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LETTER

Can the court bridge the gap? Public perception of economic vs. generational inequalities in climate change mitigation policies

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Abstract

Climate change and most climate policies affect and reinforce different forms of inequalities. For instance, climate change policies that aim to change consumer behavior by increasing the price tag of goods and services that cause carbon emissions often carry a disproportionately higher burden (in terms of financial cost) to those with lower incomes. They can thereby either exacerbate existing income inequalities or contribute to generating new ones. Meanwhile, refraining from engaging with climate mitigation policies will incur other detrimental societal costs: the financial burden and the harmful consequences of climate change that future generations will have to bear if nothing is done. In this paper, we examine how the immediate economic inequality citizens face from climate mitigation policies (regarding carbon taxation) weighs against the long-term generational inequalities future generations will experience. We study how both types of inequality relate to policy support for climate change mitigation policies in the context of Germany. The German case is of special interest because a recent court ruling of the Federal Constitutional Court allows us to test whether making people aware of a new legal reality can bridge the gap between the economic and generational inequality. Our findings using a between-subjects survey experiment fielded among German citizens ($N = 6{,}319$) in 2022 show that immediate economic concerns trump future generational concerns, generally making citizens less supportive of the policy. This negative support is however somewhat mitigated by the supportive signal from the court ruling.

1. Introduction

Few issues are as connected to inequality as climate change. While the inter-linkage between climate change and international inequality has been on full display for a long-time, as negotiations on climate cooperation have been hampered by the strong international inequalities and the related free-rider problem for decades (Aklin and Mildenberger 2020, Taconet *et al* 2020), two other forms of inequality have moved to the center of scholarly attention more recently: *generational* as well as *economic* inequalities (Gardiner 2006, Dolšak and Prakash 2022). Moreover, these two types of inequality have already found their way from the scholarly ivory tower to the streets: movements, such as Fridays for Future or Extinction Rebellion, are examples of the generational conflict underlying climate change—an inequality that relates to the future impacts of climate change. Meanwhile the French Gilets Jaunes illustrate the potential for economic inequality protest—an inequality that relates to the implementation of climate change policies in the present. All these protests indicate the potential for societal polarization that could be triggered by enacting more stringent policies if politicians do not carefully consider the relationship between inequality and climate change. In this paper, we therefore make a novel contribution to the literature, by investigating how generational and economic inequalities relate to support for climate change mitigation policies.

We study this question in the context of Germany. Germany is a crucial actor within the EU when it comes to climate change policies (Knill 2013, Plehwe 2022) and its population is comparatively well informed about climate change and its consequences

(Shi *et al* 2016). Most importantly, however, the German case allows us to test an important additional layer to the generational inequality angle. In 2021, the German Federal Constitutional Court ruled that more extensive measures for climate change mitigation need to be taken by the government. The legal reasoning being that it would go against the constitutional rights of future generations if the German government does not do more to mitigate climate change. With this ruling, the court has reinforced the significance of the generational aspect of climate change policy and, more importantly, has provided a clear legal reasoning for why the German government needs to act against this form of inequality. We take this aspect into account and test whether individuals become more accepting of strict climate policy once they are made aware of the judicial cue and thus the new legal reality. This comes at a time of increasing climate litigation around the world (Setzer and Higham 2022), while there is very limited knowledge on how these cases might affect public opinion and related societal norms towards climate mitigation (Wonneberger 2024). To the best of our knowledge, the impact of a judicial cue of this magnitude on public support for climate policy has not been examined before, and our study aims to fill this important research gap.

The aim of this paper is, therefore, twofold: first, we strive to better understand how generational and economic inequality interact in affecting support for climate change mitigation policies, which leads to the following research questions: Does public support for climate mitigation policy decrease when people learn about the potential negative effect on low-income earners? Does the opposite happen once people fully understand the implications for future generations? And how do individuals weigh one against the other? In answering these questions, we build on existing literature that shows that fairness considerations are in fact one of the most important aspects influencing support for stringent climate policies (Bergquist *et al* 2022). Second, we investigate whether providing knowledge about a new legal reality affects how citizens evaluate more stringent climate policies. Research indicates that judicial decisions can work as cues that influence citizens' perceptions of what is considered ethical and legally 'correct' (Carattini *et al* 2018). As such, the new changed legal reality can act as a judicial cue, which can in turn bolster citizens' support for carbon taxation. This prompts the final research question: whether public support for climate mitigation policy increases when people learn about the constitutional court ruling.

Empirically, we examine the influence of generational and economic inequality and the role of the German Federal Constitutional Court ruling using a survey experiment among German citizens ($N = 6319$) in 2022 on attitudes vis-à-vis CO_2 taxation. The study centers on carbon taxation as a climate mitigation policy, given its capacity to comprehensively impact all sectors and actors within the economy by increasing the cost of carbon-intensive products. The implementation of carbon taxation across many countries underscores its significance as a potent policy tool and it is cited as the most cost-efficient in limiting carbon emissions (OECD 2013). In our between-subjects survey experiment, we presented respondents with varying information about either the economic or generational inequality aspects of carbon taxation as well as on the court ruling. By also providing information treatments that combine these inequality aspects, we assessed whether individuals prioritize one concern over the other. Our findings indicate that immediate economic concerns outweigh future generational concerns, generally reducing support for the policy. However, this negative impact is somewhat alleviated by the supportive signal from the court ruling.

Overall, our research contributes to existing literature by broadening the scope of research on climate policy attitudes (Kallbekken 2023). A better understanding of the climate policy's effect on public opinion is crucial in light of the potential societal polarization that could be triggered by enacting more stringent climate change mitigation policies. Research has also shown that public opinion is important for policy implementation in general since politicians are more likely to go through with environmental policies (like green taxes) when it is favourable to the public (Elliott *et al* 1997, Franzen and Meyer 2004, Tjernström and Tietenberg 2008, Anderson *et al* 2017, Schaffer *et al* 2022). In light of this, our emphasis on the Federal Constitutional Court ruling as a potential legal signal adds an important new perspective.

In the following section (section 2), we review the existing literature, outline the theoretical arguments, and develop our hypotheses. Section 3 describes our methodological approach, details the main data source and how our research design addresses the hypotheses. Section 4 provides an overview over the main results of the paper, focusing first on the main hypotheses (concerning economic and generational inequality and the court ruling) before taking a closer look at heterogeneous effects across the treatment groups, specifically with regard to political preferences and judiciary trust. Section 5 provides a discussion and conclusion of the results.

2. Argument

We start from the premise that there is a strong economic inequality component to many climate change policies, especially to those that aim to change consumer behaviour by increasing the price of goods and services causing carbon emissions. Although such carbon taxation is often identified as one of the more cost-efficient ways of combating climate change (OECD 2013), this type of 'pay for your carbon footprint' policy comes with clear distributional consequences. Studies show that carbon taxation can be regressive, insomuch as poorer households are hit harder by carbon taxation (Gough 2013). The reason being that low-income earners are more strongly affected by increasing energy prices for heating and electricity because their demand for energy remains inelastic (Fouquet 2014, Schulte and Heindl 2017). As a consequence, and despite the overall smaller amount spent on energy costs, the lower-income deciles end up spending relatively more of their income on energy than higher income deciles (Flues and Thomas 2015). The corresponding inequality can lead to societal polarization when citizens object against these disadvantageous distributional consequences of carbon taxation as the protests of the Gilets jaunes in France in 2018 illustrate (Beiser-McGrath and Bernauer 2019, Fisher 2020, Douenne and Fabre 2022, Tatham and Peters 2023).

For this reason, many countries have implemented compensation mechanisms with the introduction of carbon taxation, where revenues are returned to households to soften the resulting inequality effects. However, the German government is lagging behind in this regard and at the time of designing and fielding our survey there was no clear consensus on how the CO_2 compensation would work[4]. In our experiment we, therefore, refrained from providing information about compensation mechanisms since it would not have been in alignment with any actually proposed policies. In addition on a more theoretical note, experimental evidence exists showing that while compensating citizens through rebates can lead to a higher public support of carbon taxation, this effect is eliminated when respondents are additionally exposed to political messages about carbon pricing (Fremstad *et al* 2022). This finding indicates that the framing of climate policies can be more important for individuals to make up their mind than the precise design of the respective policy. Therefore, our paper addresses this framing aspect.

A second important source of inequality arises from the intergenerational dynamics of climate change, which lead to skewed incentives against stringent climate policies: Since strong climate policies are typically associated with high present costs but with benefits that only occur in the future, governments seeking (re-)election tend to discount the benefits for future generations in favor of today's election chances (Congleton 1992, Bättig and Bernauer 2009, Bernauer *et al* 2010). This suggests that there is a lack of supply of stringent climate policies. On the demand side, another perspective suggests why climate change action is not of (great) electoral importance to voters. Based on the widespread perception that climate change is a psychologically 'distant' problem, the argument contends that climate change policy demand is rather low, both because it will not affect everyone immediately, and because it is uncertain how large the consequences will be for different parts of society (Whitmarsh and Capstick 2018)[5]. There is, however, some criticism to the idea that psychological distance hinders climate change action. Recent research finds that most people do perceive climate change as psychologically close—occurring in the present, and close to home. Moreover, psychological distance itself neither proves to be a consistent barrier to climate action, nor does its reduction increase it (van Valkengoed *et al* 2023).

Independent of these debates, the unfortunate incentive structure in electoral motivations has meant that most elected governments have supplied far too little and far too lenient climate policies (Bernauer 2013). At the same time however, delaying climate action implies more severe future consequences from—and higher costs of—fighting climate change, therefore, clearly disadvantaging the current young as well as future generations. The issue of climate change has always been most important among the youth and especially students, who have primarily made up the core of activists in climate movements (Grasso and Giugni 2022). Vice versa older generations may not perceive the risk as being great enough to act upon (Stevenson *et al* 2014). With the emergence of the Fridays for Future movement in 2018, this generational inequality has found its way onto the streets of many countries and made this generational rift undeniable (Grasso and Giugni 2022).

Such youth activists were also pivotal in the lawsuit against the German government that led to the recent ruling by the German Federal Constitutional Court: In 2020, nine activists aged 15 to 32 brought their case to the court, seeking a review of the Federal Climate Protection Act. The 2021 ruling found the Act insufficient and sided with the young claimants, adding an interesting legal perspective to the economic vs. generational inequality debate. This is especially relevant, since over the past years youth have increasingly turned to climate litigation to advocate for climate policies worldwide (Parker *et al* 2022).

