attack on Ukraine, energy and fuel prices jumped up, hitting poorer households more strongly, as they spend larger shares of their incomes on these expenses (Bach & Knautz, 2022). Figure 5 and Figure 6 plot the group means for both outcomes, including a representation of the counterfactual following the difference-in-differences logic.

The estimation uses the same two-way fixed effects counterfactual estimator introduced by Liu et al. (2024) as the estimations above. Poor households are considered treated for the GLES wave immediately following the attack (see Figure 4) and the control observations are used to impute the counterfactual outcomes for the treated units. The average of the individual treatment effects is then used as the estimate of the average treatment effect on the treated (ATT) (Liu et al., 2024).

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[2]The OECD defines people below 60% of the median income as under poverty risk. Above 150% of the median income, people are considered upper middle class or higher (OECD, 2019)

Figure 4: Harmonized Index of Consumer Prices for Germany (2021-2024, Eurostat)
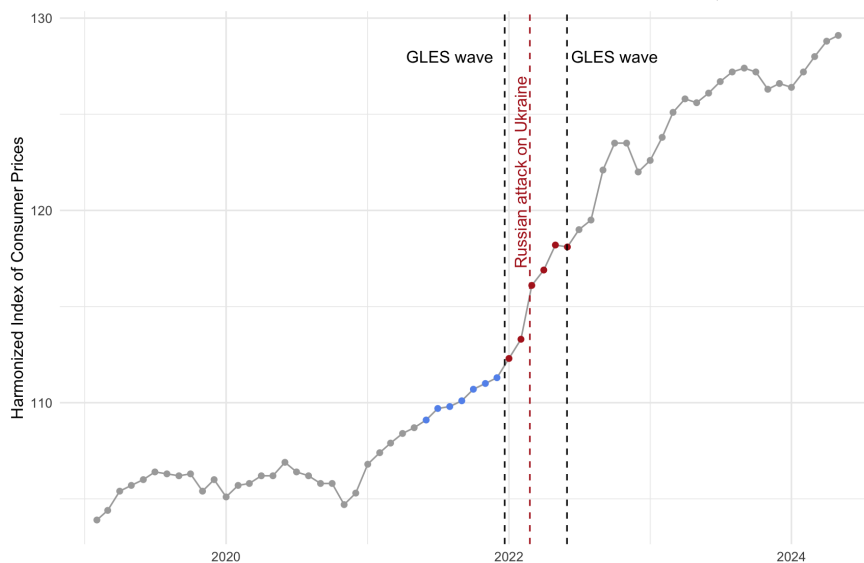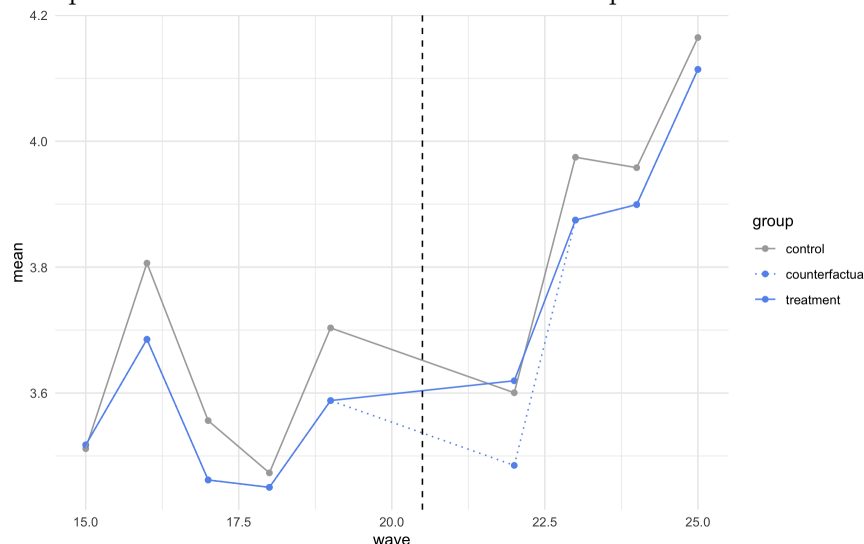

