



Deliverable 2.2 Citizen survey: Assessing participation in just sustainability transition policies

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Executive summary

Sustainable transition measures require civic commitment to socio-economic shifts that can be particularly far-reaching in some territories, but to what extent are citizens' aware of the climate change policies that affect them and are they willing to incur some of the costs associated with such transitions? Furthermore, what do they think with regard to participating in the formulation of these policies and what factors shape their perceptions? This report presents the results of a comprehensive survey of citizens across five EU countries and "Just Transition Fund" (JTF) regions, exploring these crucial questions. The report is structured around four specific research questions: citizens' awareness of climate change policies and positions on climate issues; how citizens' attitudes regarding participation in the policy process are structured; what factors shape these attitudes, especially among the least engaged, and lastly what are citizens' preferences regarding how participatory processes should be designed.

The survey reveals significant disparities in awareness of EU climate policies. It identifies two key dimensions of climate attitudes: concern and willingness to bear transition costs. Interestingly, high concern does not necessarily translate into a willingness to incur personal costs, highlighting the challenge of converting environmental concern into actionable commitment.

The analysis of participatory attitudes confirms the validity of the DUST ability/willingness model, albeit with some adjustments. It reveals a three-dimensional structure of participatory attitudes: "Able" (internal political efficacy), "Unable" (external barriers), and "Unwilling" (negative perceptions of the institutional setting). These dimensions show that citizens' attitudes are multi-faceted and influenced by both internal and external factors.

The study of factors shaping participatory attitudes indicates significant roles for socio-demographic variables like age, gender, education, and income, as well as political factors and social capital indicators -most notably institutional trust and to a lesser extent civic engagement. These findings align with theoretical expectations and highlight areas for policy intervention.

Lastly, the survey's conjoint experiment indicates that citizens value inclusive, transparent, and impactful participatory processes, preferring open recruitment procedures, convening authorities from the local level, and meaningful policy impacts. To enhance participation, policies should aim to boost citizens' confidence, create supportive environments, and tailor approaches to engage underrepresented groups.

1. Introduction

As the world grapples with the pressing challenges of climate change, the need for sustainable transition measures has never been more urgent. These measures often necessitate significant socio-economic shifts that require the active participation and commitment of citizens. Understanding public awareness of climate change policies and their willingness to support and engage in these transitions is crucial for the successful implementation of sustainable policies. Additionally, examining how citizens perceive their role in the policy-making process and identifying the factors that influence these perceptions can provide valuable insights for policymakers aiming to foster more inclusive and effective governance. To this end, this report presents the findings of the DUST survey, a comprehensive study conducted across five EU countries, with a particular focus on “Just Transition Fund” (JTF) regions.

1.1. Background

This report represents the second deliverable (D2.2) of Work Package 2 (WP2) of the ‘Democratising Just Sustainability Transitions’ (DUST) project. The core objective of the DUST project is to develop a more sophisticated and innovative understanding of how territorial responses to just sustainability transitions can be democratised to maximise citizen participation and increase trust in democratic governance. At the heart of this mission lies the commitment to foster proactive and strategic citizen engagement in sustainability transitions in structurally weak European (EU) regions dependent on energy intensive industries.

To achieve this objective, the project employs an innovative mix of research methods to investigate the factors, digital and non-digital mechanisms, and institutional frameworks that have enhanced or hindered citizen participation in specific case study regions. As part of this commitment, the population survey conducted within the scope of WP2 sheds light on the perceptions and expectations of citizens with respect to just transition policies and their prospective participation therein.

WP2 entitled ‘Measuring the democratic quality of citizen participation in place-based policies for just sustainability transitions’ has the overall aim of assessing the performance of citizen participation in place-based policies for just sustainability transitions across multiple case studies from different regional institutional contexts across the EU. This part of the project focuses on examining the depth and intensity of participation in the formulation and implementation of sustainability transition policies within a multi-level governance setting (MLG). To tackle this, the project utilizes a blend of diverse quantitative and qualitative methodologies outlined in detail in DUST D1.2.

Within WP2’s scope, three key methodological frameworks work in tandem, reinforcing each other. Firstly, the STEP (Stakeholder Engagement and Participation in Policy-Making Processes) index serves as a tool to assess citizen participation performance in just transition policies across eight distinct case study regions. Secondly, the DUST survey gauges citizens’ perceptions, expectations, and capacity to engage in policy formulation and implementation across the five case study countries. Lastly, APES aims to appraise the inclusivity of participation throughout the policy cycle.

1.2. Purpose of the DUST survey and structure of the report

The survey provides insights for the STEP Index and generate findings regarding the factors conditioning citizens' attitudes towards participation and engagement in the policy making process, including community-based factors like trust and social capital, as well as institutional factors such as information provision and perceived responsiveness of authorities. WP2 results will be further synthesized in D2.4, providing guidance for WP3 on opportunities for promoting active subsidiarity and on factors that matter for the participation of marginalised communities. Specifically, this report aligns exactly with the model set out for producing the quantitative synthesis of findings in D3.4.

This deliverable D2.2 focuses specifically on the outcomes of the citizen survey, providing quantitative insights into citizen attitudes towards engagement with the policy process. In doing so, the survey helps to identify the types of groups that are able/unable or willing/unwilling to be engaged in the transitions policies, refining the identification and understanding of the least engaged communities. These findings set the stage for subsequent in-depth exploration via WP3's qualitative face-to-face research stage.

The purpose of the DUST survey conducted across five EU countries is four-fold: (1) assess citizens' awareness of climate policy and their positions on climate change issues; (2) uncover how citizens' participatory attitudes are structured, focusing on their ability and willingness to engage in the policy-making process (3) identify the factors associated with their participatory attitudes, with a particular focus on the least engaged groups; and (4) explore citizens' preferences regarding how participatory processes, such as citizens' panels, should be organised. These four themes structure the specific research questions at the core of this report's empirical analysis.

In this vein, the questionnaire has been designed to capture key variables influencing citizens' perceptions of their capacity and willingness to engage, which are both assumed to shape participatory attitudes (as detailed in Deliverable D1.1). Beyond usual covariates used in political survey research —like socio-demographics, social capital, and political attitudes— specific themes such as attitudes towards climate change policies were also incorporated. Furthermore, the survey employs a dual-structured sampling method, contrasting responses from national samples with those of citizens from JTF regions, to examine differences in democratic participation attitudes. This approach provides a comprehensive analysis of participatory attitudes in JTF regions, which can serve as an evidence-based instrument for developing targeted strategies to bolster democratic engagement, especially in the realm of Just sustainability transitions.

The report is structured as follows. The next chapter provides an overview of the conceptualisation informing the DUST survey while chapter 3 explains the survey methodology, specifically elaborating on its sampling approach and modular design. A dedicated section to the climate change module, highlighting similarities and differences across regions and countries, is presented in chapter 4. In chapter 5 a rigorous scaling analysis employing a variety of methodologies is used to validate the scales underpinning the DUST ability/willingness model. The results of the scaling analysis are the basis for the subsequent two empirical analysis. In the first of these, Chapter 5, a subgroup analysis is performed on the JTF regions, with special attention to identifying factors associated with Least Engaged Communities (LEC). Chapter 6 applies the same regression techniques to the pooled data where all respondents can be

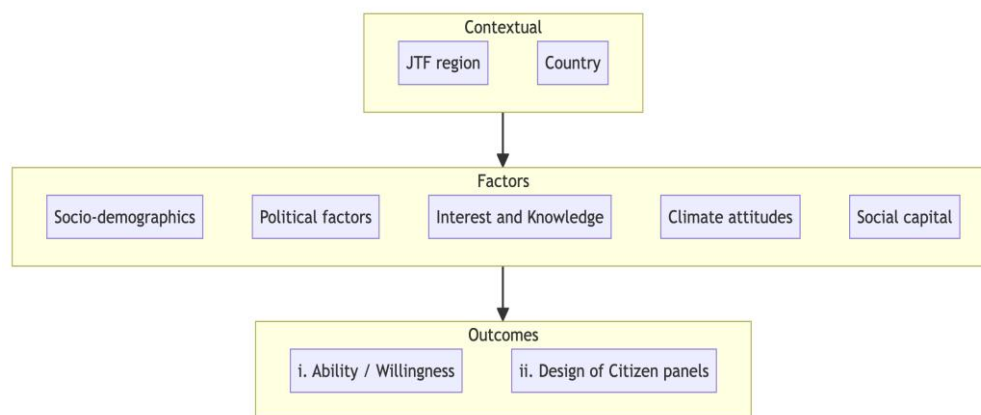
compared and more general insights regarding the factors driving participatory attitudes can be derived for the broader European context. In the penultimate chapter the results of the DUST survey's field experiment are presented and shed light on citizens' preferences regarding the design of participatory processes. The Conclusion wraps up some of the main findings, while extensive Annexes provide further details on subgroup findings and methodological choices.

2. Conceptualisation

This chapter introduces some of the key concepts and modules that guided the design of the DUST survey. The main elements of the conceptualisation and the operationalisation of the key concepts in terms of survey modules is briefly reviewed. In doing so, the linkages between the modules covering the outcome variables, the explanatory factors and the contextual parameters are clarified. Lastly, a set of concrete research questions that structure the subsequent empirical analysis and the broader research objectives of this report are outlined.

The DUST conceptualisation draws on the theoretical model outlined in D1.1 and the methodological approach in D1.2. As detailed in these documents, the DUST analytical framework draws inspiration from the approaches of Lowndes, Pratchett, and Stoker (2006) and Ianniello et al. (2019), which categorize three key factors influencing participation: community, policy, and contextual factors. Community variables pertain to individual characteristics, such as skills, capacities, interest, and trust, which determine whether citizens are ‘unable’ or ‘unwilling’ to participate. Policy variables encompass attitudes toward policymaking bodies and the organization and implementation of participatory processes. Contextual variables are specific to geographic and political factors.

Figure 1: Conceptual model of the relationship between explanatory factors, potential contextual effects related to regional and national context, and the outcome variables studied.



While the specific terminology of Lowndes, Pratchett, and Stoker (2006) or Ianniello et al. (2019) is not overtly used throughout the modules, their concepts are implicitly integrated into the survey’s design which is depicted in Figure 1. The community and policy variables they describe are predominantly reflected in the explanatory factors and outcome variables of the survey, as will be evident in the following discussion of the modules in Figure 1. To summarise, the conceptual model employed in this report aligns seamlessly with the model for synthesising the quantitative findings employed in D3.4 where the dependent variable is defined as “deliberative governance” and the independent variables are the factors and contextual parameter outlined in Figure 1.

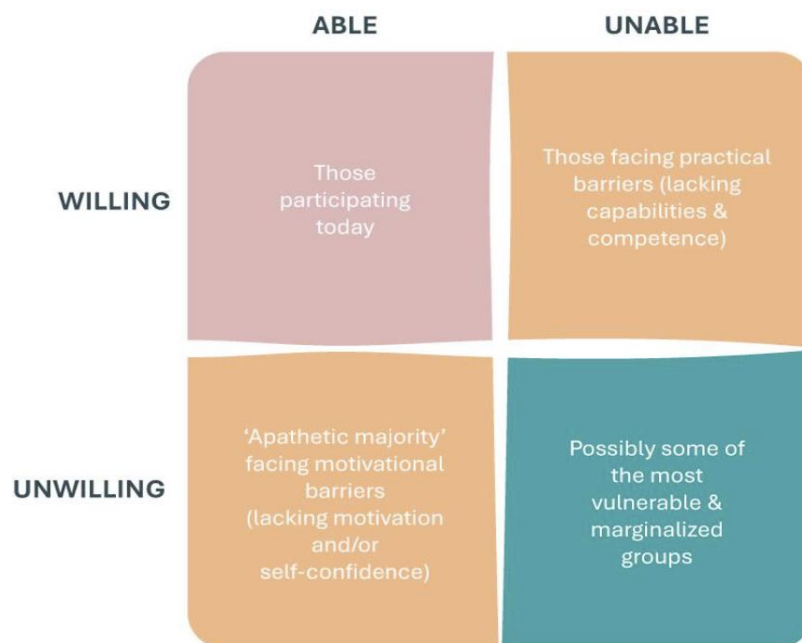
2.1. The outcome variables

We begin with the “Outcomes” box in Figure 1, which identifies the main outcome variables of this study. There are two main dimensions in this box: i) the ‘Ability/Willingness’ matrix underpinning the DUST conceptual framework and ii) the ‘design of citizens’ panels’. We examine each in turn.

2.1.1. Ability and willingness

The ability/willingness model is a cornerstone of the DUST conceptual framework as detailed in Deliverable D1.1. This model, influenced by academic and OECD research, distinguishes between two primary groups of non-participants: those able but unwilling to engage, and those unable to participate despite their willingness. The DUST project refines this model to create a binary matrix of able/unable and willing/unwilling, depicted in Figure 2.

Figure 2: The DUST analytical framework for distinguishing least engaged communities



The ability/willingness module in the DUST survey assesses the intrinsic and extrinsic factors influencing individuals’ orientations toward participation, as well as the barriers—both real and perceived—that hinder engagement. This complex array of opinions and beliefs is operationalized through a set of 10 survey items collectively referred to as citizens’ attitudes toward participation in the policy process. It is crucial to clarify the technical use of the term attitudes in this context and in this report.

The study of attitudes has been deeply influenced by social psychology literature since the early 20th century. As defined by Zimbardo and Leippe (1991), attitudes are “evaluative dispositions toward some object based upon cognitions, affective reactions, behavioral intentions, and past behaviors.” They are often contrasted with values, which are more central to organizing belief systems. While the distinction between values and attitudes can be blurred—since value

orientations are often measured with attitude items—the key difference lies in attitudes being organized around specific objects or situations. In the DUST survey, the specific situation is the array of opinions, beliefs, and preferences regarding participation in the policy process. We use the shorthand label *participatory attitudes* to describe this complex set of orientations.

2.1.2. Design of citizens' panel

This refers to a module that seeks to measure citizens' preferences regarding how participatory models should be organised. To this end, the DUST survey incorporated a field experiment to identify citizens' preferences regarding the optimal configuration of participatory practices. Specifically, the experimental scenario involved the design of a citizens' panel to be used to inform the policy process. Implemented in a cross-national comparative setting, the experiment draws on and expands earlier efforts in the literature, especially the conjoint framework for analysing deliberative models developed by Goldberg and Bächtiger (2023). The DUST conjoint model measures preferences on various attributes, including how citizen panels should be convened (by citizens, civil society, or politicians), recruitment methods (random selection or self-selection), discussion topics, modes of meeting (online, hybrid, or in-person), and types of outcomes (recommendations or binding outputs).

2.2. Factors shaping participatory outcomes

The 'Factors' box in Figure 1 relates to the explanatory variables and includes five core blocks of variables that are hypothesized to influence participatory attitudes. The blocks and the types of variables therein include:

- *Socio-demographics*: Basic individual attributes such as age, gender, education, and income provide a foundation for understanding variance participatory attitudes.
- *Interest and Knowledge*: Interest in politics and knowledge of the policy process, including awareness of democratic innovations, likely affect attitudes towards participation.
- *Political factors*: Such as ideological orientations and views regarding different types of decision-making models can influence engagement and attitudes towards participation.
- *Social capital*: This block includes variables related to civic attitudes, such as engagement in community and societal matters, as well as levels of trust, both of which are likely to influence the willingness to engage in participatory processes.
- *Climate attitudes*: This block of variables is directly linked to a core component of the DUST research objectives and focuses on beliefs and concerns about climate change and policies to tackle it.

Comparing the relative importance of these variables will help identify the factors that shape attitudes towards participation in the policy process. It should be noted that, with the exception of one module, the Climate attitudes module, all of the factors listed above draw upon standard survey items, which are readily included in cross-national surveys such as the *European Social Survey* or the *European Election Study*. Unlike the other more standard modules, the climate module -as was the Ability/Willingness module- was a new DUST module. It is for this reason that analysis of this module is included as a specific research question in the section below.

2.3. Contextual parameters: JTF regions and cross-national comparisons

In Figure 1, the 'Contextual' box alludes to the influence of geographic and political contexts, such as the country and the Just Transition Fund (JTF) region. Cross-cutting perspectives on JTF regions are investigated in one of the empirical chapters that conducts a sub-group analysis of JTF regions with a focus on identifying the factors associated with attitudes reflective of least engaged communities (LEC). While cross-country differences are likely to be significant, their effects can be taken into account when using pooled data models that combine the five national samples. This empirical strategy is advantageous as it allows for testing whether the impact of being from a JTF region influences participatory attitudes.

2.4. Research questions

The report addresses four main research questions using various complementary quantitative methodologies.

1. How are citizens' attitudes towards climate change structured?

As mentioned above, the climate module -which also includes questions on awareness of climate policies- is a new DUST module. The climate modules include a battery of 10 items, three on policy awareness and seven items on climate change opinions. After exploring some of the cross-country descriptives related to these items, a dimensionality analysis is conducted with a view to using the validated constructs as explanatory factors in the subsequent empirical analysis. This analysis is done in Chapter 4.

2. How are citizens' participatory attitudes structured?

The main goal here is to uncover the dimensional properties of the ability and willingness items fielded in the DUST survey. Two interrelated questions guide this analysis. i) Do the theoretically defined ability/willingness constructs hold up empirically? And, if so, ii) what is the substantive content and structure of the constructs that shape citizens' opinions, beliefs, and perceptions regarding participation in the policy process? These questions are addressed in Chapter 5.

3. What factors drive citizens' participatory attitudes?

After conducting a dimensionality analysis of the ability/willingness items, the validated scales are used as outcome variables to be explained. The focus then shifts to factors such as socio-demographics, political variables, social capital, and climate attitudes. The analysis is conducted on two levels: i) the factors associated with attitudes reflective of least engaged respondents from the JTF regions in Chapter 5; ii) the factors associated with attitudes reflective of least engaged respondents across the wider European context, which is done in Chapter 6.

4. What are citizens' preferences regarding the design of citizen panels?

This research question is addressed through a conjoint analysis on the pooled cross-national samples in Chapter 7. The field experiment reveals citizens' preferences on various attributes, including how citizen panels should be convened (by citizens, civil society, or politicians), recruitment methods (random selection or self-selection), discussion topics, modes of meeting (online, hybrid, or in-person), and types of outcomes (recommendations or binding outputs). A sub-group analysis is also conducted separately for each national sample.

In sum, a combination of regression models are employed to address these research questions with simpler linear regression models preferred for implementing the subgroup and pooled analyses.

3. Survey design

Conducted across five EU countries, the DUST survey was designed to explore how a broad array of factors, including opinions on climate change, shaping participatory attitudes regarding the policy process, particularly in the context of the EU's "Just Transition Fund" regions. To achieve these research objectives the survey employed a dual-structured sampling approach and a comprehensive module design, enabling both broad and targeted analyses.

3.1. Sampling approach

- *Part 1 - National Representative Sample:* Each country's sample comprises 1,000 respondents, representative of the national demographic based on age, gender, and region. This segment aims to provide a broad perspective on national sentiments, forming a baseline for comparative analysis.
- *Part 2 - Over-sampling in "Just Transition Fund" Regions:* An additional element is a targeted focus on "Just Transition Fund" regions with 1,000 respondents per country (except Bulgaria with 400), to deepen insights from these specific areas. Here the objective is to gain nuanced understanding from regions experiencing direct impacts of EU's transition policies, enabling focused examination of localized attitudes. The primary tool for viewing these data is via a DUST interactive dashboard.