[4] Although the German government website promises that: '*there will not be an added burden on citizens in Germany as all the proceeds will be given back to them through funding measures and parallel relief measures [...]' German Federal Government (2020)* and lists several measurements like reducing electricity prizes or a mobility premium, there was and—as of June 2024 - still is no formalized compensation mechanism in place nor has it been communicated to the public.

[5] Economists studying this 'distance' problem hypothesize that an additional element here is the increased complexity this temporal aspect adds to the decision-making process, which is what makes these carbon taxation policies unpopular (Tiezzi and Xiao 2016). In addressing this temporal issue and carbon taxation's unpopularity, research finds that giving people time to get used to the idea of carbon taxation policies (by moving forward the implementation by some years), and framing the policy objectives in more distant and ambitious terms improves public support (Silvi and Rosa 2023).

Thus, this court ruling allows us to test the impact of a successful pro-climate judicial ruling, particularly since many such cases are dismissed. Research about the effect of climate change litigation is—as of yet—scarce. Theoretically, researchers argue that it can be used as a tool by climate activists to favorably frame the topic in the public debate, therefore strengthening support for climate mitigation measures (Wonneberger 2024). Moreover, media coverage of such court cases can increase attention both by the public and by politicians (Wonneberger and Vliegenthart 2021). In addition, the court ruling could work as a judicial cue, influencing citizens' perceptions of what is 'right' to do and, therefore, strengthen support for climate mitigation policies by creating a new legal reality (Carattini *et al* 2018).

The court ruling could also have an effect on how the social norm towards climate change mitigation is perceived by our respondents, and research has mentioned the possibility of changing norms as an influential factor for strengthening climate change support (Otto *et al* 2020). Such an effect would be in line with existing literature that shows that comparable court rulings can have a positive effect on citizens' acceptance of disputed issues (Stoutenborough *et al* 2006, Thompson 2022). Since citizens tend to orientate themselves towards elite cues (Hornsey and Lewandowsky 2022), the Federal Constitutional Court's ruling could thus send a positive signal, influencing respondents' views regardless of their political ideology. This may be especially the case in countries with high levels of judiciary trust (Caldeira and Gibson 1995, Gibson *et al* 1998, Gibson and Nelson 2014), like Germany (see figure S3 in appendix A.12 for an overview of the distribution of trust for various institutions). Moreover, such signals could boost citizens' trust, which is consistently cited as an important driver of tax support generally (Torgler 2003, Beuermann and Santarius 2006) and of green taxes and climate change policies in particular (Hammar and Jagers 2006, Drews and Van den Bergh 2016, Maestre-Andrés *et al* 2019, Levi 2021, Povitkina *et al* 2021, Fairbrother 2022).

In our survey experiment, we investigate how individuals react to each of these different inequality aspects, economic and generational, separately and how they weigh off one against the other when they are primed with both types of inequality information. In addition, we test whether information about the court ruling reinforces the generational inequality aspect. More precisely, we provide respondents with either information about the generational inequality aspect of climate change, the economic inequality aspect or both. Based on above discussion, we theoretically expect that making individuals aware of the two different types of inequality will result in opposing effects: with respect to economic inequality, and tied to our first research question on the effect of learning about unequally distributed economic burdens, we argue that priming people about the economic strains of carbon taxation should result in less support for this policy instrument. This should be because of a combination of both an aversion to being personally affected by the economic costs (Brannlund and Persson 2012, Armingeon and Bürgisser 2021), and the important role of distributional fairness concerns highlighted in existing research (Gampfer 2014, Maestre-Andrés *et al* 2019, Jagers *et al* 2021, Povitkina *et al* 2021, Bergquist *et al* 2022, Douenne and Fabre 2022, Sommer *et al* 2022)[6]. Therefore, our first hypothesis states:

Hypothesis 1: *Information about the economic inequality aspect of carbon taxation should decrease support for carbon taxation.*

In contrast, if respondents are primed to consider the generational inequality associated with climate change, they should increase their support for carbon taxation. Again, we expect this because of people's fairness concerns, in this case, however, with regard to future generations and the young. When respondents are primed exclusively on generational inequality, we thus expect support for carbon taxation to increase, leading to our second hypothesis:

Hypothesis 2: *Information about the generational inequality aspect of climate change should increase support for carbon taxation.*

When combining the two types of information, we expect the effect of economic inequality to weigh stronger because of its immediate effect and because it more clearly connects to a material loss frame (Kahneman and Tversky 2013). Theoretically, it is likely that negativity bias induces respondents to process negative information systematically different, and to put more weight on this information compared to positive information (Cacioppo and Berntson 1994, Rozin and Royzman 2001). We thus expect individuals to be more responsive to the losses, i.e. costs, compared to future benefits, and that the impact of the generational treatment might be diminished. Our third hypothesis is, therefore, as follows:

Hypothesis 3: *Information about both economic and generational inequality should decrease support for carbon taxation.*

Finally, making people aware of the court ruling should reinforce the generational inequality information and thus result in more support for carbon taxation. Additionally, it could (at least partially) offset the negative effect of raising awareness to the economic inequality attached to carbon taxation. Hence, we argue that informing (or reminding) respondents

[6] This opposition to carbon taxation policies is often tied to the perceived effectiveness of the policy in addressing climate change (Dietz and Atkinson 2010, Dechezleprêtre *et al* 2022, Douenne and Fabre 2022).

of the court ruling has a positive effect on their sentiment towards the carbon taxation policy:

Hypothesis 4: *Information about the court ruling should increase support for carbon taxation.*

3. Methods

3.1. Research design

We conducted a between-subjects survey experiment (2*4 randomization groups) in which our 6319 respondents are asked about their support for carbon taxation in Germany[7]. To test hypotheses 1-3, respondents were first randomized into one of four (equal and balanced) groups that feature a priming statement about: (1) generational inequality, (2) economic inequality, (3) both types of inequality (with the order of the two priming treatments being randomized) and lastly (4) a control group that does not receive any further information (see appendix A.1 for more information on the survey experiment). The generational inequality statement gives respondents the information highlighting that the carbon taxation policy will mainly benefit younger future generations, whereas the economic inequality statement highlights the unequal economic impact of such a tax increase. To test hypothesis 4, half of the sample additionally received information about the German Federal Constitutional Court ruling. This treatment highlights the German Federal Constitutional Court's ruling in 2021, which ruled that the state is obligated to take more comprehensive climate protection measures. The random assignment of respondents to different experimental vignettes creates groups that are similar on average on (un)observed characteristics, allowing us to ascribe any difference in their policy support across groups to the differences in the vignettes. Power analyses based on pretests of our study design show that we can detect a change of half a point on our answer scale between framing groups with a power of 100% on the conventional statistical significance level of 5% [8].

Following the experiment, respondents were asked whether they supported the carbon taxation policy. Our outcome measure ranges from 1, no support, to 5, full support for carbon taxation. The survey includes standard socioeconomic items (age, gender, household income, household wealth, education, political preference, area of residence). A full overview over the variables used in the analysis can be found in table 1 and further information on research design is available in appendices A.1 and A.2. To test our theoretical predictions we pool all randomization groups ($N = 6319$) and run ordinary least squares regression models, with robust standard errors, which we use to determine the differences between the groups. Regression tables are in the online appendix.

We recognize that the generational and economic inequality treatments do not necessarily convey the exact same information: The economic inequality treatment focuses solely on current costs whereas the generational treatment considers current costs in exchange for future benefits. While we know that individuals are likely more responsive to losses, i.e. costs, compared to benefits, and that therefore the generational treatment might be perceived to be less strongly worded, we deliberately chose the benefit formulation due to the following reason. Highlighting only the costs could mislead respondents about potential future environmental costs, which are uncertain. Furthermore, we wanted to ensure our approach was (a) consistent with the scientific consensus that there will be costs regardless, and (b) clear and understandable for a layperson. This approach, while potentially making the generational treatment seem less impactful, provides a more accurate description of reality. This, however, implies that the effect of the treatment is rather a lower bound of the generational effect. Moreover, since we are interested in the combined effect of our different treatments, formulating the generational treatment in terms of benefits has the advantage that we can assess whether it can compensate for the negative effect of people's loss aversion induced by the economic inequality prime.

The survey experiment also refrains from addressing compensation mechanisms, despite its relevance to the economic frame. Thereby the experiment to some extent fails to account for the realism of the actual cost that an increase in carbon taxation would incur to the individual. This is because the compensation mechanisms in Germany are very unspecific (German Federal Government 2020), and at the time of designing the survey experiment (Spring 2022), there was no consensus among the political parties on how the CO_2 compensation would work[9]. As of April 2024, there is still no clear consensus on the payout of the compensation.

3.2. Data

Our data is from the Inequality Barometer, a reoccurring survey by the Cluster of Excellence, 'The Politics

[7] The research design obtained approval from the University of Konstanz Ethics Commission.

[8] See our pre-registration entry at the AEA RCT Registry: www.socialscienceregistry.org/trials/9745 (which also includes more information on the power analyses).

[9] The German government website promises that: '*There will not be an added burden on citizens in Germany as all the proceeds will be given back to them through funding measures and parallel relief measures. The Federal Government will use proceeds from CO_2 pricing primarily to reduce the renewable energy levy and therefore electricity prices. In addition, there will be a rise in the tax-deductible commuting allowance, a mobility premium will be granted, and measures of the Climate Action Programme 2030 will be funded—to promote climate-friendly transport and energy-efficient buildings.*'German Federal Government (2020).

Table 1. Summary statistics.