Figure 5: Group means for the trade-off between climate protection and economic growth



5.2   Effects of the pricing shock

Similar to the previous analysis, we first look at how the pricing shock affected people's prioritization of climate protection versus economic growth. Figure 7 plots the estimated effect as well as estimations regarding potential pre-trends as well as placebo estimations as an event-study style plot. There is a significant, positive effect (p = 0.006) on the treatment group's trade-off, meaning they did move their prioritization towards economic growth, mirroring the results of the correlational analysis. Again, these results are in line with H1.

What can we say regarding the validity of a causal interpretation in this case? First, we do not observe a clear pattern of significant differences between the two groups prior to treatment. The parallel trends assumption seems to hold. Second, placebo estimations

Figure 6: Group means for the evaluation of the greens
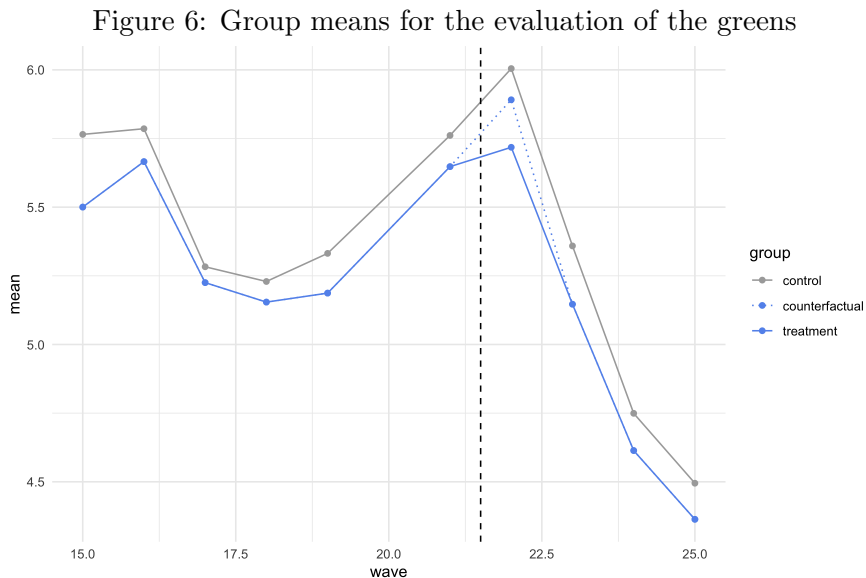
simulating treatment for the two time-periods before the actual treatment *(blue bars)* remain insignificant. This is also indicated by the provided p-value for the placebo test that is clearly above conventional thresholds for statistical significance.

Figure 7:
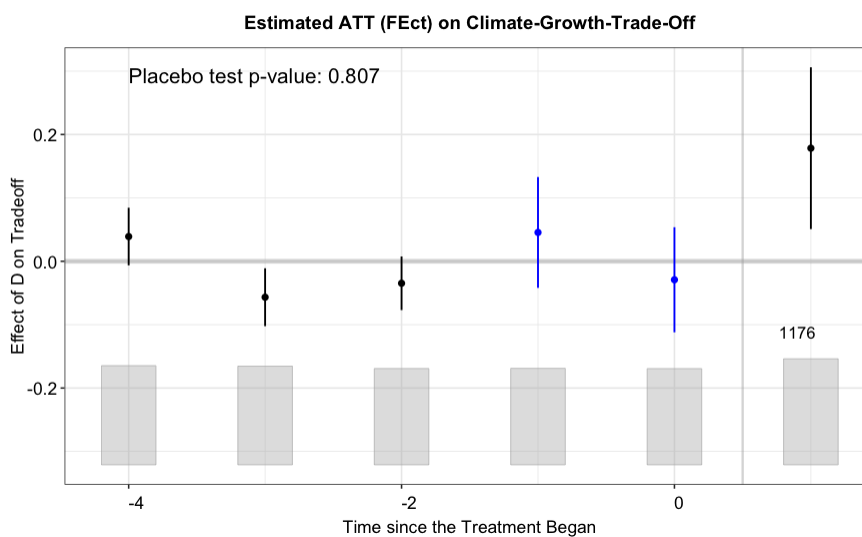
Does this effect also spillover to people's evaluation of the green party? Figure 8 plots results for the same estimations, with people's attitude towards the green party as the outcome. Mirroring the correlational analysis, we see a negative, significant effect ($p = 0.002$) after the price shock. The second hypothesis does hold for the causal analysis as well. Again, there is no clear pattern in pre-treatment trends, so I consider the parallel trends assumption to hold. Moreover, the placebo estimations and placebo test remain insignificant as well.