3.2. Modules

The survey was structured according to seven main modules:

2. *Socio-Demographics:* Gathers essential demographic information including age, gender, education level, income status, and specific regional details. There is a special emphasis on distinguishing respondents from "Just Transition Fund" regions, facilitating targeted subgroup analyses.
3. *Political factors:* Explores a spectrum of political orientations, delving into general leanings and specific attitudes towards decision-making regimes. It includes indicators of ideological self-placement.
4. *Climate Attitudes:* Evaluates beliefs regarding climate change causality, personal concern levels, and environmental protection versus economic development. It assesses the degree of concern and willingness to accept material trade-offs as well awareness of environmental policies at various governance levels.
5. *Social Capital:* Investigates civic engagement, from participation in voluntary organizations to involvement in local problem-solving. Trust assessments of diverse institutions, ranging from the local to the EU level are also measured.
6. *Political interest and Knowledge:* Measures respondents' levels of interest in politics, knowledge of policy domains and familiarity with democratic innovations, such as citizens' panels.
7. *Participatory Attitudes:* Assesses motivations and barriers influencing civic participation, while also exploring perceptions of participating in the policy-making processes and sentiments towards participation.

8. *Conjoint Field Experiment*: This module aims to measure citizens' preferences regarding the design and organization of a citizens' panels. The field experiment utilizes a conjoint analysis to capture how different attributes of a citizen panel influence preferences.

The survey's dual structure facilitates subgroup analyses, allowing comparisons between general national samples and specific "Just Transition Fund" region respondents. This approach can be used to assess whether geographical and economic contexts, shaped by EU policies, influence participatory attitudes. As well as whether variations in participatory attitudes exist between national samples and citizens from "Just Transition Regions".

Overall, the questionnaire has been carefully structured to enhance respondent engagement and ensure a logical flow of topics, starting with foundational socio-demographic questions and progressively delving into more specific themes.

4. Citizens' attitudes towards climate change

Box 1 Key findings on citizens' attitudes towards climate change

- **Assessment of Climate Attitudes:** The DUST survey included a module on knowledge of climate change policies as well as measuring citizens' levels of concern about climate change and their willingness to assume the costs associated with tackling it.
- **Variation in levels of knowledge of EU climate change policy across JTF Regions:** Levels of awareness of EU-level policies were much higher in Poland and Bulgaria, than their wealthier peers in Germany, Netherland and Sweden.
- **Variations Across JTF Regions:** Significant differences exist among the JTF regions, though this is not surprising given the very different national contexts.
- **Limited variation between JTF regions and national samples:** On the whole, respondents from national samples and those from JTF regions had similar attitudes.
- **Two Distinct Dimensions Identified:** Factor analysis revealed two independent dimensions of climate attitudes—concern over climate change and willingness to incur costs—indicating that these are separate constructs.
- **Lack of Correlation Between Concern and Action:** The findings show that a high level of concern does not necessarily translate into a willingness to accept personal costs, highlighting a gap between environmental concern and commitment.
- **Implications for Policy Design:** Understanding this disconnect is crucial for policymakers. Addressing the gap between concern and willingness to act is essential for enhancing citizen engagement in sustainability transitions

This chapter address research question 1: how are citizens attitudes towards climate change structured? It first explores the climate positions of sub-group respondents from the JTF regions before shifting the comparative lens to the national samples. The aim is to get a better understanding of climate issues, both in terms of awareness of climate policies as well as how opinions on climate change are structured. Since this is a new module in the DUST survey, it is important to explore some of the cross-country trends and validate climate dimensions that could emerge from the analysis and be used as explanatory factors in subsequent empirical analysis, especially as putative factors associated with least engaged groups.

4.1. Awareness of climate change policies

The DUST survey measured citizens awareness of climate change policies at three levels of government. The awareness items were introduced by reminding the respondents that “[across] Europe, governments at different levels of authority have undertaken a variety of policy initiatives

and measures to address climate change”. Citizens were invited to indicate their awareness on a three point scale ranging from “not aware”, “fairly aware”, to “very aware”.

Respondents were queried on their awareness of specific types of policies. For the local level, examples such as installing solar panels or creating green spaces, were mentioned. For the national level, policies such as setting CO2 reduction targets we noted. For the EU level, climate policies in general and the Just Transition Fund was mentioned. Below, we explore the distribution of responses to each of the three levels by combining the aware categories.

Figure 3: Percent of citizens aware of climate change policies at various levels of government (rounded to the nearest integer).

Note: The data is for respondents from the JTF regions within countries.

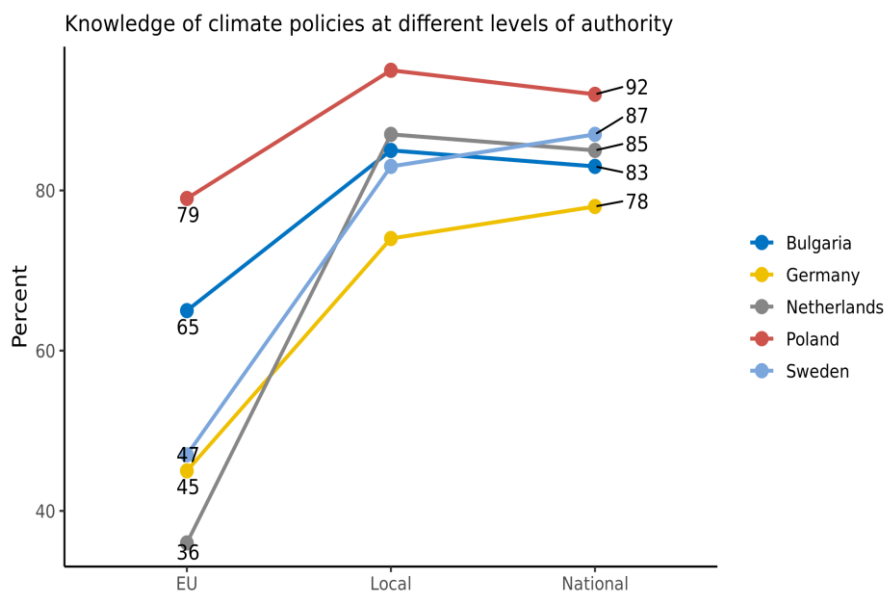


Figure 3 reveals significant differences in awareness of climate policies at different levels of authority in the JTF regions. These differences are being driven by the gap between awareness of EU policies on the one hand, and local and national climate change policies, on the other. As can be seen in Figure 3, the lines connecting local and national policies are quite flat, implying small differences in average levels of awareness. The EU line to local policies, however, is very steep and upward sloping. The Netherlands illustrates this dynamic quite dramatically, with only 36 percent of respondents answering that they are aware of EU climate change policies compared to 85 percent for the national level (and a marginally higher percentage for knowledge of local initiatives).

It is interesting to note that respondents from the three wealthier countries, Germany, Netherlands and Sweden, exhibit much lower rates of EU awareness. The rates of awareness for these three countries are all below the 50 percent point. Respondents in Bulgaria and Poland, by contrast, exhibit significantly higher awareness of EU climate policies than their wealthier peers with 65 and 79 percentage points respectively.

4.2. Attitudes towards climate change

The main focus of the DUST climate module was not on citizen awareness of policies but on their attitudes towards climate change in general. To measure these attitudes, two groups of items focused on different aspect of climate attitudes were included in the DUST questionnaire: (i)

levels of concern about climate change and (ii) willingness to assume the costs of tackling climate change. The climate change module was introduced as follows:

“You may have heard the idea that the world’s climate is changing due to increases in temperature over the past 100 years. In this section, we are interested in your opinions on this topic.”

The climate concern sub-module incorporated three items that measured perceptions of climate change and whether it was caused by human activities, natural causes or a mix of both, as well as two items addressing overall and region-specific levels of concern about climate change respectively. A second battery of items measured the willingness of respondents to assume the trade-off costs implied by tackling climate change.

Table 1: Climate attitude items measured on a 0 to 10 scale

#Type	Scale	Label	Item
1Concern	Natural Human causes	vshumans	Do you think that climate change is caused by human activity, natural processes, or some mix of both?
2Concern	Not concerned vs concerned	concern	In general, how concerned are you about climate change?
3Concern	Not concerned vs concerned	reg_concern	How concerned are you that climate change will affect your region?
4Cost trade-off	Environment Economy	vseco	Would you say that environmental protection should take priority over economic development when the two are in conflict?
5Cost trade-off	Unwilling Willing	vstaxes	Would you be willing to pay higher taxes if it meant more funding for environmentally-friendly initiatives?
6Cost trade-off	Unwilling Willing	vscosts	Would you be willing to accept higher living costs in order to tackle climate change?
7Cost trade-off	Unwilling Willing	vslifestyle	Would you be willing to modify your lifestyle (e.g., eat less meat or fly less) in order to combat climate change?

Table 1 presents the seven climate attitude items, including short label names that are used in the figures below.

Figure 4: Descriptives for the climate attitudes battery (respondents from the JTF regions from each country).

Note: The response scale was measured on a 0:10 point scale.

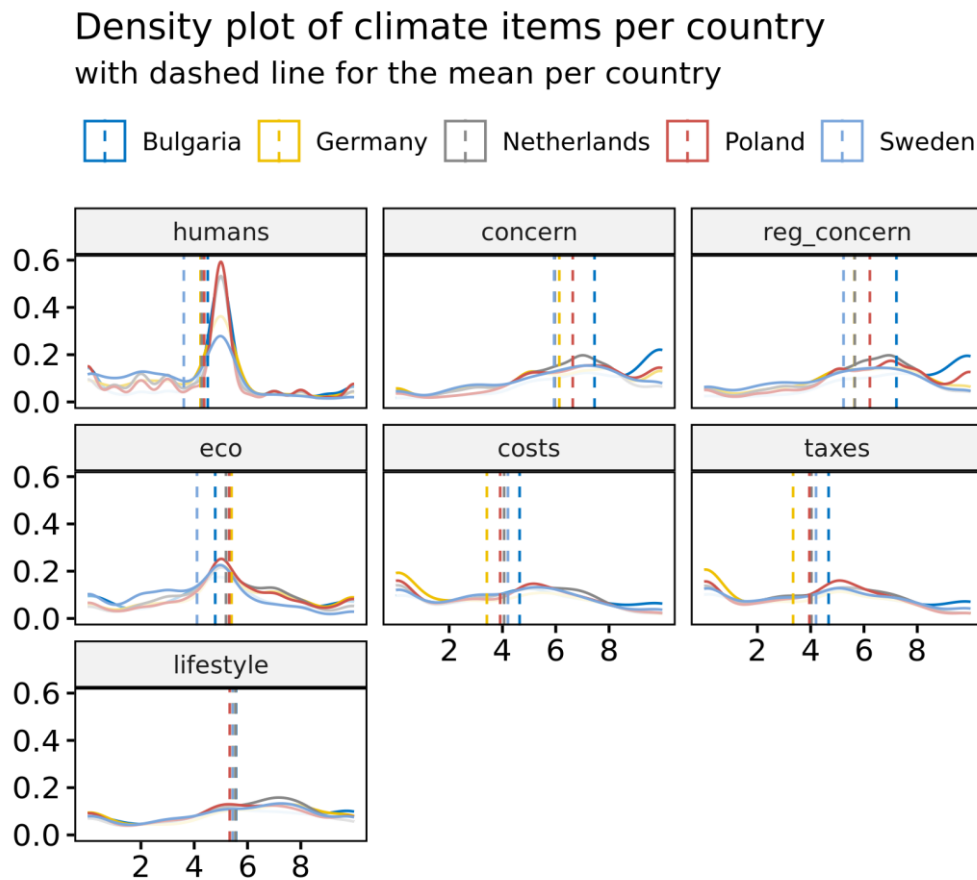
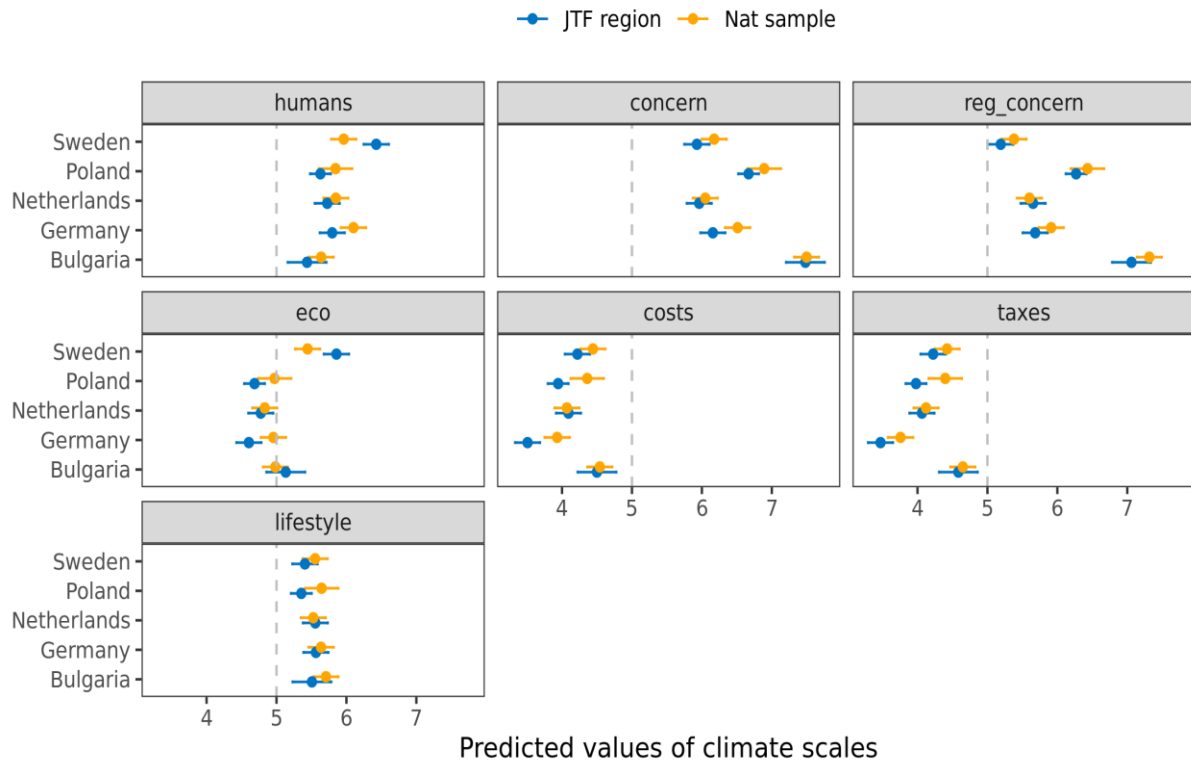


Figure 4 suggests that there are some notable differences across the JTF regions in the five countries as revealed by the dashed lines that represent the mean for each country. Such differences are hardly surprising given the different national contexts. There is one exception to the pattern however. For the lifestyle item, the mean score for all five countries is very close. For all other items, there are significant differences in levels of concern and willingness to incur the costs of climate change transition. There is also noticeable difference in Figure 4 for the panel titled “humans”, which has a peak in the centre of the distribution. This is because the scale went from 0 (human causes) to 10 (natural causes), but also had a mid-point for the position 5, which was (a mix of both). Thus, in all countries the mid-point was the most frequent response for this item.

To get a fuller picture of the attitudes trends it will be more helpful to explore the data with the aid of a regression model. In Figure 5 the results of an OLS regression model are plotted. The regression analysis takes account of the clustered data structure, namely that each respondent was queried seven times (once for each climate item) and that the JTF regions are nested within countries. Furthermore, the model fit compares JTF region respondents to their peers in the national samples. We then use the model to predict the mean values for each subgroup across the seven items with 95 percent confidence intervals.

Figure 5: Predict mean values for climate attitude item battery per country contrasting national samples versus JTF region.

Note: The mean values include 95 percent confidence intervals. The model was fitted on a stacked dataset with robust, clustered standard errors.



As could already be seen in Figure 4, the lifestyle item yields very similar predicted values within and across countries. This is less the case for the rest of the items. Generally, levels of concern are rather different across countries -notably between Sweden and Bulgaria for both the general concern and regional concern items. However, with the exception of Germany, levels of concern are broadly similar between the JTF regions and the national sample. In the German case there is a statistically significant difference in levels of concern, with JTF regions being somewhat less concerned. The effect is also there with regard to the willingness to assume the costs of climate change with the JTF regions from Germany less willing than the national sample.

A focus on statistical significance does not tell us much about the bigger picture. Thus, although there are some statistically significant coefficients for the JTF versus national sample as well as between countries the main finding is a different one. While levels of concern regarding climate change and its attribution to human causes is generally high, when it comes to incurring the costs of tackling climate change the averages drop below the mid-point for all countries and markedly so in the case of Germany for the two main costs and taxes items.

4.3. Climate change factors

In a further step a factor analysis was performed on the climate-related variables. In the case of awareness of climate change policies, which consisted of three items, the analysis was straightforward and it was possible to extract a single factor that measured levels of climate change knowledge for each respondent. The single factor solution was consistent at each level,

JTF region, national and pooled samples. It is not surprising that a consistent uni-dimensional solution emerged since the same knowledge trait was being measured at three different levels.

Table 2: Cumulative variance of two dimensional factor solution

Sample	Dim 1 (Concern)	Dim 2 (Costs)
Bulgaria	0.28	0.55
Germany	0.37	0.66
Poland	0.33	0.61
Sweden	0.35	0.66
Netherlands	0.35	0.65
Pooled	0.33	0.62

For the battery of climate change attitudes, a single factor solution did not emerge. Once the lifestyle item was dropped, the factor analysis yielded a robust solution consisting of two independent dimensions. The two dimensions contrasted concerns over climate change, on the one hand, and willingness to incur the costs of climate change on the other. In other words, respondents' position on one dimension, e.g. climate concern, was not predictive of their position on the other dimension, climate costs. Citizens can hold seemingly inconsistent positions, being concerned about climate change but not willing to incur the transitions costs as well seemingly more consistent positions - caring about climate change and willing to pay for the transition as well as the inverse of this position.

Importantly, the two-factor model was consistently the optimal solution irrespective of the level or analysis, JTF region, national or pooled sample. Table 2 reports that cumulative variance explained by the two-factor solution for the national and pooled samples. In all cases it is satisfactory.

Unlike other modules, such as those measuring social capital, socio-demographics or political preferences, that can draw upon well-established survey items, the climate change module was a new survey module developed by the DUST team. It was, therefore, important to explore and validate the structure of climate attitudes not least because they are used in the subsequent empirical analysis as putative explanatory factors associated participatory attitudes.

5. Citizens' attitudes towards participation in the policy process

Box 2 Key findings on citizens' attitudes towards participation

- **Three-Dimensional Structure of Participatory Attitudes:** The analysis revealed that citizens' attitudes towards participation in the policy process are structured along three distinct dimensions—'Able', 'Unable', and 'Unwilling'.
- **'Able' Dimension (Internal Efficacy):** This dimension reflects citizens' confidence in their personal skills, knowledge, and the relevance of policymaking to their lives, indicating a high level of internal political efficacy.
- **'Unable' Dimension (External Barriers):** This dimension highlights perceived external barriers to participation, such as a lack of information and opportunities, suggesting that institutional factors hinder citizen engagement.
- **'Unwilling' Dimension (Negative Institutional Perceptions):** This dimension captures negative perceptions of public administrations, including beliefs that they are unresponsive and experiences of corruption, leading to discouragement from participating.
- **Validation Across Countries:** The three-dimensional model was validated across all five countries and in the pooled data analysis, demonstrating a robust and consistent structure of participatory attitudes.
- **Support for the DUST Ability/Willingness Model with Adjustments:** The findings provide empirical support for the DUST ability/willingness model, confirming its relevance while highlighting the need for adjustments to fully capture the complexity of citizens' participatory attitudes.
- **Policy Implications:** Understanding these dimensions enables policymakers to identify targeted interventions—such as enhancing information access, creating more opportunities for engagement, and improving institutional responsiveness—to promote greater citizen participation in sustainability transitions.