	Mean	SD	Min	Max	N
Priming Gen./Econ. inequalities	2.50	1.12	1	4	6319
Court treatment	0.50	0.50	0	1	6319
Policy acceptance	2.92	1.24	1	5	6137
Policy satisfaction	1.67	0.87	1	3	5711
Gender	1.51	0.50	1	2	6306
Age	48.53	17.06	18	89	6319
Education	2.05	0.83	1	3	6319
Migration background	0.09	0.29	0	1	6319
Left-Right (Categorical)	1.93	0.57	1	3	5719
Party preference w/ miss	4.17	2.30	1	7	6258
Trust (general)	3.81	2.58	0	10	6195
Political trust	3.95	2.18	0	10	6271
Household size	2.23	1.09	1	8	6319
Household income (Categorical)	5.38	2.73	1	10	5870
Former East/West Germany	0.15	0.36	0	1	6319

Note: Summary statistics for the variables used in the analysis. The control variables include gender, age, education background (low, middle and high education—not including tertiary education or higher), migration background (binary), Left-right category (categorical variable indicating whether the respondent self-identifies as left, centre or right), party preference (categorical variable indicating which party the respondent prefers, which includes the missing category), household size, household income (in income categories), East/West Germany (a binary variable indicating whether the respondent lives in former eastern Germany) and trust items. All trust items in the analysis are on scales, ranging from 0–10. We use items on 1) trust in the general population and 2) political trust as control variables throughout the analysis.

of Inequality', representative of the adult German population in terms of age, gender, and education at the NUTS-2 level (see Schönhage *et al* 2024). Respondents were recruited using a commercial online access panel (linked to Kantar) and surveyed via computer-assisted web interviewing (CAWI). The survey was piloted in October 2022 and fielded 14 November–2 December 2022[10]. We received 6319 complete responses (a response rate of 39.9% complete responses from the invited panel). To ensure representativeness across gender, age, and education, the dataset includes sampling weights to adjust for remaining imbalances resulting from quota sampling.

Table 1 provides the summary statistics and thus an overview of the main variables as well as the control variables used in the analysis[11].

[10] Cognitive pretests were conducted in September 2022 before the survey launch. Cognitive pretest participants received an online survey, and while they responded, they were interviewed via video call. The interviews asked respondents to give spontaneous feedback and probed for their perceptions and comprehension of specific elements. 20 interviews were conducted, and the interviewees were diverse in age, gender, and educational background.

[11] Balance tests are provided in tables S1 and S2 in appendix A.3 and indicate no significant differences in the treatment groups along any of the individual-level background characteristics available to us, highlighting the successful random allocation across our treatment groups. The dataset and the code for this study are available in the GESIS Dataverse repository (https://search.gesis.org), part of the Consortium of European Social Science Data Archives (CESSDA) https://datacatalogue.cessda.eu/. It can be found at: https://doi.org/10.7802/2756.

4. Results

4.1. Economic inequality, generational inequality and the court ruling

Figures 1 and 2 provide an overview of the main results of our survey experiment. While figure 1 shows the average policy support by treatment group, figure 2 displays the corresponding effect sizes. At first glance, all priming effects appear to align with our hypotheses, which we discuss in more detail below. Figure 2 additionally shows that the effects of our primes do not change when controlling for additional factors.

Specifically, the following aspects in figure 1 are noteworthy. First, general support for carbon taxation in our sample is rather moderate, which aligns with previous findings on carbon taxation policy support in Germany (Umit and Schaffer 2020, Dechezleprêtre *et al* 2022). The control group has a mean support level of 2.96, which is equivalent of being neither in favor nor against carbon taxation. A noteworthy finding, in our view, as carbon taxation is one of the cornerstones of the German government's climate policy and such tempered support levels imply that the general population seems to need further convincing with regard to the importance of this policy measure. Second, while respondents primed with the generational inequality ('Gen.') treatment are more supportive of the tax (in comparison to the control group) – as is in line with hypothesis 2 –, the difference just fails to reach the traditional levels of significance. As such, the data does not validate this hypothesis. In contrast, hypothesis 1 is supported by the data: respondents primed

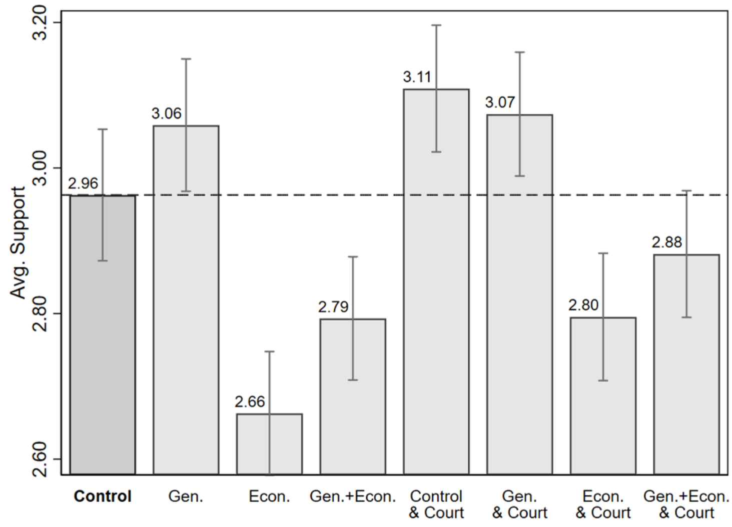

Figure 1. Subgroup acceptance of CO_2 pricing.
Note: Mean of respondents' policy support (measured on a scale from 1 to 5) with 95% confidence intervals. See table S3 in appendix A.4 for regression estimates.

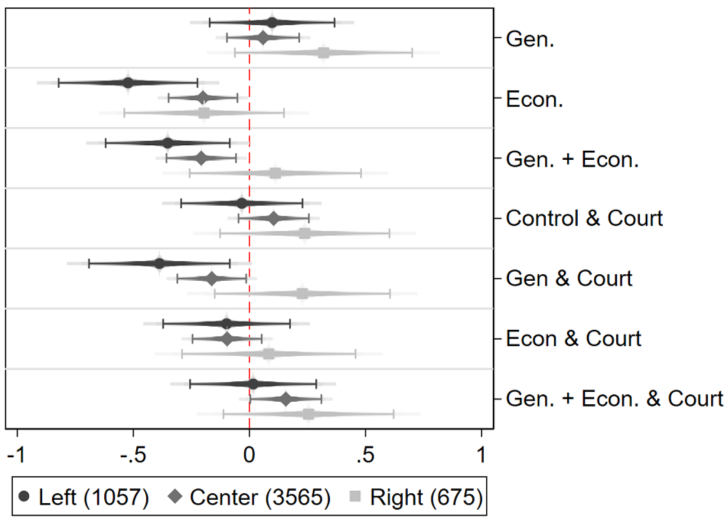

Figure 2. Priming effect.
Note: Results from the regressions in table S3 in appendix A.4, where the control group is used as the baseline category.

with the economic inequality treatment elicit the strongest effect, significantly reducing the support for carbon taxation. It even results in a significant negative effect when combined with the generational priming[12]. This is in line with hypothesis 3, and the theoretical and empirical literature: The acute and immediate economic concerns of citizens tend to trump their environmental concerns in general (Maestre-Andrés *et al* 2019, Armingeon and Bürgisser 2021, Povitkina *et al* 2021), but also their concerns for the (more distant) effect of climate change on future generations[13]. It is thus not surprising, that once respondents are primed with both the generational and economic inequality, the economic priming prevails in driving changes in support. This illustrates the gap in inequality concerns between the immediate and the future.

What is interesting to note here is that analyzing the policy support for the economic inequality treatment by respondents' household income produces no significant interaction effects (see table S5

[12] Respondents receiving this treatment were further randomized into two separate groups with alternating orders, with the intention to eliminate any potential order effects of the treatments. The order effect fails to reach traditional levels of statistical significance, indicating that there are no order effects for the treatments. This is also confirmed by t-tests in table S8 in appendix A.9.

[13] In further analyses, we controlled for whether our respondents currently have children in their household or not. Comparing these subgroups shows no clear differences between groups (see figures S10 and S11 appendix A.13.4).

in appendix A.6). This indicates that the economic inequality treatment has a negative effect on all respondents, regardless of how low or high their income is. This suggests that respondents are rather sociotropically motivated in their responses (as opposed to egotropic) - meaning that the responses are largely driven by fairness concerns across the sample (Bergquist *et al* 2022, Kallbekken 2023).

The second randomization tests hypothesis 4 – whether the court ruling might act as a cue able to mitigate the gap between the economic and generational inequality treatments. The four latter bars in figure 1 show how this court ruling interacts with the prime treatments. Starting with the fifth bar ('Control + Court'), we observe that the court treatment, when respondents receive no other prime, significantly increases support for carbon taxation[14]. This is in line with our theoretical expectations: People are more likely to support the carbon taxation policy if they are made aware (or reminded) of the court ruling.

We observe that adding the court treatment partly compensates for the negative impact that the economic inequality priming has on the support for the carbon taxation policy[15]. The drastic decline in support for respondents who receive the economic inequality treatment ('Econ.') is slightly alleviated by the court treatment, and the predicted support increases by approximately 5 percentage points ('Econ. + Court'), thereby partially mitigating the impact of the economic inequality priming[16]. This finding indicates that such a court ruling overall has a positive impact on climate mitigation policy support, and may aid in garnering public support for such tax increases. In the following section, we shed more light on these findings.

4.2. How does a judicial precedent bridge the gap?

In this section we examine the court effect more closely with a special focus on how it affects different subgroups (see figures S4–S9 in appendix A.13 for more results). In doing so, we are especially interested in analyzing the groups that are commonly identified as being less inclined to support climate change mitigation policies—like conservative, right-leaning citizens (Dechezleprêtre *et al* 2022). We do this by analyzing the effects by left, centre and right political ideology separately.

The results in figures 3 and 4 show that across all political alignments, respondents who receive the court information in addition to the economic prime tend to shift upwards in support (as seen by the rightwards shift in figure 4). This effect is especially pronounced among the right-leaning respondents, who are the only group for which their policy support shifts in a statistically significant way (as the difference between the two light-grey bars in figure 3 is significant based on a t-test, see table S9 appendix A.10). This indicates that respondents who are politically conservative are the most responsive to the court treatment, and that alleviating the negative effect of the economic prime seems to work especially well for this group. This contrasts with previous findings that show that conservative voters (who are generally more opposed to carbon taxes) seldom change their views, even when provided with information about receiving compensation for these taxes (Mildenberger *et al* 2022)—indicating that conservative voters need a specific type of information for their views to change. However, as most of our respondents identify themselves as being in the political center, the group of right-leaning participants is quite small. There may thus be potential under-reporting in subjective left-right positioning[17].