Figure 8:

Estimated ATT (FEct) on Evaluation of the Greens
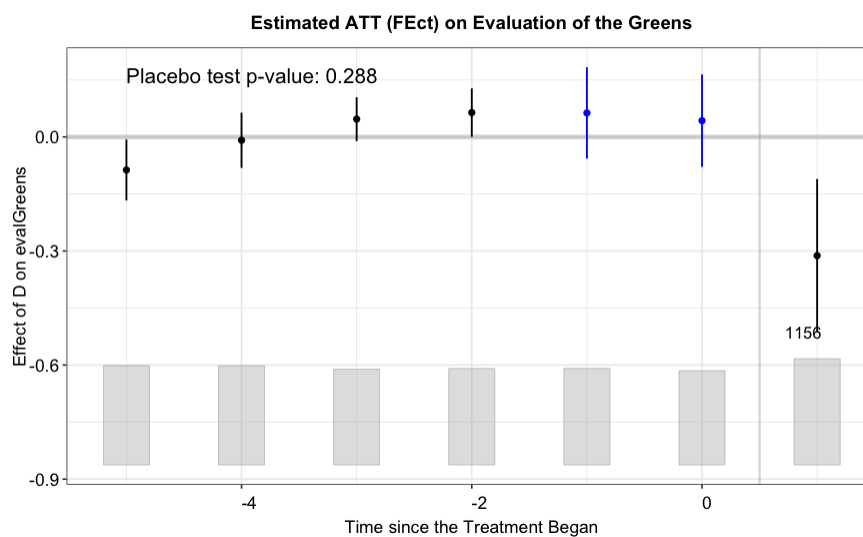
Overall, the analysis into the effects of the pricing shock following Russia's attack on Ukraine confirm the effects of the correlational analysis. After experiencing an economic slump, people prioritize economic growth over climate protection and lose favor for green parties in the process – confirming both H1 and H2. Taken together, the analyses provide evidence that this link is likely causal. As we can see in Figure 4, the price increases did continue over the following months up into 2024, consequently affecting larger shares of the population as a result. An analysis into potential carryover effects (Appendix A.1) shows, that the identified effects did not last after the treatment period, indicating more affluent respondents also started adjusting their attitudes.

6   Discussion

The analysis set out to investigate whether voters trade-off climate protection goals and economic growth self-interest regardless of the macroeconomic situation in their country – and whether these effects spillover to their green party preferences. Building on theories of postmaterialism and economic voting, the expectation was for people to prioritize economic growth over combatting climate change when they perceive to be worse off economically. Previous studies have already investigated the relationship of macroeconomic performance and green attitudes (Abou-Chadi & Kayser, 2017; Gourley & Khamis, 2023). This study aimed at investigating whether these dynamics travel to the micro-level, disconnected from national or global economic trends.