This chapter addresses research question 2: how are citizens' participatory attitudes structured? The primary aim is to assess the dimensional properties of the ability and willingness items in the DUST survey. Two interrelated questions guide this analysis: do the theoretically defined ability/willingness constructs hold up empirically, and what is their substantive content and structure if they are valid? Answering these questions will shed light on how citizens' opinions, beliefs, and perceptions regarding participation in the policy process are structured.

We begin by presenting the survey module that measures citizens' attitudes toward participation in the policy process. As described in Chapter 3, this module is informed by the DUST ability/willingness model and consists of two sub-modules: items measuring ability and items

measuring willingness. To clarify that the focus is on attitudes toward involvement in the policymaking process rather than generic political participation, the introduction was:

“We have a few questions regarding your views on the policy process. Public administrations sometimes organise activities to engage citizens in the formulation and implementation of policies. Participation by citizens in such activities can be influenced by different factors. Thinking of your personal experiences and feelings, regarding participation in activities for the formulation and implementation of policies, to what extent do you agree or disagree with the following statements?”

Table 3: Participation survey module measuring the Ability/Willingness model

Item	Dimension	Label	Question
1	Ability	abl_info	I lack information about how to get involved in such activities
2	Ability	abl_opportunity	I perceive a lack of opportunities to participate in such activities
3	Ability	abl_time	I face time constraints that prevent me from engaging in such activities
4	Ability	abl_skills	I have the necessary skills or knowledge to effectively engage in such activities
5	Ability	abl_know	I have good understanding of the (technical) language that is used in such activities
6	Willingness	will_voice	I feel that my voice matters in such activities
7	Willingness	will_responsive	I believe that political institutions/public administrations are unresponsive to citizen input
8	Willingness	will_negative	I feel discouraged to participate in such activities due to negative experiences or corruption in politics
9	Willingness	will_relevant	I consider policy making processes relevant to my life
10	Willingness	will_community	Most people in my community would approve of me participating in such activities

The two sub-modules were introduced separately. First, the five ability items were presented, followed by a reminder about the focus on activities related to participation in the policy process before introducing the willingness sub-module items. Table 3 lists the battery of items in the participation module (descriptives and summary statistics for this module can be found in the Appendix).

The ability-willingness module is one of the core outcome variables of the DUST survey. The rest of this chapter explores the results of the scaling analysis and factor analysis performed on this battery of items.

5.1. Scaling analysis

Scaling analysis is a crucial component of the empirical analysis and aims to ensure that valid constructs are used to measure citizens attitudes with regard to participating in the policy process. A primary concern, therefore, was to validate the dimensional structure of the constructs, ensuring that the survey items align with the DUST theoretical framework and accurately reflect the intended constructs. We employed Mokken Scaling Analysis (MSA), a non-

parametric Item Response Theory model suited for ordinal scales (Mokken 1971), to ensure the items align with the theoretical framework. MSA assesses the scalability of items and validates whether they measure a latent construct on a single dimension (Sijtsma and Molenaar 2002). More specifically, MSA pays attention to i) *unidimensionality* and provides a test to measure a single latent trait, ensuring that each scale represents a single construct (Schuur 2003) and ii) *monotonicity*, which checks if the probability of endorsing an item increases monotonically with the latent trait, which is essential for scale validity.

In both exploratory and confirmatory settings, MSA identifies dimensionality and tests hypotheses about item structure. It provides scalability coefficients, H , for overall scale quality and H_i for individual items. An H above 0.5 indicates a strong scale, while values between 0.3 and 0.5 suggest a moderate scale (Sijtsma and Molenaar 2002). Items with H_i values above 0.3 indicate a good fit. This type of analysis, commonly employed in survey and psychometric research, ensures the survey items are valid and reliable for measuring participatory attitudes.

MSA was first employed in an exploratory manner to uncover the latent structure of responses to the participatory battery of items. After identifying the scales, MSA was used in a confirmatory manner to test the robustness and consistency of these scales. This approach was pursued at two levels of analysis: i) at the individual country level, which allows for cross-country comparisons and ii) at the pooled level (i.e., the data from the five national samples was pooled together). In addition to performing multiple MSA analysis, the scaling analysis was also validated in a further step using factor analysis.

5.1.1. Cross-country confirmatory Mokken scaling results

The MSA revealed that a two-dimensional and three-dimensional solutions could satisfy the scaling criteria, depending on the country context. However, only the three-dimensional solution could be consistently applied across all countries as well as at the pooled country level.

Dimension 1: Able

The first dimension incorporates the four items below where, “such activities”, refers to participating in the policy making process.

- I have the necessary skills or knowledge to effectively engage in such activities
- I have good understanding of the (technical) language that is used in such activities
- I consider policy making processes relevant to my life
- Most people in my community would approve of me participating in such activities

The items map closely with concepts of internal political efficacy. The shorter label, ‘Able’ will be used in subsequent sections to denote this dimension. Respondents with high scores on this dimension exhibit high levels of internal confidence in their ability to participate. Furthermore, the two items from the original ability module have higher coefficients that drive the substantive content of this scale.

Table 4: Dimension 1: Overall coefficients (H scores)

Country	H
Germany	0.401
Bulgaria	0.370
Poland	0.385
Sweden	0.368
Netherlands	0.362

The MSA results per country are shown in Table 4 and the scores are satisfactory for all countries.

Dimension 2: Unable

The second dimension that unfolds in the MSA is a shorter two-item scale. The two items incorporate elements external political efficacy insofar as they relate to institutional barriers - namely barriers in the supply of information and a lack of opportunities- that together hinder participation in the policy making process.

- I lack information about how to get involved in such activities.
- I perceive a lack of opportunities to participate in such activities

In both cases the items are formulated with a negative polarity, hence the term “Unable” as short hand label to denote this dimension. Thus, high scores on this scale indicate respondents perceive a lack of information and opportunities and are therefore likely to be more unable.

Table 5: Dimension 2: Overall coefficients (H scores)

Country	H
Germany	0.589
Bulgaria	0.651
Poland	0.618
Sweden	0.597
Netherlands	0.708

As can be seen in Table 5 the overall *H* scores are very high for this dimension indicating a tight coherence.

Dimension 3: Unwilling

The third dimension that unfolds in the MSA is also a short, but coherent two item dimension. This dimension relates to broader perceptions of the political setting from the items measuring the unwilling dimension.

- I believe that public administrations are unresponsive to citizen input
- I feel discouraged to participate in such activities due to negative experiences or corruption in politics

The items are formulated with a negative polarity. Thus, high scores on this dimension indicate that respondent’s view the institutional setting negatively and as un-receptive to citizen input. The short label of “Unwilling” is used to denote this dimension.

Table 6: Dimension 3: Overall coefficients (H scores)

Country	H
Germany	0.406
Bulgaria	0.534
Poland	0.492
Sweden	0.492
Netherlands	0.542

As can be seen in Tables 5 the overall H scores are high for this dimension, indicating a cohesive scale across all country cases.

5.1.2. Pooled confirmatory Mokken scaling results

The MSA analysis was repeated at the pooled level, with all five country cases analysed together. Having validated the scales at the cross-country level, it is not surprising that dimensionality also worked at the pooled level. The MSA coefficients for the pooled data are more than satisfactory for the three-dimensional solution, with some particularly good scaling coefficients for the two shorter dimensions.

Table 7: Pooled MSA: Overall coefficients (H scores)

Mokken_Scale	H_Score
mok1	0.364
mok3	0.615
mok2	0.524

The results of the pooled MSA analysis are encouraging because they indicate subsequent analysis can be performed at the pooled level. The three dimensions are consistent across all countries and at the pooled level.

5.2. Factor analysis results

In a further step, the three-dimensional solution was tested with factor analysis. Given that the participation module was measured on a five-point Likert scale, we employed a type of factor analysis that is suited to ordinal data -namely factor analysis of polychoric correlations. A satisfactory two-dimensional solution could not be found using polychoric factor analysis. A three-dimensional solution, however, worked both at the country-level and at the pooled level.

Table 8: Cross-country cumulative variance explained by the three factor solution

Country	Factor_1	Factor_2	Factor_3
Bulgaria	0.201	0.373	0.528
Germany	0.210	0.364	0.484
Poland	0.201	0.370	0.498
Sweden	0.215	0.381	0.505
Netherlands	0.194	0.387	0.524

Table 9: Loadings for the three factor solution at the pooled level

Item	Factor_1	Factor_2	Factor_3
abl_skills	0.727		
abl_know	0.732		
will_relevant	0.483		
will_community	0.543		
abl_info		0.949	
abl_opportunity		0.616	
will_responsive			0.681
will_negative			0.753

The main results for the cross-country and pooled factor analysis are presented in Tables 8 and 9. A similar level -between 0.48 and 0.52- of cumulative variance was explained with the three-factor solution across all countries (see Table 8). In all cases, the same set of items clustered together with minimal cross-loadings. Given the consistency of the cross-country results, i.e. similar coefficients and no significant deviations in the cross-loadings, factor analysis was also performed on the pooled dataset. The cumulative variance explained for the pooled factor analysis was 0.5 -similar to the cross-country results. The loadings for the three-factor solution are presented in Table 9. There were no significant cross-loadings across the factors.

Factor analysis has a very useful attribute that can facilitate subsequent analysis. Individual level factor scores, i.e. a score for each respondent, can be easily extracted from the factor analysis. These factor scores were then used as response scales in the multiple regression analysis.

5.3. Factor analysis on covariate modules

To facilitate subsequent model fitting, factor analysis was also performed on the main covariate modules identified in the conceptualisation. Thus, the climate module, which was already covered in Chapter 4, as well as variables from the social capital module, such as trust module and civic values, were all analysed using factor analysis. For variables measured on a continuous 0 to 10 scale (i.e., climate preferences, left-right orientations and the trust modules), ordinary factor analysis was used. For ordinal data, i.e., civic values and voting behaviour, polychoric factor analysis was used.

The results of the factor analysis for the climate module yielded a two-factor solution that contrasted concerns over climate change, on the one hand, and willingness to accept the cost trade-offs on the other. The remaining modules formed unidimensional factors, indicating a good fit among the items. Unidimensional factor scores were extracted for the institutional trust items, the civic values items, and a three-item factor related to electoral participation. In all cases, the factor scores were extracted and used as predictors in the subsequent analyses.

To summarise, the MSA and factor analysis results were encouraging suggesting that the scales extracted, both as predictors and response variables, are psychometrically sound and theoretically coherent for use in subsequent analyses. Furthermore, the scales extracted provide reasonably good support for the construct validity of the ability/willingness model at the core of the DUST conceptualisation.

6. Factors that shape LECs' participatory attitudes: A comparative analysis of JTF regions

Box 3 Key findings from comparing factors influencing LECs' participatory attitudes in JTF regions

- **Key Factors Influencing Least Engaged Communities (LEC):** The analysis identifies several consistent factors associated with least engaged participatory attitudes among citizens in JTF regions across five EU countries.
- **Socio-Demographic Factors:** Being female and having lower levels of education are strongly associated with higher inability to participate, indicating these groups feel less confident or face more barriers in engaging with policy processes.
- **Knowledge and Political Interest:** Low political interest, lack of awareness of democratic innovations (such as citizens' panels), and limited knowledge of climate policies correlate with higher inability to participate, emphasizing the need for improved information dissemination and political education.
- **Climate Attitudes:** Interestingly, higher concern about climate change is associated with a greater feeling of inability to participate in three of the five regions, suggesting that concern alone does not translate into empowerment or engagement.
- **Political Orientation and Decision-Making Preferences:** Respondents with higher unwillingness to participate in the policy process, i.e., with traits associated with LECs, prefer decision-making by citizens or experts over politicians.
- **Institutional Trust as a Dominant Factor:** Across all JTF regions, low trust in institutions eclipses other factors as the most significant predictor of unwillingness to participate, highlighting trust-building as a crucial area for policy intervention.
- **Policy Implications:** Despite regional differences, a coherent pattern emerges, suggesting that similar strategies to enhance engagement can be applied across diverse JTF regions in the EU.

This chapter addresses research question 3: what factors drive citizens' participatory attitudes? More specifically the focus of the chapter is a sub-group analysis of the respondents from the JTF region samples from the five countries. Since identifying the characteristics of the least engaged communities (LEC) is a core DUST research goal, this chapter aims to shed light on the factors associated with LEC type answering patterns among respondents from the JTF regions. To investigate this we draw on the results of the scaling analysis of the previous chapter.

Recall that the scaling analysis in the previous chapter yielded 3 scales: Able, Unable and Unwilling. Furthermore, the factor analysis allowed us to extract a score, so-called factors scores, for each respondent's position on these 3 scales. This results in a dataset in which each respondent is measured three times, once for each scale. Table 10 shows how the data is structured per respondent. The scores have been rescaled onto a 0 to 100 scale, this facilitates interpretation of the regression analysis since the estimates can be interpreted as percentage point increases or decreases.

Table 10: Stacked data example of three respondents

ID	Gender	Left/Right	Dimension	Score
nL_89	Female	0.60	Able	30
nL_89	Female	0.60	Unable	78
nL_89	Female	0.60	Unwilling	80
nL_90	Male	-0.45	Able	85
nL_90	Male	-0.45	Unable	29
nL_90	Male	-0.45	Unwilling	37
nL_91	Male	0.00	Able	48
nL_91	Male	0.00	Unable	55
nL_91	Male	0.00	Unwilling	52

Although there are nine rows in Table 10, there are only three respondents as defined by the three unique ID's. The predictors in the example are binary for Gender and numeric for the Left/Right and Scores variables. The Dimension column is an indicator variable that defines the respondents' score for each scale. The Gender variable is straightforward to interpret while the Left/Right variable is a standardised variable (as are all the numeric variables in the data) with a mean of 0 -in this particular example the zero score is indicative of the respondent "nL_91" placing himself in the middle, i.e., a self-placement of 5 on a 0 to 10 scale measuring left-right orientations.

The three respondents in Table 10 provide examples of very different answering patterns that reveal divergent attitudes towards participating in the policy process. The last respondent, nL_91, does not have any notable leanings in any direction for the three attitudes scales with scores hovering around the half-way point for all three scales. The two other respondents, on the other hand, do have positions that indicate distinctive attitudes regarding participation in the policy process.

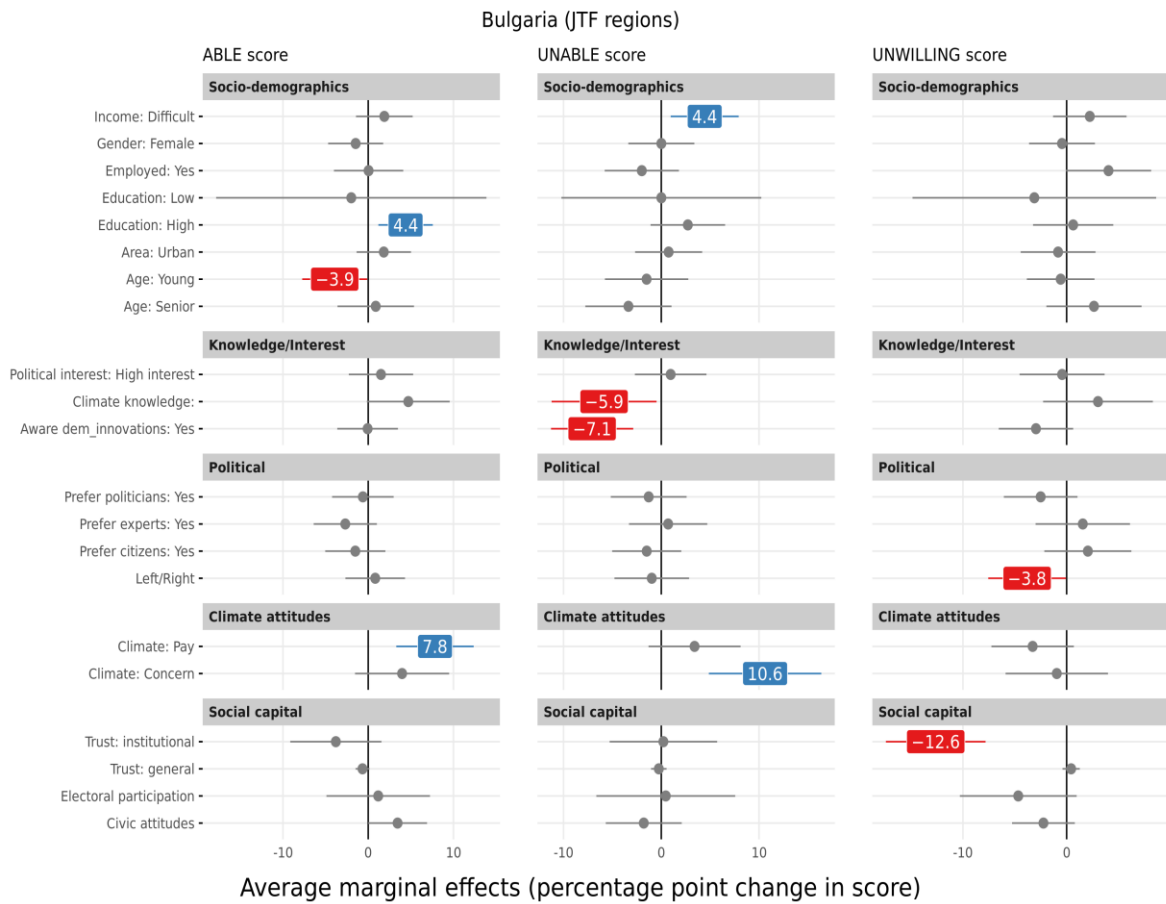
In the case of nL_90, this respondent has high scores on the Able scale -which is indicative of relatively high confidence of his internal abilities. The low scores on the Unable and Unwilling scales indicate that he is not subject to barriers thwarting his participation efforts nor is he affected by negative perceptions of the institutional setting. For the female respondent, nL_89, the attitude scores point in the opposite direction. She has low scores for the Able scale indicating low confidence in her ability to participate, while she has high scores for the Unable and Unwilling scale - suggesting potential barriers to participation and negative perceptions of the institutional setting.

The scores of respondent nL_89 in Table 10 are consistent with LEC type traits. With the aid of regression analysis it will be possible to identify the factors that are associated with such answering patterns. Specifically the focus is on explaining the determinants of the scores for the

Able, Unable and Unwilling scales. Together the three scales measure the multifaceted attitudes of individuals with regard to participating in the policy-making process that corresponds quite closely to the ability/ willingness model as set out in the Conceptualisation chapter. The three-dimensional set of attitude scores, Able, Unable, and Unwilling, therefore constitute the outcome variable in the regression analysis, while the covariates include the list of variables identified in Figure 1.