Furthermore, it is worth noting that the effect of the court treatment occurs regardless of whether respondents trust the judiciary institutions or other related governmental institutions. As can be seen in table 2 below, the interaction effects between the various trust items in our survey and the court treatment are consistently not significant. This indicates that the court treatment has a positive effect on policy support regardless of people's trust, which is an interesting addition to existing research linking institutional and general trust to citizens' tax policy support. According to this literature, we would expect especially citizens with high institutional trust to be receptive to our court treatment, as individuals with higher levels of trust are generally more receptive to elite cues. We, however, find that trust does not enter into the equation when the signal comes from a type of court that stands at the top of the judicial system and above the political landscape. It rather seems like the judicial cue is acting like a general boost of citizens' trust in and therefore support for the carbon tax. In this context, it is interesting to note that the judicial trust in our sample is higher than in other trust items (i.e. politicians, parties, the federal government and the EU parliament—see figure S3 in appendix A.12 for an overview of trust distributions).

[14] We calculate that being informed about the court ruling increases strict support of the policy by approximately 7 percentage points. See column 1 in table S3, appendix A.4 for the effect size estimate.

[15] Despite the direct effect the court treatment has on policy support, we do not observe general interaction effects between the generational and economic inequality primes and the court treatments when using interaction models. See figure S2 in appendix A.11.

[16] See column 1 ('Econ.'), table S3 in appendix A.4 for the effect size estimate, where the 5 percentage points is based on subtracting the effect size of the 'Econ.' treatment by the effect size of the 'Econ. & Court' treatment.

[17] This leads to rather large confidence intervals in figure 4. As a robustness check we also assess party affiliation in table S7 in appendix A.8. Supporters of parties typically considered right of centre (CDU/CSU, FDP and AfD) tend to have a much less negative effect in the 'Econ. & Court' treatment (and positive for FDP), as compared to left of centre parties.

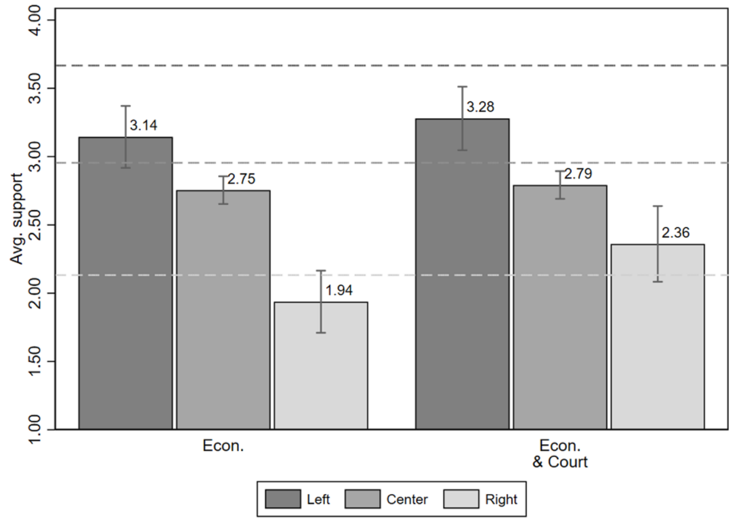

Figure 3. Acceptance of CO_2 pricing by political alignment.
Note: Mean of respondents' policy support (on a scale from 1 to 5) with 95% confidence intervals for our economic prime groups vs. the economic prime group that additionally receives the court information. The baseline support of the control group for the respective political alignments is shown as horizontal lines.

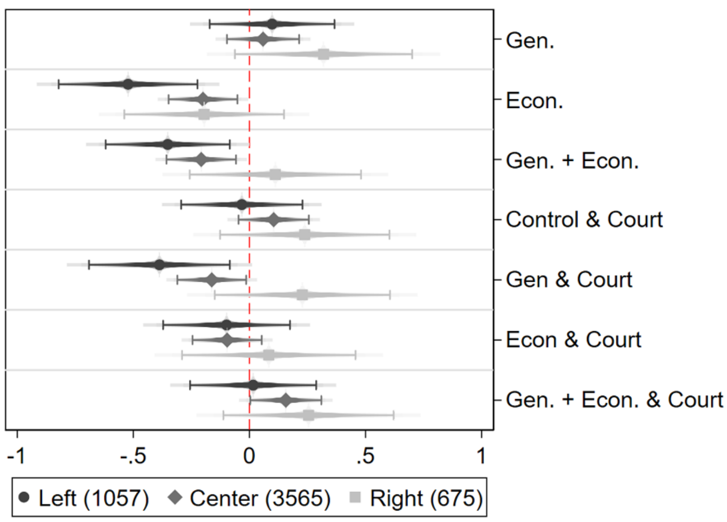

Figure 4. Priming effect by political alignment.
Note: Prime effects for each political alignment group in comparison, control group is used as the baseline category. See table S6 in appendix A.7 for full results.

This could mean that the missing trust in politicians and parties is mitigated by the court's more trustworthy signal. A caveat to this finding is that we cannot carve out the exact mechanism at play. There may be a ceiling effect in our data: the observed pattern might be driven by respondents with higher levels of judicial trust being less affected by the court treatment since their policy support is already high. Additionally, the court information might not be new to individuals, as it received extensive coverage in the media. This treatment effect may thus be a lower bound since it just serves as a reminder for the respondents.

5. Discussion and conclusion

Our findings show that priming individuals with economic inequalities results in a much stronger reaction compared to priming individuals with generational inequalities. In particular, respondents who received information on economic inequalities show less favorable attitudes toward a carbon tax than any other group in our experiment. Since we find this effect for all economic groups, we consider it to be largely due to fairness concerns rather than individual egotropic (i.e. economic pocketbook) motivations. We interpret these findings to mean that while

Table 2. Interaction between Court treatment and trust in institutions.

	1	2	4	5	6
Court	.167***	.134*	.131**	.172***	.093*
	(.060)	(.077)	(.059)	(.060)	(.056)
Bundestag	.125***				
	(.009)				
Court × Bundestag	**−.013**				
	(.011)				
Judiciary		.092***			
		(.008)			
Court × Judiciary		**−.003**			
		(.011)			
Parties			.116***		
			(.010)		
Court × Parties			**−.006**		
			(.012)		
EU Parliament				.124***	
				(.009)	
Court × EU Parliament				**−.014**	
				(.011)	
Trust (general)					.063***
					(.009)
Court × Trust (general)					**.002**
					(.012)
Constant	2.546***	2.673***	2.611***	2.507***	3.001***
	(.122)	(.129)	(.124)	(.125)	(.122)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	5566	5574	5566	5532	5562

Note: The table displays the results of linear regressions. The outcome variable we use is policy acceptance, and asks whether the respondent support the carbon trading policy on a scale from 1 ('Do not agree at all') to 5 ('Fully agree'). Court is a dummy variable indicating whether the respondent received the court treatment. The variables Bundestag (the German Federal parliament), Judiciary, Politicians, (political) parties and EU Parliament are all trust questions. These are all phrased 'How much do you trust the following institutions?' on a scale from 0 ('Do not trust at all) to 10 (Trust completely). The 'Trust (general)' variable is measured on the same scale, and asks about the general trust in regards to other people.***, **and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

respondents care about the impact of climate change for future generations, they care even more about the unequal burden of certain policies to combat climate change, in our case a carbon tax, on the poor. In our view, this finding is important as it directly speaks to recent literature on how to compensate the losers of climate policies (Klenert *et al* 2018, Beiser-McGrath and Bernauer 2019, Gaikwad *et al* 2022, Mildenberger *et al* 2022, Schaffer 2023). The lack of a consistently significant effect of the generation treatment may be related to its framing: research finds that reframing carbon taxation policy does not tend to do much to change people's minds (Bernauer and McGrath 2016)—and this generational framing may just be one of those framings of carbon taxation that does not go far enough. In reality, we are constantly exposed to varying frames about the costs and benefits of the different types of climate policy measures. Individuals' prior attitudes, knowledge and interests on climate change policies are already influenced by information from media end their social environments. To some extent, this information abundance could weaken our treatment.

In contrast, making individuals aware of the German Federal Constitutional Court ruling results in more positive views on carbon taxation. The court ruling additionally partially mitigates the negative effect of the economic inequality treatment. A simple reframing in terms of an elite cue, therefore, does seem to work. Furthermore, we find that the court ruling is equally effective regardless of how much respondents trust judiciary institutions. Based on the populism literature we may well expect that respondents with lower trust in institutions (and higher suspicions of the 'corrupt elite out-group'), would react negatively to the court ruling, as it effectively acts as an elite cue (Mudde 2004). This, however, does not happen in our survey. We think it would be a promising avenue for future research to take a closer look at the effect of similar rulings in other countries. One could thereby account for pro- and anti-climate outcomes, and investigate whether different courts or legislative systems yield distinct effects. Moreover, climate litigation can bring the issue into the political and public discourse (regardless of the outcome), which already has the potential to sway public opinion (O Neill and Alblas 2020). This is especially interesting as we are witnessing increasing judicial action on behalf of the climate all around the world (Peel and Osofsky 2018, Setzer and Vanhala 2019, Setzer and Higham 2022). Based on the literature dealing with legislative politics, one can argue that our findings are likely generalizable to most countries with constitutional courts that have high levels of public support and trust (Caldeira and Gibson 1995, Gibson *et al* 1998, Gibson and Nelson 2014). In contrast, it has been demonstrated that individuals can interpret judicial rulings through the lens of their partisan affiliations, which potentially constrains the applicability of our findings in highly polarized societies with overtly politicized courts (Clark and Kastellec 2015, Engst *et al* 2020, Rogowski and Stone 2021, Mazepus and Toshkov 2022).

We also find that the court ruling is especially effective with groups that are traditionally less supportive of carbon taxation policies—like conservative, right-leaning, older and less educated respondents. With regard to policy implications, this finding indicates that altering the legal reality could potentially increase support of carbon mitigation policies, particularly within demographic groups that typically require more persuasion. Thus, both policy makers and activists striving for more ambitious climate regulation might want to take this legal signaling effect into account. Moreover, it is noteworthy that the court case was fairly present in the German media, so the effect of making people aware of the ruling can be seen as a lower bound (as respondents are likely to already have been aware of it).

The effect of the court treatment is, however, also one aspect, which future research could investigate in further detail. One potential limitation of our study is that we cannot pinpoint the exact mechanism by which the court ruling increases support levels for carbon taxation. While we have shown that it is not necessarily via institutional trust, we still do not know whether the effect mainly runs via elite cuing or rather a general increase in public and political attention. Another limitation of our study and something that future research might want to test is whether generational inequality if presented in a (future) loss frame would result in a more pronounced increase in support levels for climate mitigation policy.