Analyzing panel data from Germany, I estimated the effect of economic mobility on people's priorities in the economic growth versus climate protection trade-off and their green

party evaluations. Relying on two-way fixed effects models, I focus on within unit changes unrelated to other trends. The results indicate that there is indeed an effect of subjective downward mobility, with people moving towards prioritizing economic growth over climate protection. This change in priorities also spills over to people's green party preferences. After experiencing an economic slump, respondents show less favor for the German Greens. Providing causal evidence, I leverage a difference-in-differences design exploiting Russia's attack on Ukraine as an exogenous shock to consumer prices, immediately affecting the poor rather than the affluent. The results of this analysis provide evidence that the relationship between people's economic circumstances and their climate-growth-trade-off as well as their green party attitudes is likely causal.

The findings contribute to our understanding of electoral competition, with focus on niche players like green parties. Knowing that voters prioritize their economic self-interests when facing downward mobility and that these interests compete with their green ambitions, green parties might need to solidify their appeal as a viable voting option beyond climate action. Moreover, the results echo the calls made in other places that climate policies cannot be evaluated without considering their social impacts and viewing them as holistic transformation projects. Lastly, the analysis shows that the effects of mobility experiences go beyond previously studied outcomes like turnout and radical voting patterns, but also affect green attitudes.

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A   Appendix

A.1   Carryover effects for the shock analysis

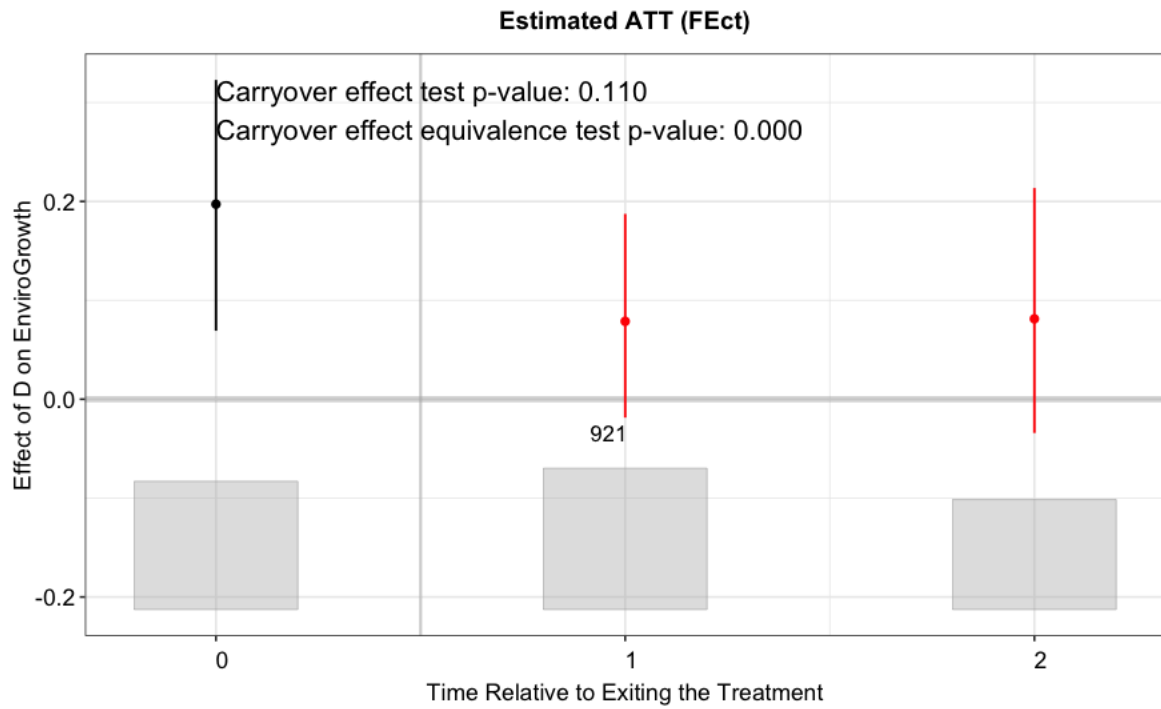Figure 9: Estimation of carryover effects for the Trade-Off Outcome

Figure 10: Estimation of carryover effects for the Greens Outcome