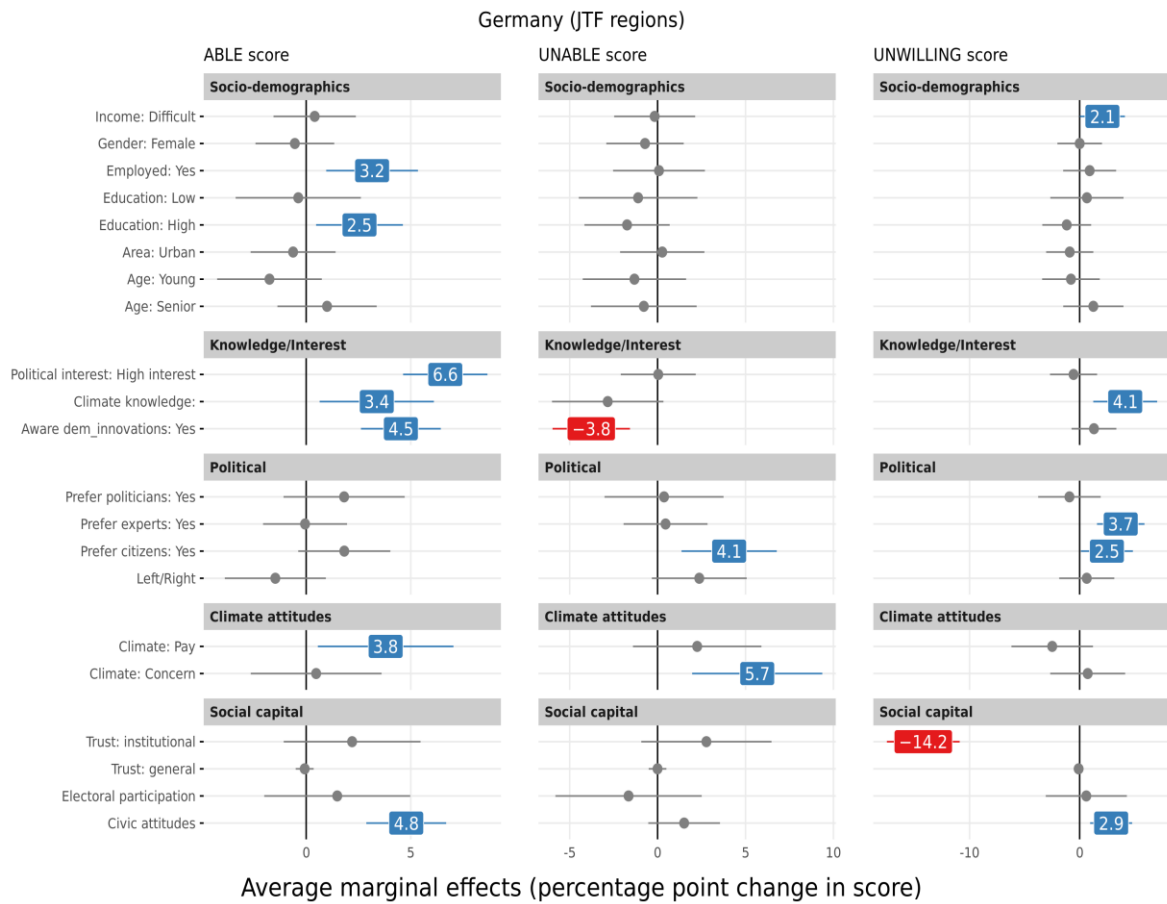
For estimating the factors driving the three attitudes scales a multiple regression model was fitted on the subgroup data of respondents from the JTF region. The regression model was estimated with robust standard errors as well as clustered standard errors by respondent ID to account for the repeated measures data structure. We present the results of the regression analysis using an estimation method that is standard in econometrics, average marginal effects (AMEs). AMEs provides a measure of the average change in the outcome variables (the three scales) for a one-unit change in the predictor variable, averaged over the distribution of all covariates in the model. This approach offers a straightforward interpretation of the effect of each predictor, making it easier to understand how changes in predictors impact the outcome. In Figures 6 to 10 the results of the JTF subgroup analysis are presented for each country.

Figure 6: Regression results for JTF regions in Bulgaria.



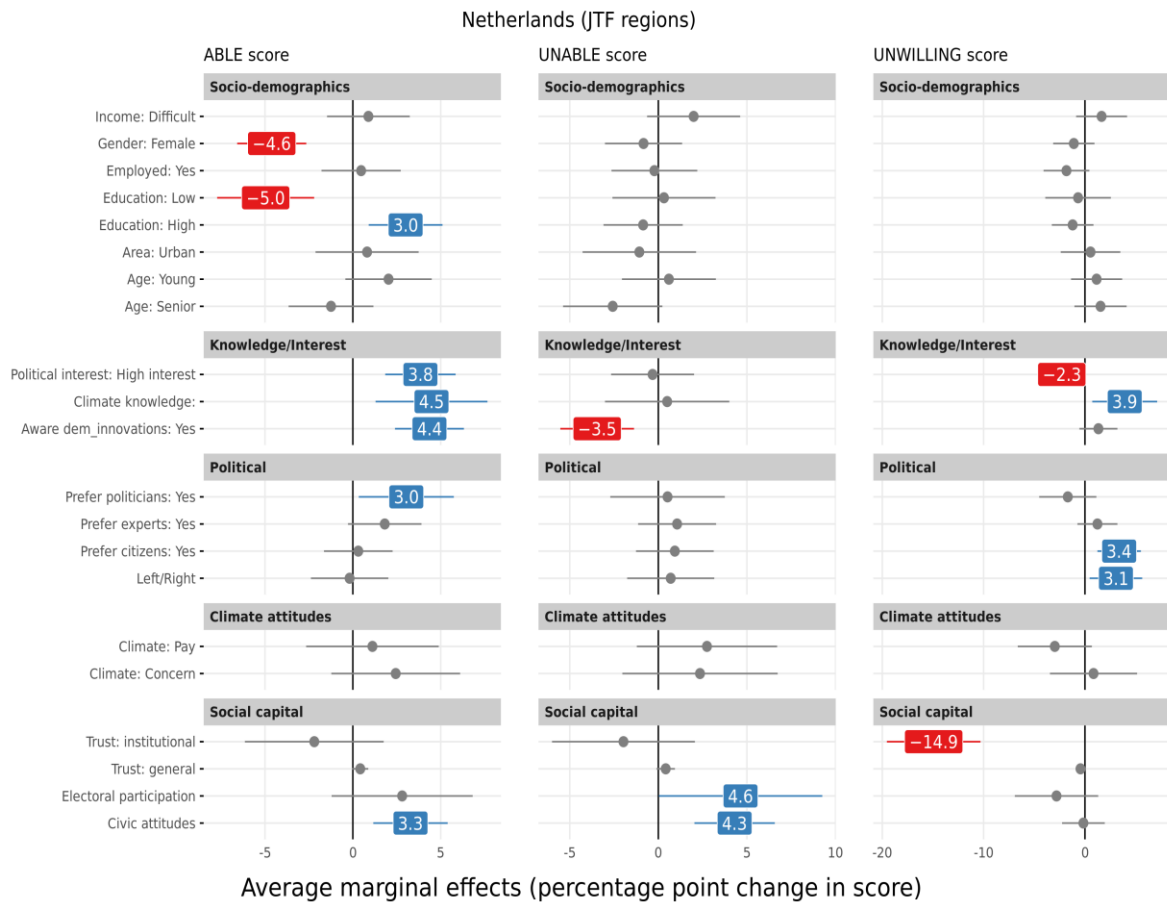
Note: The regression coefficients represent the average marginal effects (with clustered robust standard errors) for each of the three scales. The error dots represent the 95 percent confidence intervals. The observations $N = 1092$. The adjusted R^2 for the fitted model = 0.28

Figure 7: Regression results for JTF regions in Germany.



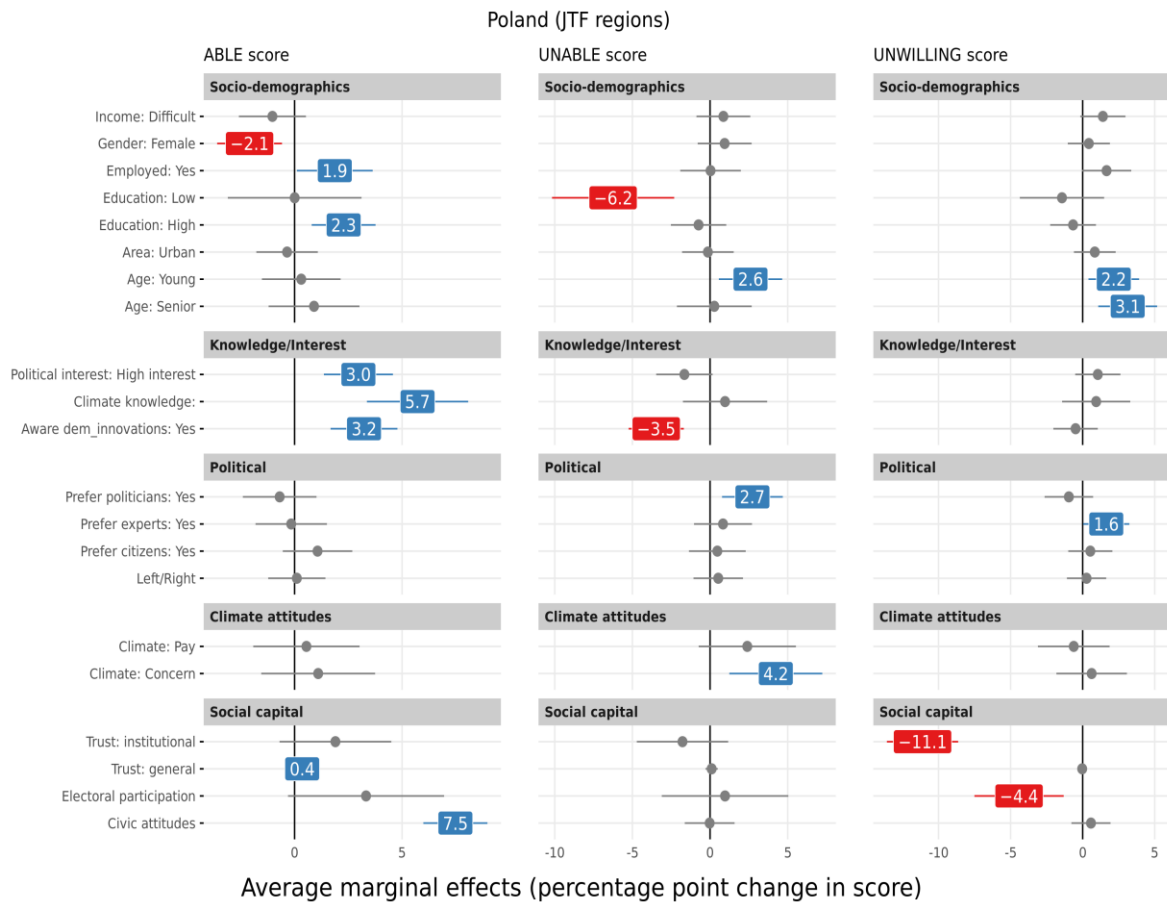
Note: The regression coefficients represent the average marginal effects (with clustered robust standard errors) for each of the three scales. The error dots represent the 95 percent confidence intervals. The observations $N = 2655$. The adjusted R^2 for the fitted model = 0.19

Figure 8: Regression results for JTF regions in Netherlands.



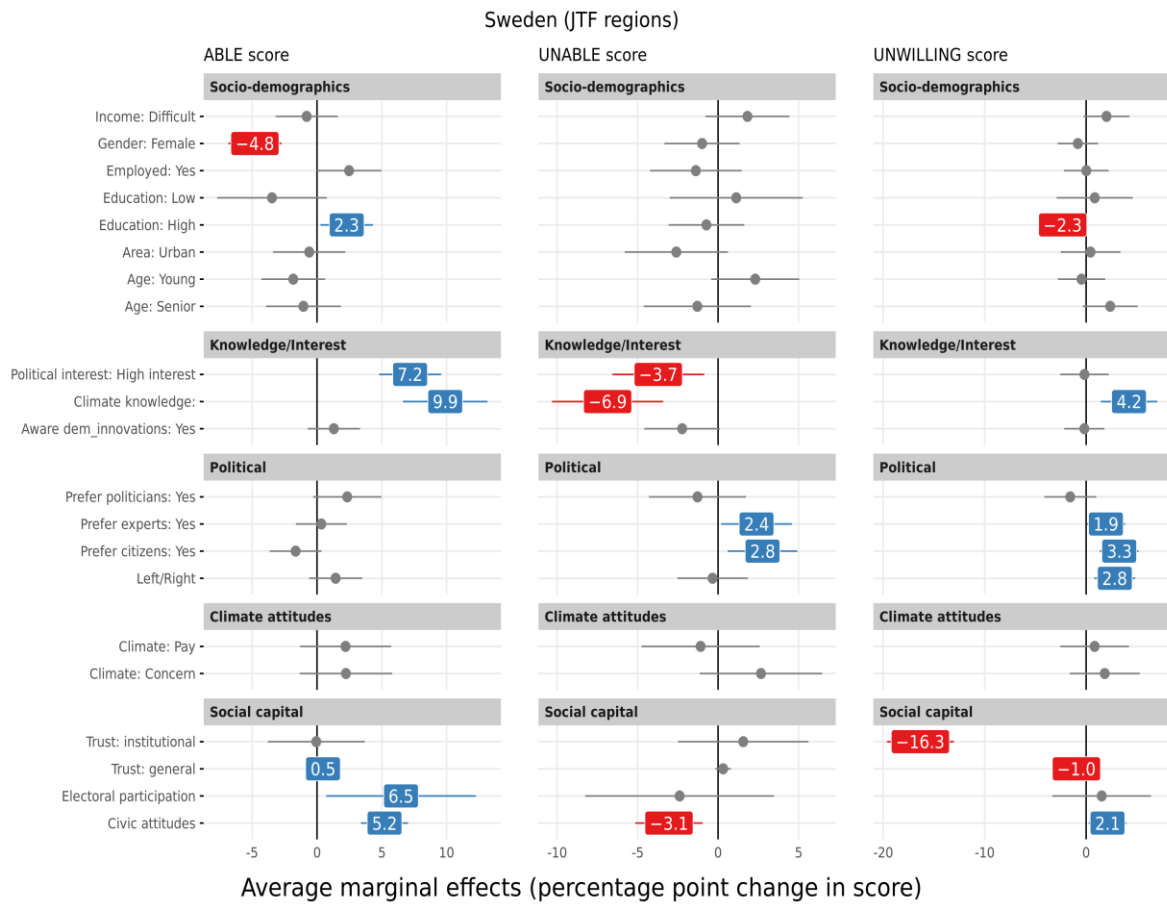
Note: The regression coefficients represent the average marginal effects (with clustered robust standard errors) for each of the three scales. The error dots represent the 95 percent confidence intervals. The observations $N = 2766$. The adjusted R^2 for the fitted model = 0.18

Figure 9: Regression results for JTF regions in Poland.



Note: The regression coefficients represent the average marginal effects (with clustered robust standard errors) for each of the three scales. The error dots represent the 95 percent confidence intervals. The observations $N = 3813$. The adjusted R^2 for the fitted model = 0.17

Figure 10: Regression results for JTF regions in Sweden.



Note: The regression coefficients represent the average marginal effects (with clustered robust standard errors) for each of the three scales. The error dots represent the 95 percent confidence intervals. The observations $N = 2730$. The adjusted R^2 for the fitted model = 0.25

The interpretation in Figures 6 to 10 is quite straightforward. Since the outcome variables in the columns, i.e., the three scales, are all measured on a scale from 0 to 100 this allows us to interpret the effects of the predictors in terms of percentage point changes in the score of each scale. The predictor variables are grouped by higher order categories, namely the factors such as socio-demographics, social capital etc.,. For each predictor an error-dot bar depicts the point estimate and its 95 percent confidence intervals. If the predictor is not statistically significant, the error-dot bar is greyed out. However, if the predictor is statistically significant, then the actual point estimate is rendered in the plot. The estimates can be interpreted as the effect that a one-unit increase in the value of a predictor has on the scores of each scale. For categorical variables, such as gender, the point estimates in the plots refer to the effect of switching from one category to another, e.g. from male to female in the case of gender.

Taking the estimates from Figure 6 for Bulgaria as an example, the first row with the estimate for the Income predictor can be interpreted as follows. Income is a categorical variable with being “comfortable or coping” as the reference category. Switching from being comfortable or coping on present income to finding it “difficult” is associated, on average, with a 4.4 percentage point increase in the Unable score.

The next significant predictor on the Unable score in Figure 6 is a numeric variable, Climate knowledge, that has been standardized. The estimate for the effect of climate knowledge is -6.9. This indicates that, on average, a one standard deviation increase in climate knowledge is associated with a 6.9 percentage point decrease in the Unable score, holding all other variables constant. The negative sign suggests that higher climate knowledge is associated with lower values in the Unable score.

The effects on the three outcome scores of the remaining statistically significant predictor variables in Figure 6 can be interpreted analogously for the case of Bulgaria. The same interpretation can also be applied to the JTF regions from the other countries. One notable pattern from Figures 6 to 10 is that the effect size of the institutional trust variable on the Unwillingness scale eclipses all predictors other predictors in the graphs.

To further facilitate the interpretation of the regression analysis the results can be summarised in a comparative summary data table that identifies the factors that drive participatory attitude scores, with a particular focus on shedding light on LEC type respondent answer patterns. To this end, we incorporate two changes.

First, we align the polarity of the three scales given that the regression results in Figures 6 to 10 are pulling in different directions. On the one hand, for the Able score a positive estimate for a given predictor indicates that its effects are associated with greater propensity towards participation in the policy process. On the other hand, for the two Unable and Unwilling scales, the polarity is in the other direction. A positive coefficient indicates that the predictor is associated with traits that are less conducive towards participation in the policy process. In view of the DUST research focus on the LECs, we can reverse the polarity of the of the Able scores and refit the model. Doing so ensures that the three scales all point in the same direction and allows us to identify the impact of the various factors that shape respondents’ inability and unwillingness to participate in the policy process. Reversing the polarity of the Able score simply involves flipping the polarity of the estimates in the first column of Figures 6 to 10.

Second, to further facilitate interpretation and for ease of comparison we merge the newly reversed Able scores with the Unable scores. This yields a single Unable dimension that incorporates two elements, an internal unable dimension (based on the reversed Able scores),

which reflects lower levels intrinsic confidence, and the external unable dimension that is more about external barriers to participation. The Unwilling scale remains unchanged.