We interpret the overall findings as a cautionary reminder that implementing strong carbon taxation remains challenging, even in a climate where many young people go to the streets and protest against the generational inequalities and for more extensive climate policies. Rather it seems highly important to take the economic inequalities that are typically attached to climate change policies seriously, to think about proper compensation mechanisms and to carefully consider the framing of climate policies. Additionally it is important to consider alternative institutions that may aid in combating climate change—like harnessing the power of judicial action.

Data availability statement

The data that support the findings of this study are openly available at the following URL/DOI: https://doi.org/10.7802/2756.

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Appendix to can the court bridge the gap? Public perception of economic vs. generational inequalities in climate change mitigation policies

A.1. The survey design in detail

We implemented a 2*4 between-subject experiment research design (see figure S1). Each group of respondents was shown a vignette consisting of three main parts: the first part of the vignette presented the respondent with a graphical representation of the rise in the Earth's temperature, and is accompanied by a small explanation ('*The following graph shows how the average temperature on Earth has changed over the last century*')[18]. After the image, the respondent is given the following factual text: '*In order to reduce CO2 emissions and thus combat climate change, the German federal government has decided to set a price per ton of CO_2. This CO_2 price will be gradually increased. This means that climate-damaging products will become more expensive.*'.

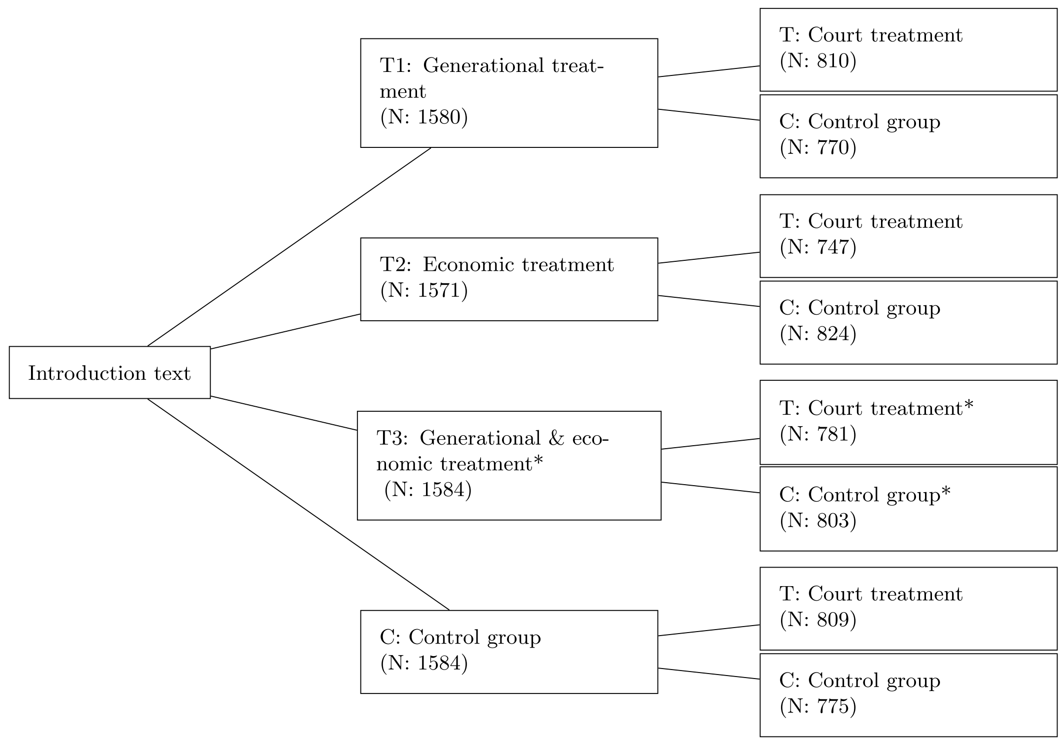


Figure S1. Survey Research Design.
Note: The stars (*) in figure S1 indicate that this treatment group has a second randomization to eliminate order effects. The respondent is thus randomized into two sub-groups, where the first group receives the generational prime before the economic prime and the second group receives the economic prime before the generational prime. N indicates the amount of respondents that were randomized into each treatment group. Of these sub-categories we have 420 respondents who receive the Generational & economic treatment + control. We have 377 respondents who receive the Generational & econonomic treatment + court. For Economic & generational treatment + control we have 383 respondents, and we have 404 respondents who receive the Economic & generational treatment + court.

The second part of the vignette introduced the first experimental variation—the inequality treatment, which randomly assigned respondents into one of the following four groups: (1) a generational inequality treatment group that highlighted how the carbon taxation policy would benefit future generations ('*The additional costs incurred now will primarily benefit younger and future generations*'); (2) an economic inequality treatment group, highlighting the likely increase in income inequality following such carbon taxation policies ('*People with low incomes have to spend a larger share of their income on CO_2-taxed goods and are thus burdened more than those with high incomes*'); (3) an economic and generational inequality treatment group that combines the two primes from the first two dimensions. This group is further randomized so that half of the group receives the economic inequality prime, and then the generational inequality prime, and the second group

[18] The aim of the graph is to bring the severity of climate change to the respondent's mind, without introducing too much bias in explaining climate change. Explaining the topic of climate change may bias the respondent's impression in a generational-inequality-related direction if we include text explaining climate change and its related consequences.

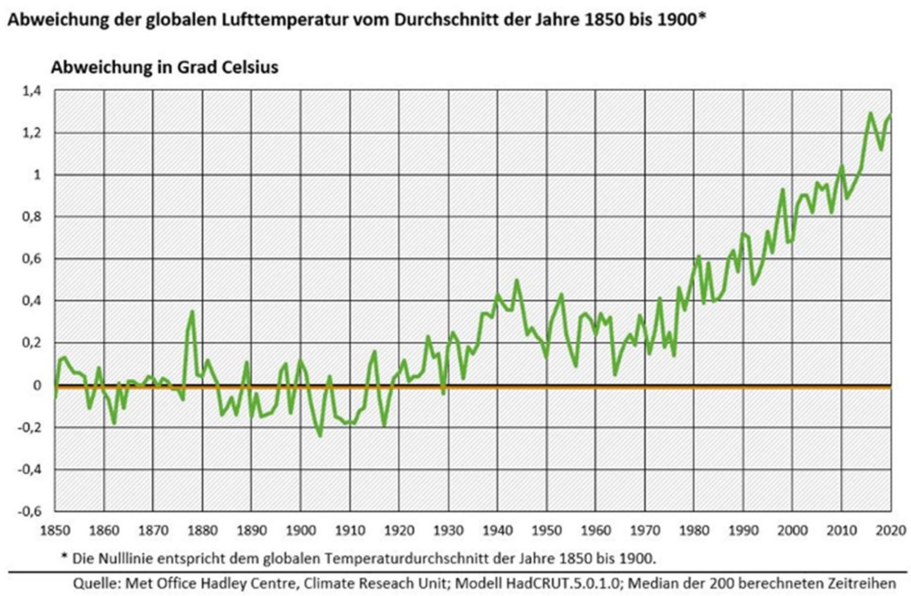
receives the same information in the reversed order[19]. The aim of this combined group is to combat the problem of our rather incomparable treatment groups (generational and economic inequality). Lastly, dimension (4) is a control group that receives no further priming information.

The third part of the vignette introduced the second experimental variation (the court treatment) in two dimensions. Respondents were either assigned to a treatment where we highlighted the court's ruling or to a control group with no further information (with equal probability): '*Germany's highest court, the Federal Constitutional Court, also ruled in 2021 that the state is obliged to take more comprehensive climate protection measures*'.

After the survey experiment, respondents are first asked: '*Do you support such a carbon taxation policy?*'. This is on a Likert-scale from 1 ('*Do not agree at all*') to 5 ('*Fully agree*'). In order to check whether respondents' disagreement with the policy might be due to it not aiding *enough* in climate change mitigation, we additionally ask respondents: '*Do you think the suggested CO_2 taxation is*': with the answer options '*Too high*', '*Exactly right*', '*Too low*', and lastly '*Don't know*'[20].

A.2. Survey design (German version)

Folgende Grafik zeigt, wie sich die durchschnittliche Temperatur auf der Erde im letzten Jahrhundert verändert hat.



[New survey page]

Um CO_2-Emissionen zu senken und damit den Klimawandel zu bekämpfen, hat die deutsche Bundesregierung entschieden einen Preis pro Tonne CO_2 festzulegen. Dieser CO_2 Preis wird nach und nach erhöht. Das bedeutet, dass klimaschädliche Produkte teurer werden.

[Priming treatment = Generation, Court treatment = Control]

Die jetzt anfallenden zusätzlichen Kosten kommen dabei vor allem den jüngeren und zukünftigen Generationen zugute.

[Priming treatment = Economic, Court treatment = Control]

[19] Treatment 3a: (Generation and economic treatment) '*The additional costs incurred now will primarily benefit younger and future generations. However, people with low incomes have to spend a larger share of their income on CO_2-priced goods and are thus burdened more than those with high incomes.*'Treatment 3b: (Economic and generation treatment) '*People with low incomes have to spend a larger share of their income on CO_2-priced goods and are thus burdened more than those with high incomes. However, the additional costs now incurred will mainly benefit younger and future generations.*'.

[20] Please see the appendix A.2 for all versions of survey text in the original German version.

Dabei müssen Personen mit geringem Einkommen einen größeren Anteil ihres Einkommens für CO_2 bepreiste Güter aufwenden und werden dadurch stärker belastet als Gutverdienende.

[Priming treatment = Generation and Economic, Court treatment = Control]

Die jetzt anfallenden zusätzlichen Kosten kommen dabei vor allem den jüngeren und zukünftigen Generationen zugute. Allerdings müssen Personen mit geringem Einkommen einen größeren Anteil ihres Einkommens für CO_2 bepreiste Güter aufwenden und werden dadurch stärker belastet als Gutverdienende.

[Priming treatment = Economic and Generation, Court treatment = Control]

Dabei müssen Personen mit geringem Einkommen einen größeren Anteil ihres Einkommens für CO_2 bepreiste Güter aufwenden und werden dadurch stärker belastet als Gutverdienende. Allerdings kommen die jetzt anfallenden zusätzlichen Kosten dabei vor allem den jüngeren und zukünftigen Generationen zugute.

[Priming treatment = Control, Court treatment = Control]

[Empty]

[Priming treatment = Control, Court treatment = Treated]

Das höchste deutsche Gericht, das Bundesverfassungsgericht, hat 2021 zudem entschieden, dass der Staat zu umfassenden Klimaschutzmaßnahmen verpflichtet ist.

[Priming treatment = Generation, Court treatment = Treated]

Die jetzt anfallenden zusätzlichen Kosten kommen dabei vor allem den jüngeren und zukünftigen Generationen zugute.

Das höchste deutsche Gericht, das Bundesverfassungsgericht, hat 2021 zudem entschieden, dass der Staat zu umfassenden Klimaschutzmaßnahmen verpflichtet ist.

[Priming treatment = Economic, Court treatment = Treated]

Dabei müssen Personen mit geringem Einkommen einen größeren Anteil ihres Einkommens für CO_2 bepreiste Güter aufwenden und werden dadurch stärker belastet als Gutverdienende.

Das höchste deutsche Gericht, das Bundesverfassungsgericht, hat 2021 zudem entschieden, dass der Staat zu umfassenden Klimaschutzmaßnahmen verpflichtet ist.

[Priming treatment = Generation and Economic, Court treatment = Treated]

Die jetzt anfallenden zusätzlichen Kosten kommen dabei vor allem den jüngeren und zukünftigen Generationen zugute. Allerdings müssen Personen mit geringem Einkommen einen größeren Anteil ihres Einkommens für CO_2 bepreiste Güter aufwenden und werden dadurch stärker belastet als Gutverdienende.

Das höchste deutsche Gericht, das Bundesverfassungsgericht, hat 2021 zudem entschieden, dass der Staat zu umfassenden Klimaschutzmaßnahmen verpflichtet ist.

[Priming treatment = Economic and Generation, Court treatment = Treated]

Dabei müssen Personen mit geringem Einkommen einen größeren Anteil ihres Einkommens für CO_2 bepreiste Güter aufwenden und werden dadurch stärker belastet als Gutverdienende. Allerdings kommen die jetzt anfallenden zusätzlichen Kosten dabei vor allem den jüngeren und zukünftigen Generationen zugute.

Das höchste deutsche Gericht, das Bundesverfassungsgericht, hat 2021 zudem entschieden, dass der Staat zu umfassenden Klimaschutzmaßnahmen verpflichtet ist.

A.3. Balance checks for priming treatments

Table S1. Balance check for the court treatment.

	p-value
Gender	.7131
Age	.7657
Education	.911
Migration background	.5085
Left-Right	.4851
Partisanship	.1087
Trust(general)	.5022
Political trust	.6334
Household size	.8019
Income(categorical)	.4943
Wealth estimate	.8157
East Germany	.8576
Bundesland	.9068
Children	.6057

Note: The table displays the *p*-values of Kruskal–Wallis equality-of-populations rank tests, which compare the distribution of individual background characteristics across respondent samples in the experimental question treatment.

Table S2. Balance checks for the economic and generational treatment.

	p-value
Gender	.9359
Age	.9047
Education	.8892
Migration background	.793
Left-Right	.6927
Partisanship	.1172
Trust(general)	.6658
Political trust	.6096
Household size	.8255
Income(categorical)	.9877
Wealth estimate	.4922
East Germany	.474
Bundesland	.7927
Children	.8866

Note: The table displays the *p*-values of Kruskal–Wallis equality-of-populations rank tests, which compare the distribution of individual background characteristics across respondent samples in the experimental question treatment.

A.4. Effect of priming treatment on policy support

Table S3. Linear regression tables for the effect of the priming on policy support.

	1	2	3	4
Gen.	.043	.063**	.096	.110*
	(.032)	(.028)	(.071)	(.060)
Econ.	–.147***	–.106***	–.295***	–.261***
	(.031)	(.028)	(.068)	(.058)
Gen. + Econ.	–.074*	–.056	–.143*	–.110
	(.038)	(.034)	(.082)	(.069)
Econ. + Gen.	–.119***	–.095***	–.218	–.224
	(.040)	(.035)	(.082)	(.071)
Control & Court	.071**	.070**	.132*	.139**
	(.031)	(.028)	(.070)	(.059)
Gen. & Court	.061*	.073***	.121*	.136**
	(.032)	(.028)	(.068)	(.057)
Econ. & Court	–.096***	–.052*	–.157**	–.138**
	(.032)	(.030)	(.069)	(.059)
Gen. + Econ. & Court	–.026	–.016	–.020	–.030
	(.040)	(.035)	(.085)	(.072)
Econ. + Gen. & Court	–.082**	–.042	–.127	–.052
	(.040)	(.035)	(.082)	(.070)
Woman		–.008		–.027
		(.015)		(.030)
Age		–.000		–.001
		(.000)		(.001)
Medium education		.019		.049
		(.020)		(.039)
Higher education		.108***		.236***
		(.021)		(.042)
Migration background		–.016		–.077
		(.029)		(.054)
CDU/CSU		–.081***		–.168***
		(.028)		(.050)
Grüne		.205***		.570***
		(.024)		(.051)
FDP		–.036		–.122*
		(.038)		(.073)
AfD		–.191***		–.517***
		(.032)		(.067)
Die Linke		–.035		–.015
		(.040)		(.078)
Other/missing		–.089***		–.157***
		(.028)		(.048)
Center		–.110***		–.276***
		(.020)		(.041)
Right		–.196***		–.56***
		(.028)		(.063)
Trust (general)		.011***		.026***
		(.003)		(.007)
Political trust		.056***		.141***
		(.004)		(.009)
Household size		–.004		.001
		(.007)		(.015)
Former East/West Germany		–.047**		–.127***
		(.020)		(.042)
Von 1.000 bis unter 1.450 Euro netto		–.034		–.053
		(.036)		(.073)

(Continued.)

Table S3. (Continued.)

	1	2	3	4
Von 1.450 bis unter 1.800 Euro netto		–.078**		–.131**
		(.037)		(.074)
Von 1.800 bis unter 2.200 Euro netto		–.034		–.069
		(.035)		(.070)
Von 2.200 bis unter 2.600 Euro netto		–.029		–.048
		(.035)		(.070)
Von 2.600 bis unter 3.000 Euro netto		–.028		–.111
		(.040)		(.084)
Von 3.000 bis unter 3.650 Euro netto		–.087***		–.165**
		(.034)		(.070)
Von 3.650 bis unter 4.500 Euro netto		–.039		–.097
		(.037)		(.076)
Von 4.500 bis unter 5.700 Euro netto		–.029		–.066
		(.036)		(.075)
5.700 Euro oder mehr		–.062		–.136
		(.039)		(.086)
Constant	.515***	.390***	2.998***	2.692***
	(.022)	(.054)	(.050)	(.112)
Control mean	.527	.527	2.998	2.998
Observations	3931	3417	5296	5296

Note: The table displays the results of the estimated linear regression model informing figure 2, thereby including the distinction between the order effect for the mixed generation and economic prime groups. For the outcome variable in models 1 and 2 we use a dummy version of the policy acceptance variable that is equal to 1 if the respondent chooses option 4 ('Agree') or 5 ('Fully agree'), and 0 otherwise (excluding the middle category as missing). Models 3 and 4 use the full range of the policy acceptance variable (on a scale from 1 'Do not agree at all' to 5 'Fully agree'). Model 3 corresponds to the data used to create figure 2, and models 1 and 2 are included to aid in the interpretation of effect sizes. See section 3.2 for the control variables used. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

A.5. Interaction effects of information treatments

Table S4. Linear regression tables for the interaction effects of the information treatments.

	1	2	3	4
Econ.	–.292***	–.269***	–.281***	–.242***
	(.047)	(.041)	(.067)	(.057)
Gen.	.033	.039	.099	.108*
	(.048)	(.040)	(.069)	(.058)
Econ. × Gen.	.065	.056	.013	–.012
	(.066)	(.057)	(.094)	(.080)
Court treatment			.143**	.157***
			(.068)	(.057)
Econ. × court treatment			–.014	–.047
			(.094)	(.081)
Gen. × court treatment			–.128	–.136*
			(.095)	(.080)
Econ. × Gen. × court treatment			.095	.130
			(.132)	(.114)
Gender		–.027		–.026
		(.029)		(.029)
Age		–.001		–.001
		(.001)		(.001)
Education		.126***		.127***
		(.021)		(.020)
Migration background		–.067		–.070
		(.054)		(.054)
CDU/CSU		–.178***		–.181***
		(.049)		(.049)

(Continued.)

Table S4. (Continued.)

	1	2	3	4
Grüne		.579***		.575***
		(.050)		(.050)
FDP		–.115		–.119*
		(.072)		(.072)
AfD		–.534***		–.539***
		(.066)		(.066)
Die Linke		–.011		–.019
		(.077)		(.077)
Other/missing		–.145***		–.148***
		(.047)		(.047)
Center		–.266***		–.266***
		(.040)		(.040)
Right		–.534***		–.534***
		(.062)		(.062)
Trust (general)		.028***		.027***
		(.007)		(.007)
Political trust		.141***		.141***
		(.008)		(.008)
Household size		–.000		–.000
		(.015)		(.015)
Former East/West Germany		–.152***		–.152***
		(.040)		(.040)
From 1.000 to 1.450 Euro		–.064		–.063
		(.073)		(.073)
From 1.450 to 1.800 Euro		–.139*		–.143*
		(.074)		(.074)
From 1.800 to 2.200 Euro		–.080		–.080
		(.070)		(.070)
From 2.200 to 2.600 Euro		–.056		–.060
		(.070)		(.070)
From 2.600 to 3.000 Euro		–.123		–.124
		(.084)		(.084)
From 3.000 to 3.650 Euro		–.174**		–.176**
		(.069)		(.069)
From 3.650 to 4.500 Euro		–.108		–.110
		(.075)		(.075)
From 4.500 to 5.700 Euro		–.074		–.077
		(.074)		(.074)
5.700 Euro or more		–.141*		–.143*
		(.085)		(.086)
Missing		–.142		–.149*
		(.086)		(.087)
Constant	3.061***	2.625***	2.988***	2.548***
	(.034)	(.122)	(.049)	(.124)
Control mean	2.963	2.988	2.963	2.988
Observations	5560	5560	5560	5560

Note: The table displays the results of linear regressions. The outcome variable we use is policy acceptance, and asks whether the respondent support the carbon trading policy on a scale from 1 ('Do not agree at all') to 5 ('Fully agree'). In columns 1-4 the results are from interaction models where each treatment group is interacted, whereas columns 5-6 display the results of the treatment effect without interaction models. Models 2, 4 and 6 include control variables. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

A.6. Interaction between Econ. treatment and HH income

Table S5. Linear regression tables for the interaction effect between economic treatment and HH income.