Figure 11: Summary of factors associated with LEC type attitudes for the merged Unable dimension

	Merged Unable dimension				
	BG	DE	NL	PL	SE
Socio-demographics					
Age	Young	-	-	Young	-
Education	No-degree	No-degree	No-degree; Low	No-degree; Low	No-degree
Employed	-	No	-	No	-
Gender	-	-	Female	Female	Female
Income	Difficult	-	-	-	-
Interest/Knowledge					
Aware dem_innovations	No	No	No	No	-
Climate knowledge:	Low	Low	Low	Low	Low
Political interest	-	Low	Low	Low	Low
Political					
Left/Right	-	-	-	-	-
Prefer citizens	-	Yes	-	-	Yes
Prefer experts	-	-	-	-	Yes
Prefer politicians	-	-	No	Yes	-
Climate attitudes					
Climate: Concern	High	High	-	High	-
Climate: Pay	Low	Low	-	-	-
Social capital					
Civic attitudes	-	Low	Mixed	Low	Low
Electoral participation	-	-	High	-	Low
Trust: general	-	-	-	Low	Low
Trust: institutional	-	-	-	-	-

Figure 12: Summary of factors associated with LEC type attitudes for the Unwilling dimension

	Unwilling dimension				
	BG	DE	NL	PL	SE
Socio-demographics					
Age	-	-	-	Senior; Young	-
Education	-	-	-	-	No-degree
Employed	-	-	-	-	-
Gender	-	-	-	-	-
Income	-	Difficult	-	-	-
Interest/Knowledge					
Aware dem_innovations	-	-	-	-	-
Climate knowledge:	-	High	High	-	High
Political interest	-	-	Low	-	-
Political					
Left/Right	Left	-	Right	-	Right
Prefer citizens	-	Yes	Yes	-	Yes
Prefer experts	-	Yes	-	Yes	Yes
Prefer politicians	-	-	-	-	-
Climate attitudes					
Climate: Concern	-	-	-	-	-
Climate: Pay	-	-	-	-	-
Social capital					
Civic attitudes	-	High	-	-	High
Electoral participation	-	-	-	Low	-
Trust: general	-	-	-	-	Low
Trust: institutional	Low	Low	Low	Low	Low

In Figures 11 and 12 a summary data table is provided of the main factors associated with LEC type answering patterns for the Unable and Unwilling dimensions. Only the statistically significant predictors are listed while the effect sizes are omitted to reduce the detail. Despite the inevitable heterogeneity across the JTF regions in the five country cases, a coherent comparative picture emerges.

Starting with the socio-demographic factors associated with least engaged attitudes for the merged Unable dimension in Figure 11, we see that Education and Gender play a role. For the former, it is not having a degree and/or being in the low education category, that is associated with high unable scores. For gender it is being a female that correlates with higher unable scores.

A rather clear pattern emerges for the cluster of predictors related to knowledge and political interest. In all but one case not having awareness of democratic innovations, such as citizens panel, is associated with higher scores on the unable dimension. In all cases, having a low knowledge of climate policies correlates with higher unable scores, while having a low political interest is also associated with higher unable attitude scores. However, for the political factors there is no discernible pattern that emerges from a comparative perspective.

Turning to the climate attitudes, which is composed to two metrics measuring the degree of climate change concern and the willingness to incur the cost of climate change, we find that respondents with high levels of climate concern also tend to have higher unable scores -this applies to most JTF regions. The lower willingness to incur the costs of climate change only emerges as significant in Bulgaria and Germany.

Among the social capital factors the picture is somewhat mixed with only the civic attitudes predictor playing a role from comparative perspective in all but one case. Lower civic attitudes scores are associated with higher unable scores. There is one interesting exception, the case of Netherlands JTF regions. Here we find that the effect of civic attitudes pulls in two different directions hence the label “mixed” in the respective cell of the data table. What this means is that low levels of civic attitudes are correlated with high scores for the “internal” unable dimension (i.e., the reversed able score), while the for the “external” aspect of the unable dimension it is higher civic attitude scores. There is nothing necessarily odd about this since the two dimensions are independent. However, it is interesting that mixed effects only occur in one instance, which is further evidence of the coherency we find when describing the two merged scales.

For the Unwilling scale the cross-JTF regional comparative results are presented in Figure 12. From comparative perspective, a discernible pattern of the factors associated with the high Unwilling attitudes emerge among the political and social capital factors. The clearest pattern, which is present in all cases, is for the institutional trust variable. This could already be clearly seen in the graphs for the regression results where the effect size of this variable eclipsed all other predictors. Among the political factors shaping Unwilling attitudes, political orientation plays a role -mostly associated with leaning to the right politically, except for Bulgaria. While there also seems to be a preference for decision-making by citizens or experts in all cases bar one.

In summary, although there is subgroup heterogeneity among JTF respondents from the different countries a number of common trends and important drivers of LEC attitudes can be discerned. Taking the three scales that measure participatory attitudes together we find a coherent and consistent pattern in which among the socio-demographic factors gender (being female) and lower levels of education play a key role. Political interest and knowledge also play a role in

shaping participatory attitudes as does political orientation and preferences regarding political decision-making actors. Lastly, among the social capital factors low scores on civic attitudes and, especially, the role of low political trust both impact on participatory attitudes. All of these factors are associated with LEC type attitudes in the JTF regions studied.

7. Factors that shape LECs' participatory attitudes: A pooled data analysis

Box 4 Key findings on factors influencing LECs' participatory attitudes

KEY FINDINGS

- **Pooled Analysis of Participatory Attitudes:** By pooling data from JTF regions and national samples across five EU countries, the chapter identifies key factors driving citizens' participatory attitudes in a wider European context.
- **Negligible Impact of JTF Region Status:** Being from a JTF region has a minimal effect on participatory attitudes, indicating that factors influencing least engaged attitudes are consistent across different regions.
- **Socio-Demographic Factors:** Lower levels of education and being female are significantly associated with least engaged community (LEC) attitudes, suggesting these groups feel less able or face more barriers to participation.
- **Political Interest and Knowledge:** Low political interest, limited knowledge of climate change policies, and lack of awareness of democratic innovations (such as citizens' panels) are strongly linked to higher inability to participate, highlighting the need for enhanced political education and awareness.
- **Political Orientation and Decision-Making Preferences:** Right-leaning political orientations and a preference for decision-making by citizens or experts over politicians are associated with LEC attitudes, reflecting potential distrust in representative institutions.
- **Electoral Participation:** Lower levels of electoral participation are associated with LECs, suggesting a broader disengagement from formal political processes among these groups, while higher levels of electoral participation correlate with higher scores on ability scores.
- **Institutional Trust:** Low institutional trust is the most important driver of unwillingness to engage, emphasizing the critical role of trust in institutions for fostering citizen engagement.
- **Policy Implications:** The findings underscore the necessity for policies that to engage least engaged communities effectively, policies should focus on enhancing institutional trust, increasing political interest and knowledge, e.g. by promoting awareness of participatory opportunities, while addressing socio-demographic disparities by empowering women and individuals with lower education levels.

This chapter address research question 3: what factors drive citizens' participatory attitudes? However, unlike the previous chapter where the focus was on the JTF regions, this chapter's focus is on the entire DUST dataset. The main difference, therefore, is that the national sample respondents are now also included. This pooled analysis has a number of important advantages

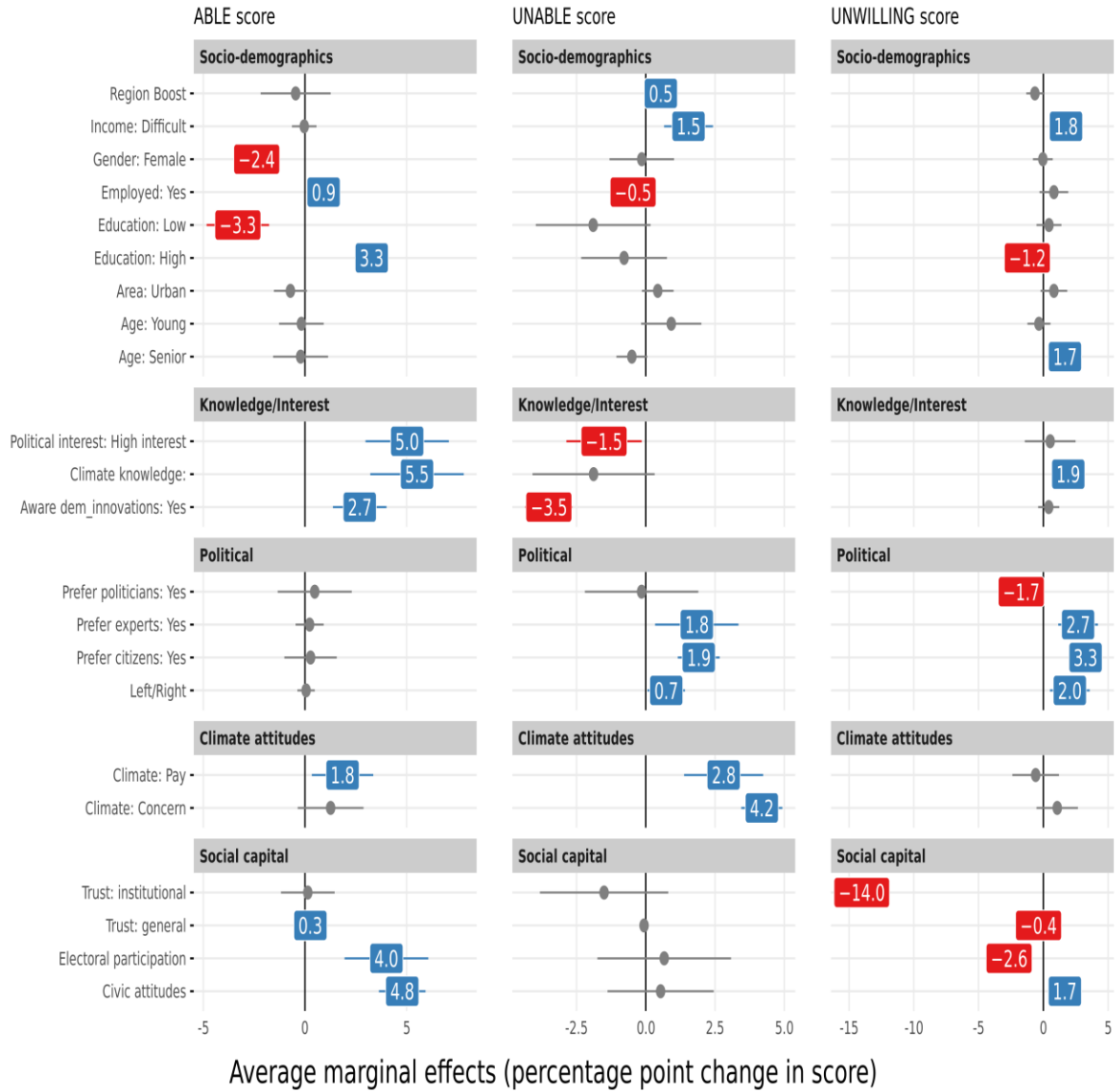
including the possibility of testing for the effects of being a JTF respondent vs. not being from a JTF region. More importantly, however, the broader scale of the analysis allows for findings that are more generalisable and more readily applicable to the wider European context.

The analysis of the pooled data flows directly from the JTF subgroup analysis in the previous chapter. We do not recap on how to interpret the error bar visualisation of the regression section in this section, as this was explained in detail in the previous chapter. The only difference with the regression plot in Figure 13 below is that the data is now pooled and the plot contains an extra predictor indicating whether a respondent is from a JTF region. Substantively, the interpretation is identical to the previous chapter. Recall that our interest lies in exploring the direction of the predictor estimates (positive vs. negative) in terms of their effects on the attitudes scores of the three scales. Recall too that the “Able” dimension captures an individual’s self-assessed ability, reflecting personal confidence and perceived relevance of participating in the policymaking process. Low scores on this dimension therefore reflect LEC type traits. By contrast, high scores on the “Unable” dimension (perceived barriers, such as a lack of information and opportunities that hinder effective participation) and high scores on the “Unwilling” dimension (negative perceptions of the institutional setting and towards the political environment) are both indicative of LEC traits on these two dimensions.

For estimating the three attitude scores a multiple regression model was fitted on the the pooled data. The data were stacked (i.e., long data format) to account for multiple measurements of a respondent’s scores (i.e., their scores on the three response scales). The regression model was estimated with clustered, robust standard errors to account for the nested structure of the data, namely the repeated scores per respondent nested within each country. As in the previous chapter, the average marginal effects (AMEs) that are presented in Figure 13 provide a measure of the average change in the outcome variables (the three scales) for a one-unit change in the predictor variable, averaged over the distribution of all covariates in the model. Recall also that the scores for each of the three scales are measures on a 0-100 scale so that the regression estimates can be interpreted as a percentage point increase or decrease in the average effect of a predictor.

Figure 13: Regression coefficients (with clustered robust standard errors) for each dimension of the ability/willingness scores.

Note: The error dots represent the 95 percent confidence intervals



Note: The regression coefficients represent the average marginal effects (with clustered robust standard errors) for each of the three scales. The error dots represent the 95 percent confidence intervals. The observations N = 25431. The adjusted R2 for the fitted model = 0.17

The predictors in Figure 13 are grouped into the same categories as the previous chapter. Only statistically significant estimates are rendered in the plot. Overall it is not surprising that the pooled regression results exhibit somewhat clearer patterns than the subgroup analysis. Nonetheless, the findings from the pooled regression analysis further distil what already emerged in the sub-group analysis. Figure 13 is useful for visualising the magnitude of the effect sizes of the predictors. For instance, it is clear that the magnitude of the institutional trust variable dwarfs all other predictors in terms of its effects on the Unwilling scale. A one-unit change in the institutional trust variable is associated with a 14 percentage point decrease in the Unwilling score, holding all other variables constant. The negative sign of the estimate implies that lower institutional trust scores are associated with higher scores for the Unwilling scale. On the other hand, the effect of switching from a national sample to a JTF region, the “Region: Boost” predictor, has a negligible impact worth 0.5 percentage points for the Unable scale. The rest of the predictors in Figure 13 can be interpreted analogously.

For the remaining discussion we provide a synoptic data table that simplifies the interpretation of the regression results in terms of the factors associated with the least engaged community (LEC) type attitudes. As was done in the previous chapter, two changes were made to simplify the interpretation: i) the polarity of the Able scale was reversed so that the three scales point in the same direction in terms of higher predictor scores being indicative of LEC type participatory attitudes and ii) a merged Unable dimension combines the statistically significant factors from the reversed Able scale and the original Unable scale.

Figure 14: Summary of factors associated with least engaged community (LEC) attitudes

	UNABLE	UNWILLING
Socio-demographics		
Age:		Senior
Education:	No-degree; Low	No-degree
Employed:	No	
Gender:	Female	
Income:	Difficult	Difficult
Region Boost	Yes	
Interest/Knowledge		
Aware dem_innovations:	No	
Climate knowledge:	Low	High
Political interest:	Low	
Political		
Left/Right	Right	Right
Prefer citizens:	Yes	Yes
Prefer experts:	Yes	Yes
Prefer politicians:		No
Climate attitudes		
Climate concern:	High	
Climate: Pay	Low; High	
Social capital		
Civic attitudes	Low	High
Electoral participation	Low	Low
Trust: general	Low	Low
Trust: institutional		Low

From Figure 14 we can see that quite a few socio-demographic factors are associated with LEC-type attitudes, although, only Income and Education are jointly correlated with both dimensions. It is worth noting some of the effect sizes rendered in the regression plot of Figure 13 for the significantly associated predictors. Although it has been included in the summary of factors associated with LEC attitudes, the effect of JTF region is particularly weak -and only significant because of the large sample size. Closer inspection reveals that it is being driven by the Polish case and it does not matter for any of the other cases. Of the statistically significant socio-demographic factors associated with LEC type attitudes, education (low) and gender (being female) have the clearest effects, and income to a slightly lesser extent.

Among the political interest and knowledge some patterns can be discerned. Low political interest is clearly associated with higher Unable scores, worth on average about 5 percentage points. Similarly, so is low knowledge of climate change policies, which is also worth just over 5 percentage points on the Unable scale, and not too far behind is not having awareness of

democratic innovations, such as citizens panels. All of these lower levels of interest and knowledge are associated with LEC type participatory attitudes for the merged Unable dimension. The one differentiating trend is for the separate Unwilling scale where higher levels of climate policy knowledge correlate with higher unwilling attitude scores, albeit by a small margin.

Among the political factors, all four predictors are correlated with LEC type participatory attitudes. The pattern seems to be towards a right leaning political orientation -although quite weakly for the Unable dimension. While the preferences for models of political decision-making favour citizens or experts and not politicians.

For climate change attitudes, the pooled results reveal that on average higher levels of concern about climate change are associated with LEC-type participatory attitudes. A mixed result emerges from the second aspect of the climate change attitudes, willingness to incur the transition costs. The two scales that make up the merged Unable dimension pull in different directions -the only predictor to do so in the comparison of factors. As mentioned in the previous chapter this can occur since the two scales are ultimately independent of each other. Notably, none of the climate attitudes scores seem to be associated with the Unwilling dimension.

Turning to the social capital factors all predictors seem to have an effect. However, one of them can be discarded, the general trust variable since its effects are very negligible -barely half a percentage point- driven by the large sample size. This can be contrasted with the effects of institutional trust, which are large and negatively correlated with LEC-type attitudes implying very low levels of institutional trust among respondents exhibiting LEC-type attitudes. The direction of the electoral participation variable is also consistent, low levels of electoral participation are associated with LEC type participatory attitudes. The civic attitudes variable, which jointly measures activities such as voluntary work and involvement in local meetings, points in a different direction for the merged Unable dimension and the Unwilling dimension. This is in line with expectations for the merged Unable dimension. However, for the Unwilling it points to the fact that respondents with high civic attitude traits are disillusioned with contemporary formal political channels.

In summary, the results of the pooled analysis are broadly in line with theoretical expectations of the factors that tend to be associated with being politically least engaged.

8. How to design citizens panels

Box 5 Key findings on how to design citizen panels

- **Assessment of Citizens' Preferences:** The DUST survey employed a conjoint survey experiment to examine citizens' preferences regarding the design of citizens' panels.
- **Preference for Local Initiation:** Citizens favour panels initiated by local authorities or civil society over national governments, indicating a desire for more localized and community-driven participatory processes.
- **Open and Inclusive Participant Selection:** There is a clear preference for open, self-selection processes where anyone can join compared to restrictive criteria, suggesting that inclusivity is valued.
- **Expert and NGO-Led Discussions:** Respondents prefer discussions facilitated by experts or NGOs rather than politicians, highlighting trust in neutral or specialized facilitators over political figures.
- **Preferred Format and Duration:** Citizens favour face-to-face or mixed (online and face-to-face) formats over online-only meetings with an optimal duration of between 1.5 and 3 days, indicating a need for engaging yet time-efficient processes.
- **Compensation Matters:** Participants are more inclined to engage when expenses are covered or a daily fee is provided, emphasizing the importance of financial considerations in participation.
- **Outcome Preferences:** There is a preference for outcomes involving a referendum over direct recommendations to authorities or binding decisions. This reflects a desire for wider democratic involvement.
- **Consistency Across Samples:** No significant differences were found between citizens from JTF regions and national samples, suggesting that these preferences are consistent across different regions.
- **Country-Specific Topic Preferences:** In Bulgaria and Poland, citizens prefer panels on employment and renewable energy policies over migration; In Germany and the Netherlands, citizens are less keen on panels discussing employment and renewable energy compared to migration.
- **Policy Implications:** Understanding these preferences enables policymakers to design participatory processes that align with citizens' desires. Tailoring the design of citizens' panels to reflect these design preferences could lead to more inclusive and impactful policy-making.

This chapter answers research question 4: what are citizens' preferences regarding the design of citizens' panel? To uncover citizen preferences regarding different modes of participation, the DUST survey set up a randomized experiment referred to as a conjoint analysis. The aim of the conjoint experiment, in the DUST context, was to examine citizens' preferences regarding the

design of deliberative forums. However, in order to avoid the use of specialised academic jargon the label “citizen panel” was used to describe a deliberative forum.

Conjoint analysis set-ups have grown in popularity in recent years and have been applied to different areas of experimental political research. The method has been used to better understand citizens’ preferences and priorities regarding different types of democratic innovations and aspects of an institutional reform Christensen (2020). For example, researchers have investigated which features of a participatory budgeting program are most important to citizens, such as the most appropriate topic, the level of decision-making power and the degree of inclusivity Does and Kantorowicz (2023). Researchers have also analysed preferences regarding the set-up of a deliberative forums in terms of how participants are recruited and how the dialogue is set up Goldberg and Bächtiger (2023). By manipulating and varying attributes in hypothetical scenarios, researchers can assess their relative importance and how they impact citizens’ preferences and support for democratic innovations.

While there are many benefits, including flexibility and experimental rigour, there are also hurdles. The scenarios must be realistic and capture the key trade-offs and choices that reflect real-world decision-making processes. But they must also be greatly simplified, which requires the reduction of complex real-world phenomena into manageable attributes and levels that are described in lay terms -i.e. avoiding specialised jargon. In addition, in a multi-country context such as DUST, the scenarios needed to be generalisable to a wider setting across five very different national contexts. To that end, the conjoint built on earlier research to structure the scenarios and tailor them to DUST priorities Christensen (2020), Does and Kantorowicz (2023), Goldberg and Bächtiger (2023).

8.1. The experimental set-up

Before being exposed to the scenario choice set, respondents were introduced to the concept of a citizens’ panel with the following text:

“Countries across Europe have been experimenting with new forms of political participation. In some countries, citizens can engage with local decision-making by taking part in citizens’ panels. Citizen’s panels involve bringing together a group of citizens from the community to learn about and discuss specific issues of local interest. The meetings result in recommendations formulated by participants to be passed to public authorities.”

The respondents were then briefed on further details of the citizen panel and the various trade-offs involved in designing a citizens panel with the following text:

“We are interested in your opinions regarding how to design citizens panels. Imagine you have the possibility to join a citizen panel. In the citizen panel, a group of residents from your region come together to discuss a topic and take a joint decision. You will be presented with three scenarios involving different options for how to design a citizen panels. Each scenario involves comparing two differently designed citizen panels (Citizen panel 1 and Citizen panel 2). For each scenario, you will be first asked which of the two citizen panels you would rather take part in.”

The respondents were then introduced to some of the trade-offs with the following text:

Topic: What issue is at stake? Citizen panels take place for very different topics. Examples could include climate policies, migration policy or employment policies.

Launch: Who initiates the event A citizens panel can be initiated in several ways. It can be convened from a civil society initiative, for example by an NGO. Another possibility is that the citizen forum is initiated directly by government or a local authority.

Selection: How are the participants selected? There are various ways to select participants. All citizens receive an invitation and anyone who wants to can join. Alternatively, a lottery can be used to select participants in order to make the group more representative. Another possibility is that the participants must meet special criteria (e.g., being a national).

Discussion: Who leads the discussion? A citizens panel will be mostly composed of citizens but there is scope to allow for discussions to be facilitated by groups from Civil society, by Experts or by Politicians.

Format: How do participants discuss? There are various ways to arrange discussions. For instance, a Face-to-Face citizen panel takes place at a specific location (e.g., city hall) at a specific time with participants sitting together at a table. However, it can also take place online through live interactive chats or via comments in forums. Alternatively, it can be a mix of the two formats with some elements involving sitting together at a table as well as online discussions.

Duration: What is the duration of a citizen panel? There are various ways to organise a citizen panel that involve different time commitments for the participants. In some cases, the entire process could be completed over a single weekend. In other cases, it could involve multiple rounds and take several months to conclude.

Compensation: Are participants financially compensated? Participants may receive a daily fee for their participation, only have their expenses covered (e.g., travel), or not receive any compensation at all.

Outcome: How decisive is the result? The outcome of citizen panel can take different forms, such as a Recommendation that is sent to the elected political body. The authorities then decide whether or not to follow the recommendation. An alternative is to let the voters in the region decide on whether to follow the Recommendation through a public vote, i.e., a Referendum. Another possibility is to have a binding decision, in which case the decision of the citizens panel is final and must be implemented by the authorities.

Table 11: Summary of the conjoint matrix

Attribute	Level_1	Level_2	Level_3
1.Topic: What issue is at stake?	Renewable energy policy	Local employment policy	Migration policy
2.Launch: Who initiates the event?	Civil society	National government	Local authority
3.Selection: How are the participants selected?	By lottery	Anyone can join	Only COUNTRY nationals
4.Discussion lead:	Experts	NGO	Politicians
5.Format: How do participants discuss?	Online meeting	Face-to-face	Mix (online and face-to-face)
6.Duration: What is the duration of a citizens panel?	1.5 days (spread over 1 weekend)	3 days (spread over 1 month)	6 days (spread over 6 months)
7.Compensation: Are participants financially compensated?	No compensation	Expenses covered	Daily fee
8.Outcome: How decisive is the result?	Recommendation	Referendum	Directly binding decision

Table 11 shows the conjoint matrix for the eight attributes and their corresponding levels. The levels of the attributes in Table 11 can be thought of as specific features that a respondent is choosing between when expressing her preference.

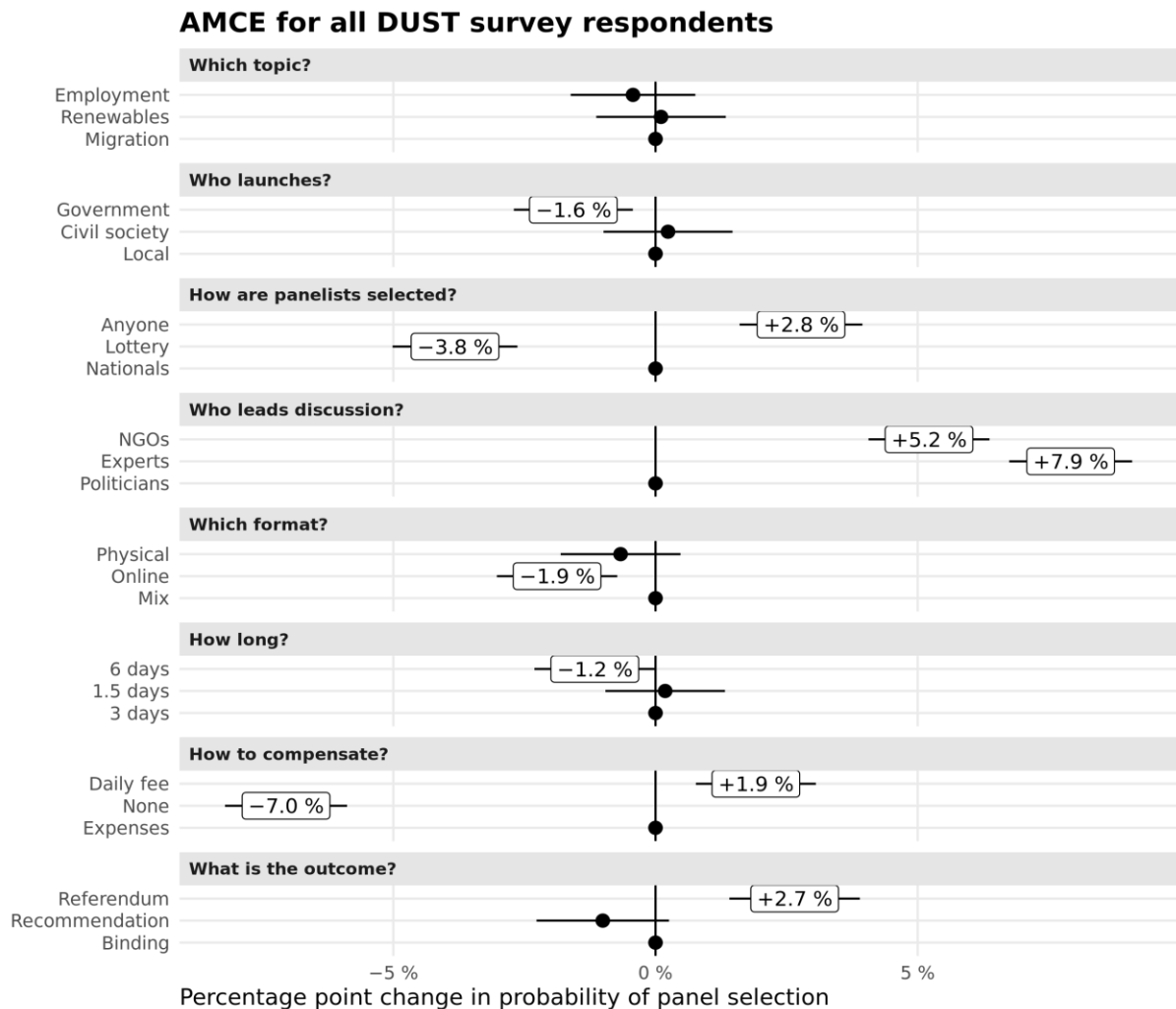
8.2. Results of the pooled analysis

Figure 15 presents the results of the conjoint experiment. The features of the eight attributes are in the first column of Figure 15, while the reference category is always the last feature in an attribute. Features that are not statistically significant are greyed out while those that are statistically significant include the relevant coefficient. The typical metric used to analyse conjoint data is called the average marginal component effect (AMCE). It is this coefficient that is included in Figure 15.

To provide an example of how to interpret the AMCE coefficient we turn to the attribute ‘who launches’ a citizens’ panel. Using the first statistically significant feature in Figure 15 the AMCE coefficient of -1.6 has the following causal interpretation: Changing who launches a citizens’ panel from” Local” to national “Government” decreases the probability of selecting the feature (i.e. Government) by 1.6 percentage points. However, changing who launches a citizens’ panel from” Local” to “Civil society” has no statistically significant impact. The next statistically significant results is for the attribute ‘how are panelists selected’ where we find that changing the selection criteria from only “Nationals” to “Anyone” increases the probability of selecting the new feature by 2.8 percentage points. This interpretation can be applied to all the statistically significant AMCE coefficients across the features listed in Figure 15.

Figure 15: Main results of the conjoint analysis.

Note: The coefficients are for the average marginal conditional effects (AMCE).



In summarising the results for each of the eight attributes on the pooled data we find that:

- Theme:** Overall, citizens do not distinguish much between policy types. At the pooled level there is little evidence of citizens differentiating between the core policy types although for some sub-groups there are differences as shown below.
- Launch:** The results for the question of ‘who’ launches the citizens’ panel indicate that compared to the local level as an initiator, respondents were not so keen on national government taking the initiation role. This could be driven by the fact that in the experimental scenario the citizens’ panel is conducted at the local/regional level
- Selection:** In terms of how participants are selected a clear preference did emerge. Respondents did not like recruitment via lottery and prefer an open, self-selection process whereby anyone can participate in a citizens’ panel.
- Discussion lead:** With regard to the actual discussion and which actors play the key facilitation role a clear picture also emerged. Compared to politician led discussion, respondents much prefer experts and NGOs to lead the discussion.

- *Format:* In terms of the format of the citizens' panel, respondents had the least preference for the only online format. There was no difference between face-to-face (physical only) meetings and mixed ones.
- *Length:* The length of the process mattered. There is probably an optimal time between 1.5 and 3 days. Respondents were less keen on lengthier procedures involving 6 days.
- *Remuneration:* The issue of compensation and remuneration produced some significant differences. Compared to having only their expenses covered, respondents did not like the idea of participants receiving no remuneration at all. Having expenses covered or a daily fee appears to be the clear preference.
- *Outcome:* Regarding the question of how decisive the outcome of the citizens' panel ought to be a preference also emerged. There was no difference when comparing a binding result on the part of the citizens' panel versus a recommendation to the relevant authority. However, respondents did prefer the referendum option. This seems intuitive since it allows the wider community to be consulted on the decisions emanating from a deliberative forum.

A further analysis was performed on the pooled data, namely to test whether being from a JTF region was significant. The test revealed that there were no statistically significant differences between respondents from national samples and JTF regional samples. This result is encouraging since it validates the strategy of gathering national samples for each of the countries. But more importantly, it allows us to provide supporting evidence that is more generalisable to wider national and EU levels.

8.3. Sub-group analyses

In a last step, a sub-group analysis was performed on each national sample. Evidently, when the focus is on the specific country there is an increased likelihood of nuance and country case heterogeneity. On the whole, the results remain quite similar to Figure 15 above. At the country level there are some clear and quite consistent preferences regarding: the selection of participants, how discussions should be facilitated, the role of compensation and to a lesser extent on the outcome with Bulgarian and German respondents not liking the Recommendation. The results are present in Figures 16 to 20.

Figure 16: Main results of the conjoint analysis for Bulgaria.

Note: The coefficients are for the average marginal conditional effects (AMCE).

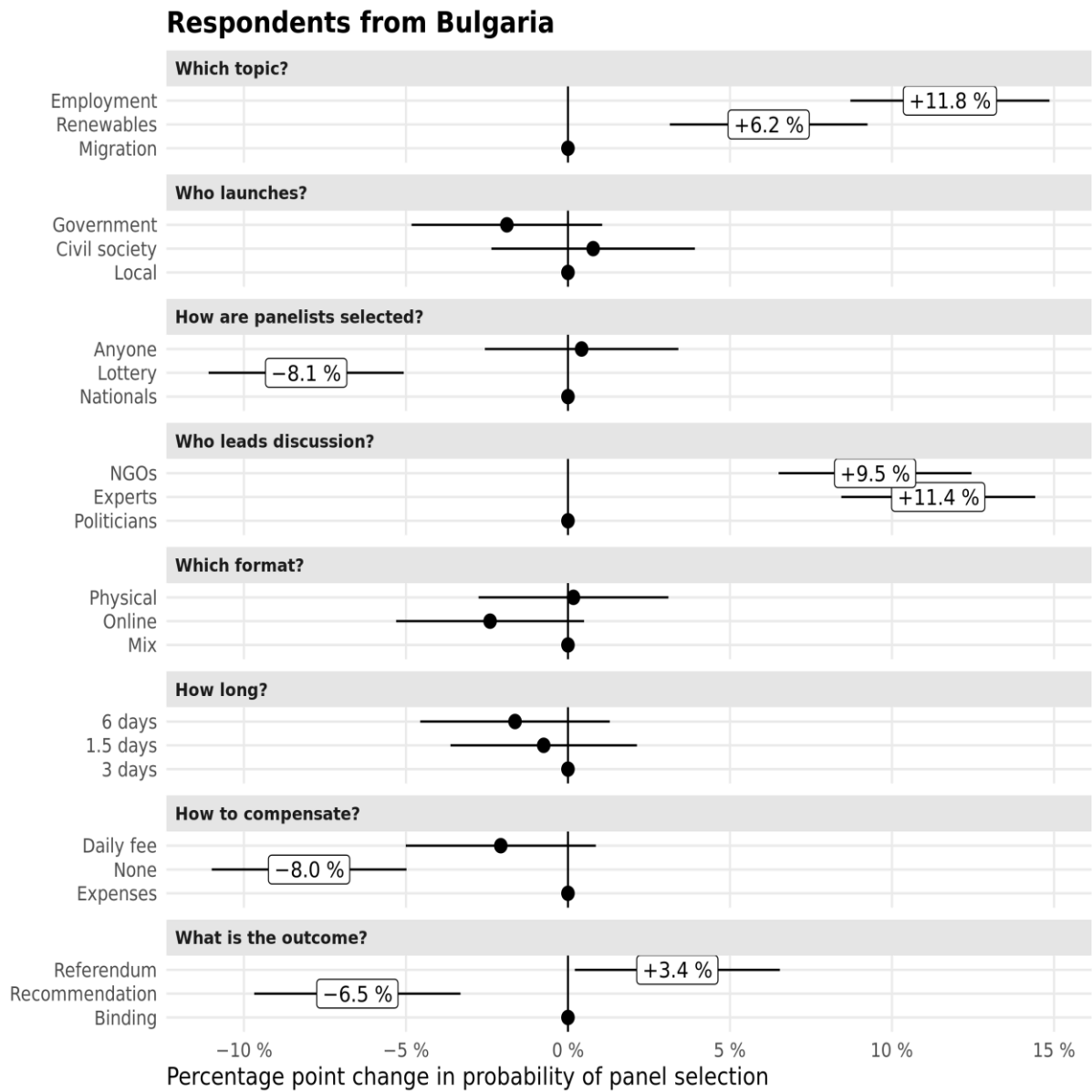


Figure 17: Main results of the conjoint analysis for Germany.

Note: The coefficients are for the average marginal conditional effects (AMCE).

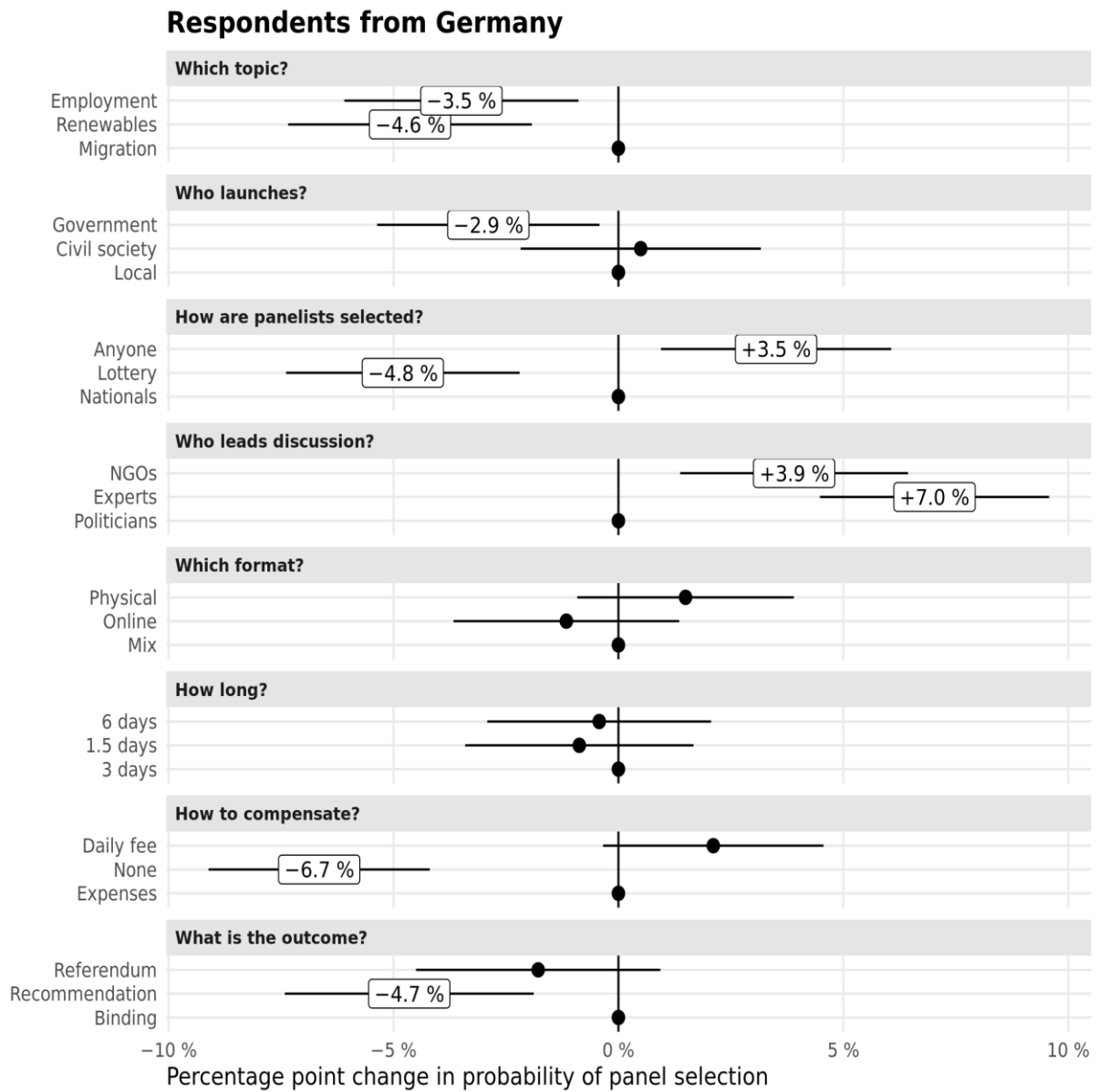


Figure 18: Main results of the conjoint analysis for Netherlands.