	1	2
Econ.	–.246*	–.278**
	(.142)	(.117)
Under 1.000 Euro	–.157	.116
	(.138)	(.122)
From 1.000 to 1.450 Euro	–.274**	.068
	(.128)	(.111)
From 1.450 to 1.800 Euro	–.250*	–.009
	(.133)	(.113)
From 1.800 to 2.200 Euro	–.183	.050
	(.127)	(.107)
From 2.200 to 2.600 Euro	–.101	.078
	(.125)	(.104)
From 2.600 to 3.000 Euro	–.075	.011
	(.146)	(.122)
From 3.000 to 3.650 Euro	–.136	–.049
	(.124)	(.102)
From 3.650 to 4.500 Euro	–.055	.037
	(.133)	(.109)
From 4.500 to 5.700 Euro	.019	.077
	(.129)	(.106)
Missing	–.288**	–.082
	(.146)	(.122)
Econ. × Under 1.000 Euro	–.027	.054
	(.188)	(.163)
Econ. × From 1.000 to 1.450 Euro	.119	.029
	(.175)	(.149)
Econ. × From 1.450 to 1.800 Euro	–.041	.036
	(.178)	(.150)
Econ. × From 1.800 to 2.200 Euro	–.015	.040
	(.170)	(.143)
Econ. × From 2.200 to 2.600 Euro	.001	.028
	(.170)	(.142)
Econ. × From 2.600 to 3.000 Euro	–.065	.032
	(.204)	(.169)
Econ. × From 3.000 to 3.650 Euro	–.092	.049
	(.167)	(.139)
Econ. × From 3.650 to 4.500 Euro	–.036	.010
	(.181)	(.150)
Econ. × From 4.500 to 5.700 Euro	–.034	–.004
	(.176)	(.146)
Econ. × Missing	.090	.200
	(.208)	(.173)
Constant	3.213***	2.647***
	(.106)	(.138)
Controls	No	Yes
Control mean	2.963	2.963
Observations	5560	5560

Note: The table displays the results of linear regressions, where the economic prime group is interacted with net household income. The outcome variable we use is policy acceptance, and asks whether the respondent support the carbon trading policy on a scale from 1 (‘Do not agree at all’) to 5 (‘Fully agree’). ‘Econ.’ is a dummy variable indicating whether the respondent received the economic prime treatment. The household income variable ranges from households earning below 1000 Euro net per month, to households earning above 5.700 Euro. This latter category (highest earners) is set as the baseline (comparison group). ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

A.7. Priming effects by political ideology

Table S6. Linear regression tables for the priming effect by political ideology.

	Left	Left	Centre	Centre	Right	Right
Gen.	.078	.108	.060	.064	.344*	.299*
	(.139)	(.118)	(.080)	(.071)	(.197)	(.170)
Econ.	–.532***	–.483***	–.209***	–.197***	–.165	–.090
	(.154)	(.141)	(.076)	(.068)	(.177)	(.165)
Gen. & Econ.	–.351**	–.328***	–.202***	–.157**	.116	.232
	(.138)	(.120)	(.077)	(.068)	(.189)	(.160)
Gen. & Court	–.040	.002	.108	.139**	.274	.258
	(.135)	(.113)	(.077)	(.069)	(.187)	(.171)
Econ. & Court	–.384**	–.314**	–.154**	–.160**	.248	.271
	(.155)	(.130)	(.076)	(.069)	(.193)	(.182)
Gen., Econ. & Court	–.095	–.062	–.102	–.087	.103	.211
	(.141)	(.122)	(.076)	(.068)	(.192)	(.173)
Control & Court	.011	.073	.156**	.147**	.275	.321*
	(.141)	(.119)	(.078)	(.070)	(.188)	(.177)
Constant	3.672***	3.084***	2.956***	2.279***	2.112***	2.792***
	(.102)	(.231)	(.055)	(.132)	(.134)	(.344)
Controls	No	Yes	No	Yes	No	Yes
Control mean	3.672	3.672	2.955	2.955	2.112	2.112
Observations	1097	1097	3758	3758	705	705

Note: The table displays the results of linear regression models informing figure 4. The outcome variable we use is policy acceptance, and asks whether the respondent support the carbon trading policy on a scale from 1 (‘Do not agree at all’) to 5 (‘Fully agree’). Columns 1–2 reduce the sample to the respondents who place themselves on the left (1–4 on an 11-point left-right scale). Columns 3–4 reduce the sample to respondents who place themselves in the centre (5–7 on the 11-point left-right scale). Columns 5–6 reduce the sample to respondents who place themselves on the right (8–11 on the 11-point left-right scale). Columns 1, 3 and 5 produce the results of the baseline regression, whereas results in columns 2, 4 and 6 include control variables. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

A.8. Priming effects by party affiliation

Table S7. Linear regression tables for the priming effect by party affiliation.

	SPD	CDU/CSU	Grüne	FDP	AfD	Linke	Other
Gen.	.223*	.109	.050	.506**	.128	–.196	.006
	(.131)	(.131)	(.121)	(.251)	(.204)	(.281)	(.116)
Econ.	–.352***	–.179	–.531***	.545**	–.113	–.246	–.319***
	(.134)	(.134)	(.142)	(.230)	(.194)	(.326)	(.106)
Gen. & Econ.	–.229*	–.037	–.329**	.212	–.025	–.337	–.175
	(.133)	(.132)	(.131)	(.227)	(.185)	(.295)	(.109)
Gen. & Court	.053	.224*	.075	.699***	.173	–.050	.015
	(.124)	(.130)	(.124)	(.231)	(.201)	(.267)	(.110)
Econ. & Court	–.099	–.050	–.483***	.393*	–.036	–.574*	–.094
	(.135)	(.143)	(.135)	(.230)	(.196)	(.292)	(.108)
Gen., Econ. & Court	–.222	–.147	–.082	.652***	–.028	–.369	.025
	(.137)	(.125)	(.130)	(.244)	(.186)	(.273)	(.116)
Control & Court	.103	.240*	–.042	.484**	.022	.182	.202*
	(.146)	(.131)	(.125)	(.236)	(.196)	(.264)	(.110)
Constant	2.672***	2.183***	3.427***	2.180***	2.183***	3.327***	2.602***
	(.253)	(.274)	(.259)	(.532)	(.388)	(.392)	(.198)
Controls							
Control mean	3.193	2.785	4.089	2.560	2.049	3.259	2.754
Observations	880	1099	835	369	619	296	1462

Note: The table displays the results of linear regressions of the baseline model with controls, by party affiliation. The outcome variable we use is policy acceptance, and asks whether the respondent support the carbon trading policy on a scale from 1 (‘Do not agree at all’) to 5 (‘Fully agree’). The columns limit respondents who identify with the SPD (Social Democratic Party), CDU/CSU (Christian Democratic Union), Grüne (Alliance 90/The Greens) FDP (Free Democratic Party) AfD (Alternative for Germany) Linke (The Left) and others (missing or other party affiliations), respectively. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

A.9. T-test results of order effects

Table S8. T-test results of order effects.

	Gen. + Econ.	Econ. + Gen.	*t*	*p*
Mean of policy acceptance	2.885	2.787	1.583	.114
Confidence interval	(2.798–2.972)	(2.703–2.872)		
Observations	1532			
Degrees of freedom	1530			

Note: The table displays the (two-sided) t-test results (with a 95% confidence level) of the difference between respondents who received a generation prime first, and then an economic prime, and vise versa.

A.10. T-test results for court treatment by political ideology

Table S9. T-test results for court treatment by political ideology.

	Econ.	Econ. + Court	*t*	*p*
Mean of policy acceptance	1.938	2.360	2.364	.0192
Confidence interval	(1.710–2.165)	(2.084–2.637)		
Observations	182			
Degrees of freedom	180			

Note: The table displays the (two-sided) t-test results (with a 95 % confidence level) of the difference between respondents with a political ideology on the right of the spectrum who received the economic inequality treatment with and without the court treatment.

A.11. Marginal effect plot of triple interaction in table A.5

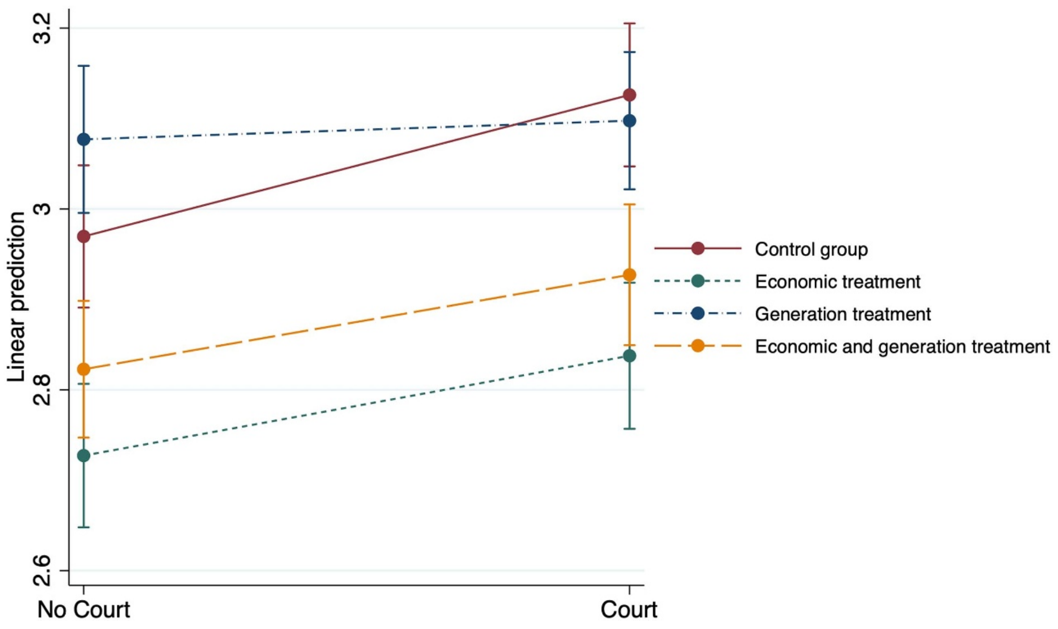


Figure S2. Predictive Margins of Economic Treatment with 95% CIs.
Note: This figure is based on binary variables, and as such, the (dotted) lines are left to visualize the difference between respondents that receive the court treatment, versus the control.