Note: The coefficients are for the average marginal conditional effects (AMCE).

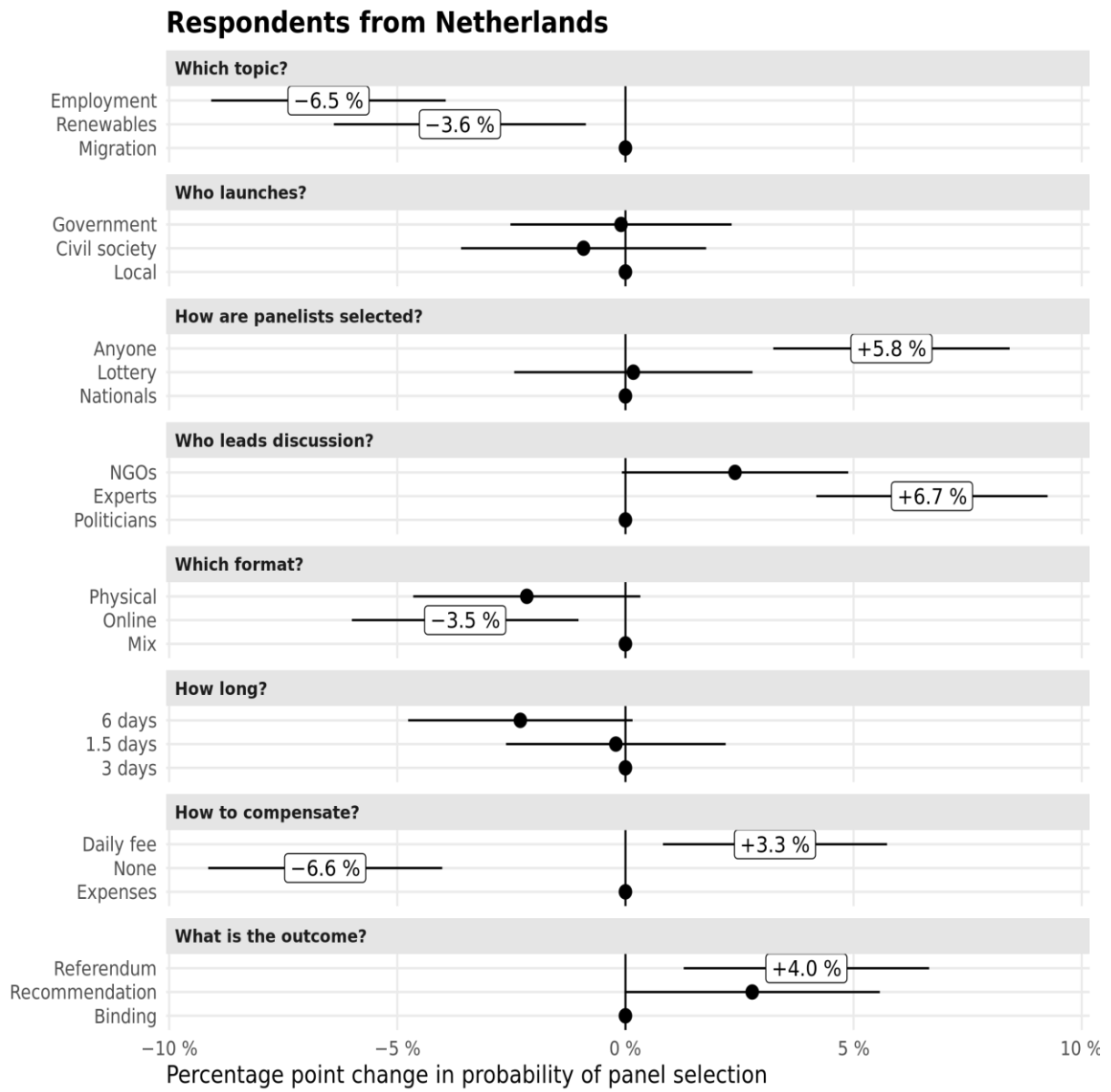


Figure 19: Main results of the conjoint analysis for Poland.

Note: The coefficients are for the average marginal conditional effects (AMCE).

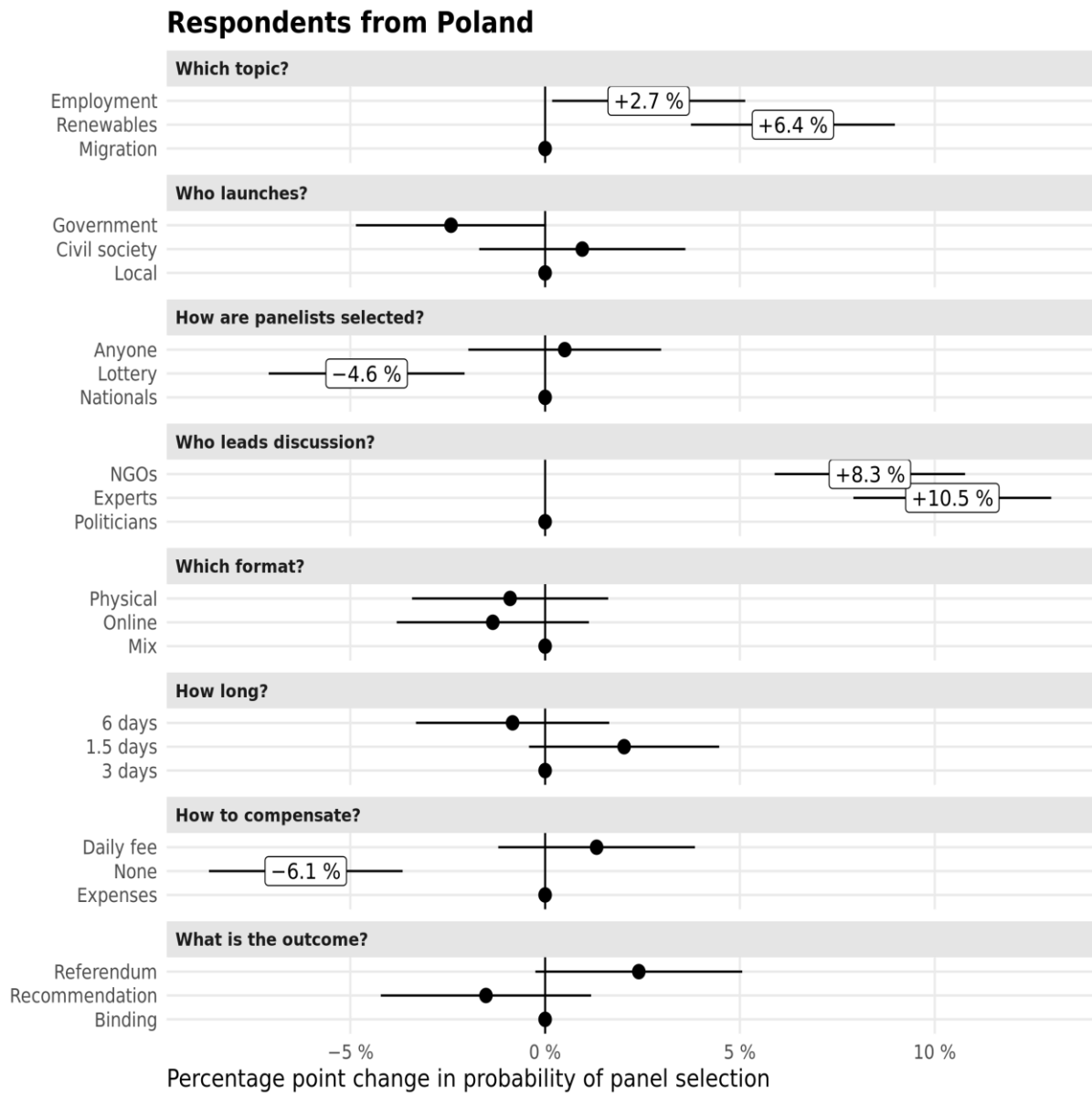
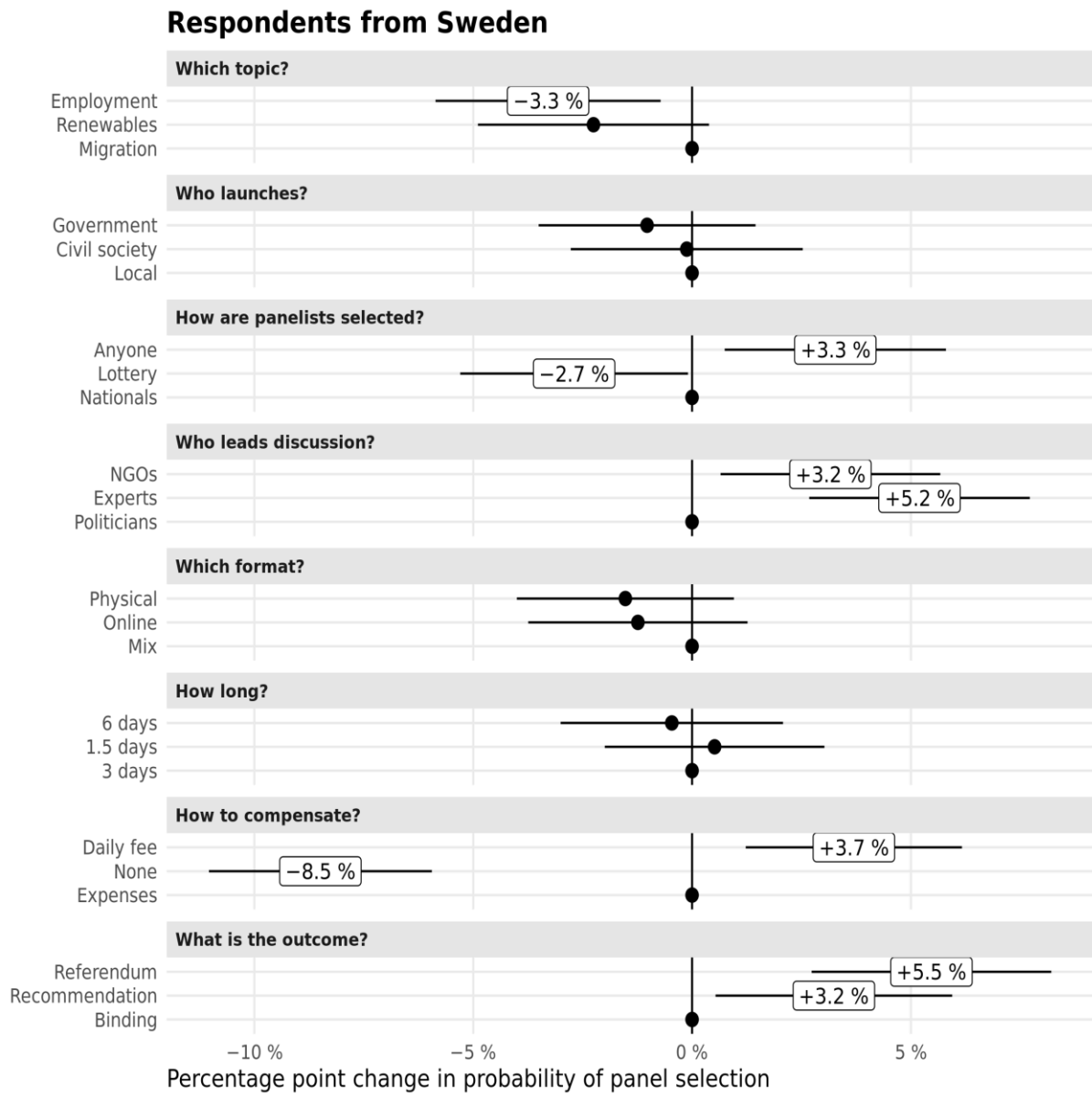


Figure 20: Main results of the conjoint analysis for Sweden.

Note: The coefficients are for the average marginal conditional effects (AMCE).



Generally, the country sub groups mirror the pooled results with one notable exception, the topic attribute. This is the main point of differentiation between the pooled analysis and the country sub-group analysis. At the pooled level no statistically significant topic differentiation emerged. However, at the country sub-group level the topic was statistically significant in all countries, but in different directions. In Germany and Netherlands compared to the migration topic, respondents were less keen on employment and renewable energy as a topic. This was also the case for Sweden, but only for employment. These three country results can be contrasted with those from Bulgaria and Poland, where compared to migration, respondents were keener to have panels on employment and renewable energy policies. This divergence partly explains why the topic attribute did not emerge as significant in the pooled analysis.

9. Conclusions

This report synthesized the findings of the DUST survey, exploring citizen attitudes towards participation in the policy-making process across five EU countries and specifically within “Just Transition Fund” regions. The empirical analysis covered the principal factors, explanatory and contextual, as outlined in the DUST conceptual model. The findings from the DUST survey, structured around the four main research questions, reveal intricate details about citizens’ (in)ability and (un)willingness to engage in policy-making activities, the contextual influences of the Just Transition Fund (JTF) regions, and the preferred configurations of participatory processes. These insights have important policy implications for enhancing public engagement and participation in governance.

The first research question explored the DUST climate module and shed light on how citizens’ attitudes towards climate change issues are structured. It revealed a general lack of awareness regarding EU climate policies as opposed to national or local initiatives. There was a marked difference across the JTF regions, with Bulgaria and Poland having higher levels of awareness of EU climate policies compared to their wealthier peers. More importantly, the empirical analysis unveiled a two-dimensional attitude landscape: climate concern versus willingness to bear the costs of climate transition. The independence of these dimensions was particularly striking; a high level of concern does not necessarily predict a willingness to incur personal costs. This distinction underscores the complexity of public attitudes towards climate change and highlights the challenge of translating environmental concern into actionable commitment.

The second research question aimed to uncover the dimensional structure of citizens’ participatory attitudes, focusing on the ability and willingness to engage in policy-making. The scaling analysis largely confirmed the validity of the theoretically defined constructs of ability and willingness. It yielded a three-dimensional structure of respondent attitudes that together measure citizens ability and willingness to participate in the policy-making process. The extracted scales combine three important dimensions: an “Able” dimension that incorporates elements of internal political efficacy related to an individual’s self-assessed ability and understanding regarding their engagement in policy-making, reflecting personal confidence and perceived relevance; an “Unable” dimension that relates to barriers, such as a lack of information and opportunities, which hinder effective participation; and lastly, an “Unwilling” dimension that is associated with negative perceptions of the institutional setting and towards the political environment. The scaling and factor analyses validated these constructs, highlighting that citizens’ participatory attitudes are multi-faceted and influenced by both internal efficacy and external perceptions of the policy-making environment.

The third research question examined the drivers of participatory attitudes, considering a broad array of factors including socio-demographic, political and climate change attitudes as well as social capital variables. The analysis was conducted at two levels, a sub-group level from the JTF regional sample and a pooled sample that contained both national and regional samples. The focus in both cases was on identifying the factors associated with the least engaged participatory attitudes. Despite some sub-group heterogeneity across the JTF regions, the patterns were largely consistent and mirrored in the pooled sample. The findings indicate that socio-demographic factors such as age, education, and income play significant roles in shaping participatory attitudes. Political interest and knowledge, as well as social capital indicators like trust and civic engagement, were also crucial determinants. In particular, the role of institutional trust played an oversized role in shaping these attitudes. The analysis revealed that the least

engaged groups are characterized by specific traits, including lower internal efficacy (Able), perceived external barriers (Unable), and negative perceptions of the institutional setting (Unwilling). These findings are consistent with theoretical expectations.

The fourth research question explored citizens' preferences for the design of participatory processes, particularly citizen panels. The conjoint field experiment provided insights into the attributes that citizens value in these participatory models. Preferences varied significantly, but key attributes included the mode of recruitment (random selection vs. self-selection), the convening authority (citizens, civil society, or politicians), and the nature of outcomes (recommendations vs. binding decisions). The findings suggest that citizens prefer inclusive and transparent processes with meaningful impacts on policy decisions. These preferences can guide the design of participatory models that are more likely to engage and satisfy participants.

The findings from the DUST survey offer insights for policy-makers seeking to enhance citizen participation in the policy process. First, addressing both internal and external barriers to participation is crucial. Policies should aim to boost citizens' confidence in their ability to engage and create supportive environments that mitigate perceived obstacles. Educational initiatives and capacity-building programs can enhance citizens' skills and knowledge, while transparent and responsive governance practices can improve trust and willingness to participate.

Second, the importance of socio-demographic and socio-political factors suggests that tailored approaches are needed to engage diverse populations. Specific strategies may be required to involve underrepresented groups, such as females, those with lower educational attainment, or residents of economically disadvantaged regions like the JTF areas.

Lastly, the design of participatory processes matters. Citizens value processes that are inclusive, transparent, and impactful. Policy-makers should consider these preferences when designing participatory models to ensure they resonate with citizens and effectively harness their input. The use of random selection for recruitment, involving diverse convening authorities, and ensuring that participatory outcomes have real policy impacts are key considerations for successful citizen panels and other participatory initiatives.

Overall, the report emphasizes the complexity of democratising sustainability transitions and the need for targeted strategies to enhance citizen participation. By identifying the characteristics of LECs and understanding the multifaceted nature of participatory attitudes, the DUST project could contribute to the development of more inclusive and effective policies for just sustainability transitions. This analysis not only provides a foundation for subsequent research stages within the project, such as the focus groups, but also offers practical insights for policymakers and stakeholders aiming to foster more democratic and engaged citizen participation in the face of sustainability challenges.

10. References

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11. Annexes

11.1. Descriptives

This section provides further details on the descriptives for some of the core modules. These descriptives provide input to other deliverables in WP2 as well as more specifically for Deliverable 3.4. The descriptives are presented in various forms, including graphical plots and tables with statistical tests. For variables that can be treated as numeric a Tukey's Honestly Significant Difference (Tukey HSD) test is used. It offers a single-step multiple comparison procedure for performing statistical test. It is used to find means that are significantly different from each other after performing an Analysis of Variance (ANOVA). ANOVA helps determine whether there are statistically significant differences among the means of three or more independent groups, but it does not specify where these differences lie. This is where the Tukey HSD test comes into play by making pairwise comparisons between the means of the groups to determine which specific groups differ from each other. The test compares all possible pairs of means and calculates: The difference between each pair of means; the confidence interval for each difference and adjusted p-values to account for the fact that multiple comparisons are being made and increasing the random chances of Type I error. Below are the relevant coefficients for the main modules.

11.1.1. Awareness of democratic innovations

To measure levels of awareness of democratic innovations, the item was introduced as follows:

“Countries across Europe have been experimenting with new forms of political participation. In some countries, citizens can engage with local decision-making by taking part in citizens’ panels. Citizen’s panels involve bringing together a group of citizens from the community to learn about and discuss specific issues of local interest. The meetings result in recommendations formulated by participants to be passed to public authorities.”

The simpler term, “citizen panels”, was used as an example of democratic innovation in order to avoid more specialised jargon such as citizens’ juries or deliberative forums. To binary questions were asked, whether they had heard of citizens’ panels and had participated in such fora at the local level.