A.12. Distribution of trust items

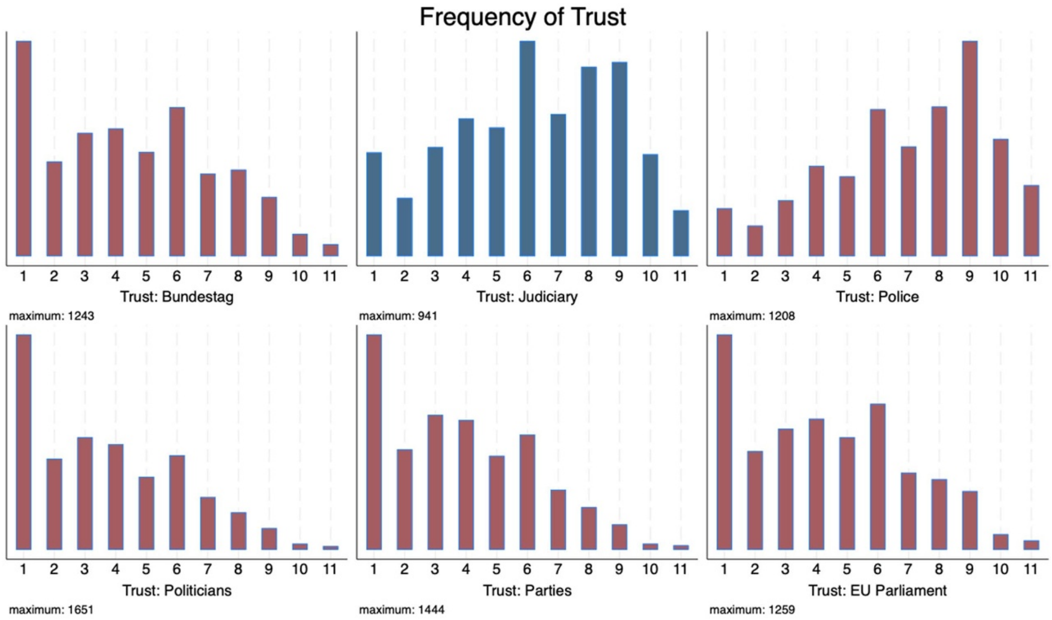


Figure S3. Frequency of trust by different trust items.
Note: The figure shows the distribution of responses to the trust items in the survey, respectively trust in the German Federal government (Bundestag), the judiciary, police, politicians, political parties and the EU parliament.

A.13. Additional Heterogeneity Checks

A.13.1. Gender

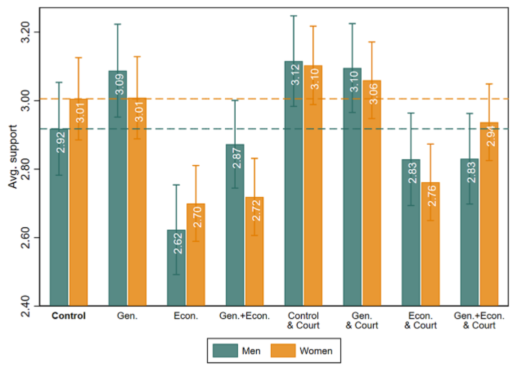


Figure S4. Avg. Acceptance of CO_2 Pricing.
Note: The figure shows the mean of respondents' policy support (on a scale from 1 to 5) with a 95 % confidence interval for men and women.

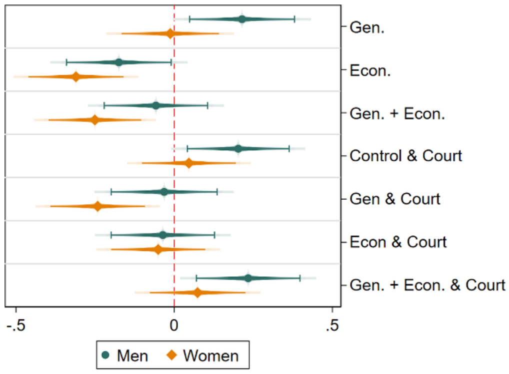


Figure S5. Priming Effect with Controls.
Note: The figure plots the priming effects we get from running a linear regression on our policy support variable for each gender separately. We are controlling for all other independent variables and use the control group as the baseline category.

A.13.2. Age

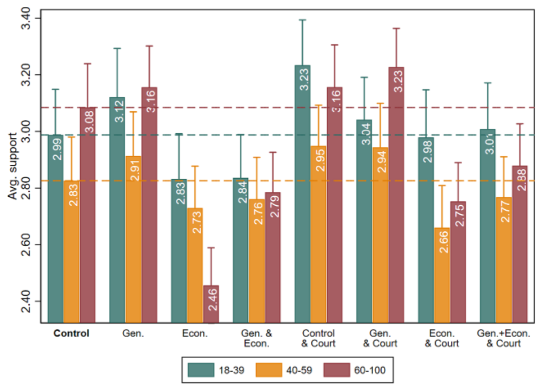


Figure S6. Avg. Acceptance of CO_2 Pricing.
Note: The figure shows the mean of respondents' policy support (on a scale from 1 to 5) with a 95 % confidence interval for three age groups.

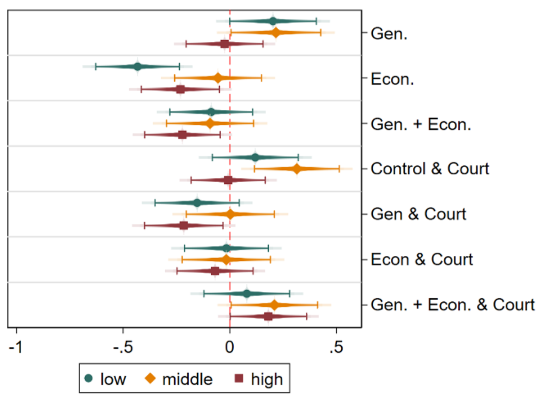


Figure S7. Priming Effect with Controls.
Note: The figure plots the priming effects we get from running a linear regression on our policy support variable by age groups. We are controlling for all other independent variables and use the control group as the baseline category.

A.13.3. Education

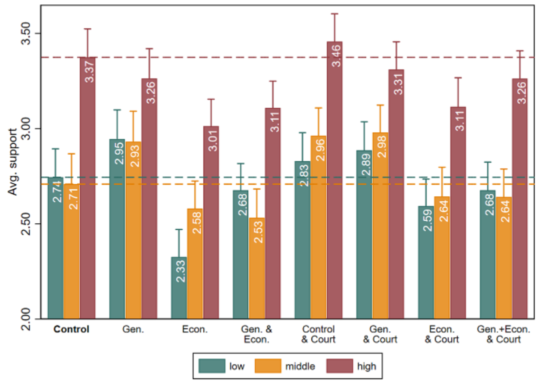


Figure S8. Avg. Acceptance of CO_2 Pricing.
Note: The figure shows the mean of respondents' policy support (on a scale from 1 to 5) with a 95% confidence interval for different levels of education.

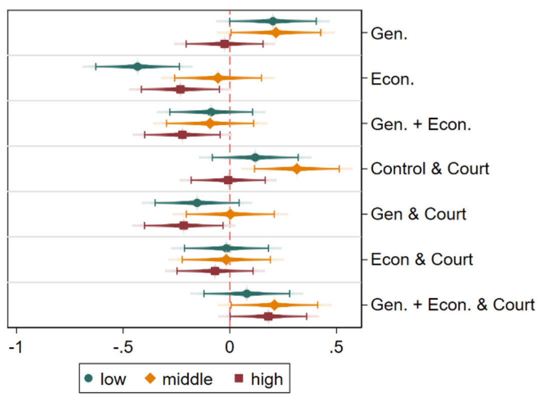


Figure S9. Priming Effect with Controls.
Note: The figure plots the priming effects we get from running a linear regression on our policy support variable by educational categories. We are controlling for all other independent variables and use the control group as the baseline category.

A.13.4. Children in Household

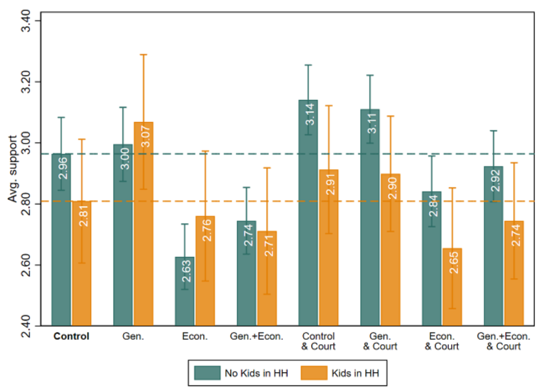


Figure S10. Avg. Acceptance of CO_2 Pricing.
Note: The figure shows the mean of respondents' policy support (on a scale from 1 to 5) with a 95 % confidence interval, comparing respondents with kids in their households (N = 3644) vs. those without (N = 1211).

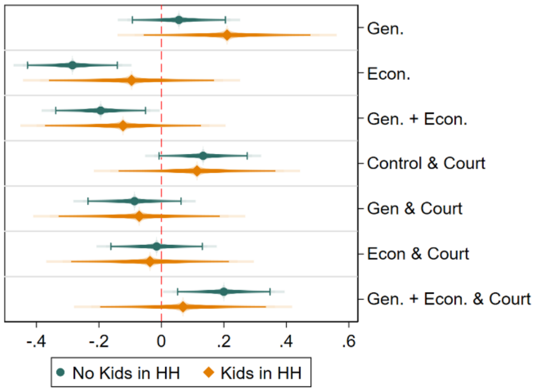


Figure S11. Priming Effect with Controls.
Note: The figure plots the priming effects we get from running a linear regression on our policy support variable for respondents with and without children in their household. We are controlling for all other independent variables and use the control group as the baseline category. Unfortunately we do not have any information on whether our respondents are parents in general, but only on whether children live in their household. We are therefore careful with interpreting these results.

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