Table 12: Awareness and participation in citizen panels across countries (JTF regions)

Country	Aware of (%)	Participated (%)
Bulgaria	28.9	6.6
Germany	40.3	7.0
Netherlands	49.3	9.4
Poland	39.2	11.2
Sweden	31.7	5.7

11.1.2. Participation attitudes module

The Ability sub-module

Figure 21: Country (JTF regions) proportions for the `abl_info` variable

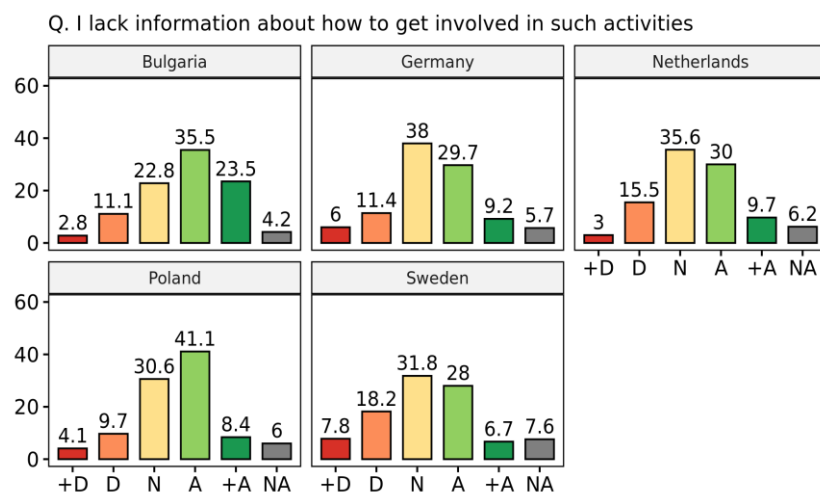


Table 13: Country (JTF regions) descriptives for the `abl_info` variable

Country	Mean	SD
Bulgaria	3.56	1.04
Germany	3.24	1.04
Netherlands	3.28	0.98
Poland	3.41	0.96
Sweden	3.10	1.06

Table 14: Country (JTF regions) ANOVA for the `abl_info` variable

Contrast	Estimate
Germany-Bulgaria	-0.323 (-0.42 -0.22) ***
Netherlands-Bulgaria	-0.293 (-0.39 -0.19) ***
Poland-Bulgaria	-0.163 (-0.25 -0.06) ***
Sweden-Bulgaria	-0.463 (-0.56 -0.36) ***
Netherlands-Germany	0.033 (-0.06 0.12)
Poland-Germany	0.163 (0.07 0.25) ***
Sweden-Germany	-0.143 (-0.23 -0.05) ***
Poland-Netherlands	0.133 (0.04 0.22) ***
Sweden-Netherlands	-0.183 (-0.27 -0.09) ***
Sweden-Poland	-0.313 (-0.4 -0.22) ***

Figure 22: Country (JTF regions) proportions for the `abL_opportunity` variable

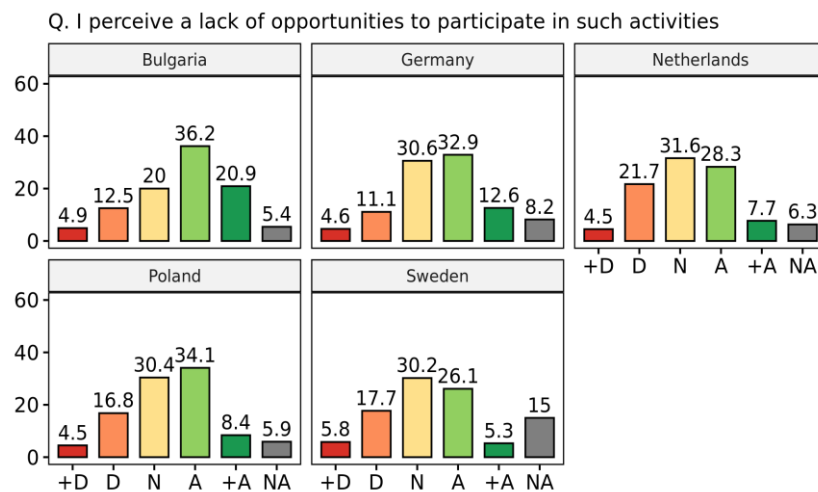


Table 15: Country (JTF regions) descriptives for the `abL_opportunity` variable

Country	Mean	SD
Bulgaria	3.51	1.06
Germany	3.38	1.06
Netherlands	3.13	1.02
Poland	3.24	1.02
Sweden	3.09	1.03

Table 16: Country (JTF regions) ANOVA for the `abL_opportunity` variable

Contrast	Estimate
Germany-Bulgaria	-0.133 (-0.23 -0.03) **
Netherlands-Bulgaria	-0.383 (-0.48 -0.28) ***
Poland-Bulgaria	-0.273 (-0.37 -0.17) ***
Sweden-Bulgaria	-0.413 (-0.51 -0.31) ***
Netherlands-Germany	-0.253 (-0.34 -0.16) ***
Poland-Germany	-0.143 (-0.24 -0.05) ***
Sweden-Germany	-0.283 (-0.38 -0.19) ***
Poland-Netherlands	0.113 (0.01 0.2) *
Sweden-Netherlands	-0.043 (-0.13 0.06)
Sweden-Poland	-0.143 (-0.23 -0.05) ***

Figure 23: Country (JTF regions) proportions for the `abL_time` variable

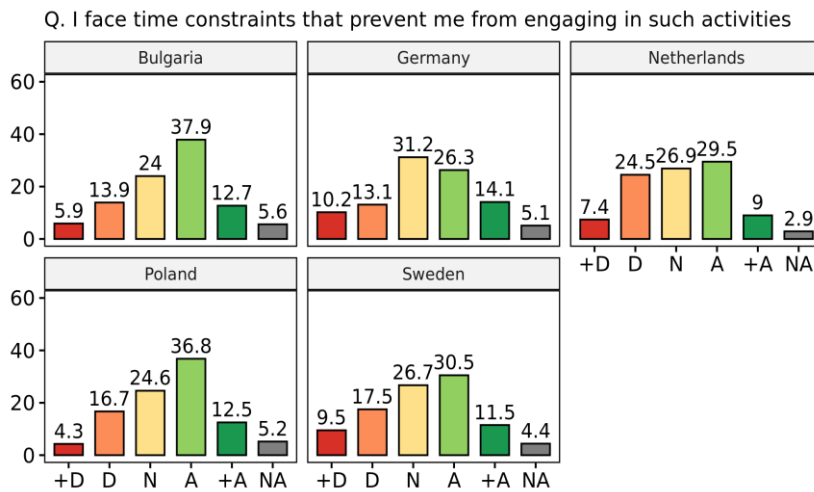


Table 17: Country (JTF regions) descriptives for the `abL_time` variable

Country	Mean	SD
Bulgaria	3.37	1.01
Germany	3.20	1.17
Netherlands	3.07	1.12
Poland	3.35	1.07
Sweden	3.15	1.16

Table 18: Country (JTF regions) ANOVA for the `abL_time` variable

Contrast	Estimate
Germany-Bulgaria	-0.173 (-0.28 -0.06) ***
Netherlands-Bulgaria	-0.293 (-0.4 -0.19) ***
Poland-Bulgaria	-0.023 (-0.13 0.09)
Sweden-Bulgaria	-0.223 (-0.33 -0.11) ***
Netherlands-Germany	-0.123 (-0.22 -0.02) **
Poland-Germany	0.153 (0.05 0.25) ***
Sweden-Germany	-0.053 (-0.15 0.05)
Poland-Netherlands	0.273 (0.17 0.37) ***
Sweden-Netherlands	0.073 (-0.03 0.17)
Sweden-Poland	-0.23 (-0.3 -0.1) ***

Figure 24: Country (JTF regions) proportions for the `abL_skills` variable

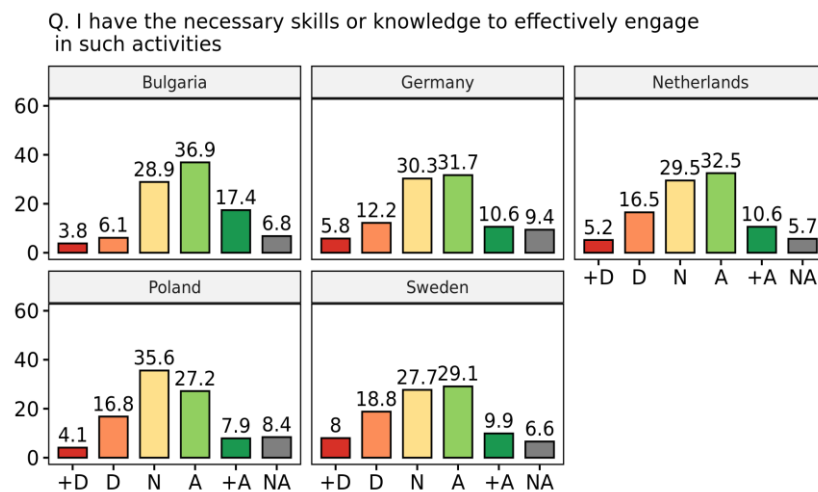


Table 19: Country (JTF regions) descriptives for the `abL_skills` variable

Country	Mean	SD
Bulgaria	3.46	0.98
Germany	3.32	1.09
Netherlands	3.27	1.06
Poland	3.22	0.99
Sweden	3.19	1.12

Table 20: Country (JTF regions) ANOVA for the `abL_skills` variable

Contrast	Estimate
Germany-Bulgaria	-0.153 (-0.25 -0.04) ***
Netherlands-Bulgaria	-0.23 (-0.3 -0.1) ***
Poland-Bulgaria	-0.243 (-0.34 -0.14) ***
Sweden-Bulgaria	-0.283 (-0.38 -0.18) ***
Netherlands-Germany	-0.053 (-0.15 0.04)
Poland-Germany	-0.093 (-0.19 0) *
Sweden-Germany	-0.133 (-0.23 -0.04) **
Poland-Netherlands	-0.043 (-0.14 0.05)
Sweden-Netherlands	-0.083 (-0.17 0.01)
Sweden-Poland	-0.043 (-0.13 0.06)

Figure 25: Country (JTF regions) proportions for the `abL_know` variable

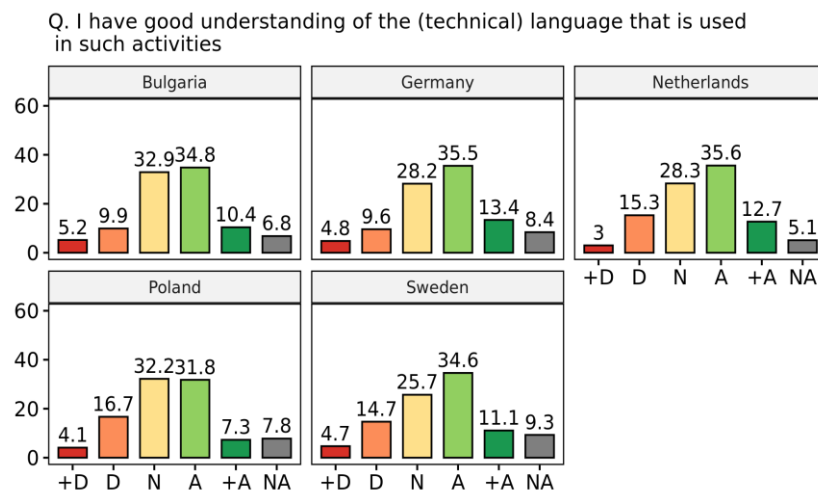


Table 21: Country (JTF regions) descriptives for the `abL_know` variable

Country	Mean	SD
Bulgaria	3.32	0.98
Germany	3.46	1.05
Netherlands	3.39	1.04
Poland	3.27	0.99
Sweden	3.38	1.07

Table 22: Country (JTF regions) ANOVA for the `abL_know` variable

Contrast	Estimate
Germany-Bulgaria	0.143 (0.04 0.24) **
Netherlands-Bulgaria	0.073 (-0.03 0.17)
Poland-Bulgaria	-0.063 (-0.16 0.04)
Sweden-Bulgaria	0.053 (-0.05 0.15)
Netherlands-Germany	-0.073 (-0.16 0.02)
Poland-Germany	-0.193 (-0.29 -0.1) ***
Sweden-Germany	-0.083 (-0.18 0.01)
Poland-Netherlands	-0.123 (-0.21 -0.03) **
Sweden-Netherlands	-0.013 (-0.1 0.08)
Sweden-Poland	0.113 (0.02 0.2) **

The Willingness sub-module

Figure 26: Country (JTF regions) proportions for the `will_voice` variable

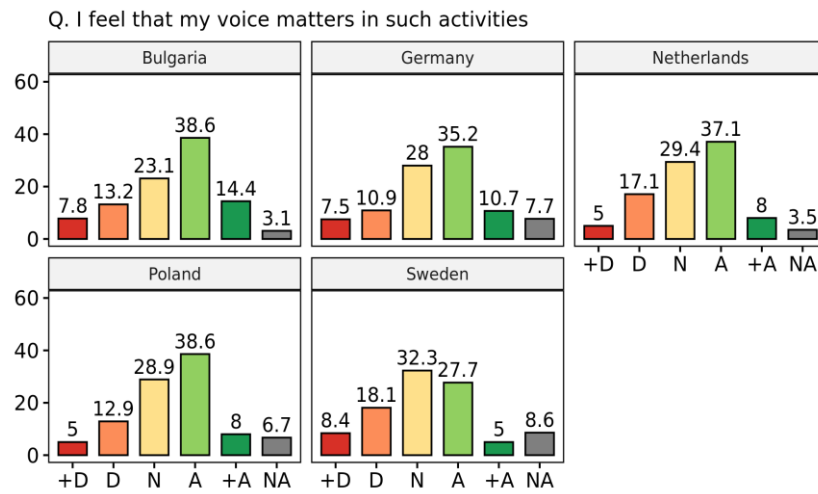


Table 23: Country (JTF regions) descriptives for the `will_voice` variable

Country	Mean	SD
Bulgaria	3.30	1.11
Germany	3.38	1.07
Netherlands	3.26	1.01
Poland	3.34	1.00
Sweden	3.07	1.06

Table 24: Country (JTF regions) ANOVA for the `will_voice` variable

Contrast	Estimate
Germany-Bulgaria	0.083 (-0.02 0.18)
Netherlands-Bulgaria	-0.043 (-0.14 0.06)
Poland-Bulgaria	0.043 (-0.06 0.14)
Sweden-Bulgaria	-0.233 (-0.33 -0.13) ***
Netherlands-Germany	-0.123 (-0.21 -0.03) **
Poland-Germany	-0.043 (-0.13 0.05)
Sweden-Germany	-0.313 (-0.41 -0.22) ***
Poland-Netherlands	0.083 (-0.01 0.17)
Sweden-Netherlands	-0.193 (-0.29 -0.1) ***
Sweden-Poland	-0.273 (-0.36 -0.18) ***

Figure 27: Country (JTF regions) proportions for the `will_responsive` variable

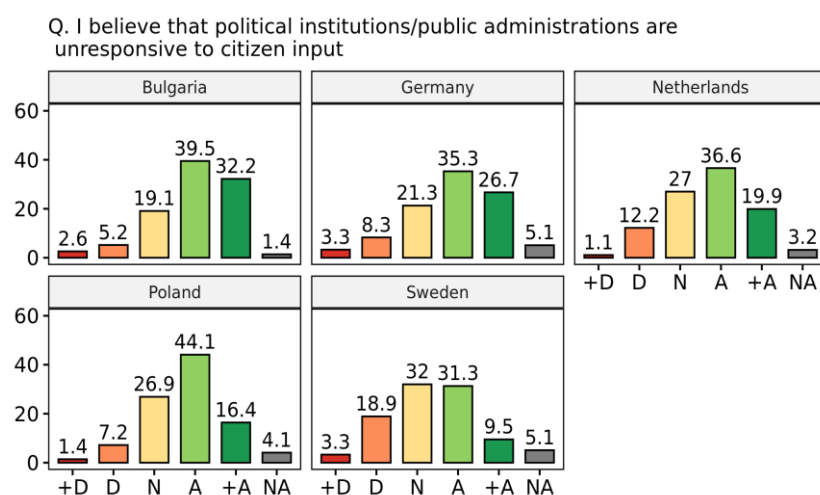


Table 25: Country (JTF regions) descriptives for the `will_responsive` variable

Country	Mean	SD
Bulgaria	3.91	1.00
Germany	3.73	1.08
Netherlands	3.63	0.98
Poland	3.69	0.90
Sweden	3.34	1.04

Table 26: Country (JTF regions) ANOVA for the `will_responsive` variable

Contrast	Estimate
Germany-Bulgaria	-0.193 (-0.28 -0.09) ***
Netherlands-Bulgaria	-0.283 (-0.38 -0.19) ***
Poland-Bulgaria	-0.233 (-0.32 -0.13) ***
Sweden-Bulgaria	-0.573 (-0.67 -0.48) ***
Netherlands-Germany	-0.13 (-0.18 -0.01) *
Poland-Germany	-0.043 (-0.13 0.05)
Sweden-Germany	-0.393 (-0.48 -0.3) ***
Poland-Netherlands	0.063 (-0.03 0.14)
Sweden-Netherlands	-0.293 (-0.38 -0.2) ***
Sweden-Poland	-0.353 (-0.44 -0.26) ***

Figure 28: Country (JTF regions) proportions for the `will_negative` variable

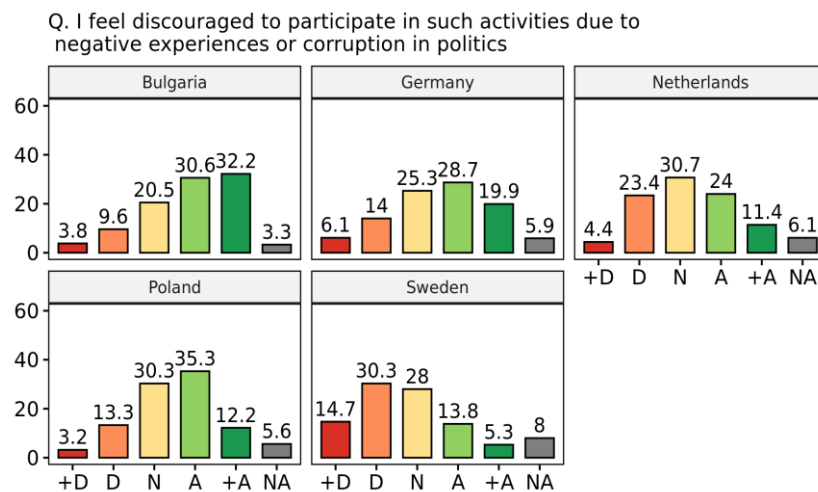


Table 27: Country (JTF regions) descriptives for the `will_negative` variable

Country	Mean	SD
Bulgaria	3.79	1.06
Germany	3.39	1.17
Netherlands	3.15	1.07
Poland	3.40	1.01
Sweden	2.70	1.10

Table 28: Country (JTF regions) ANOVA for the `will_negative` variable

Contrast	Estimate
Germany-Bulgaria	-0.43 (-0.5 -0.3) ***
Netherlands-Bulgaria	-0.653 (-0.75 -0.54) ***
Poland-Bulgaria	-0.43 (-0.5 -0.29) ***
Sweden-Bulgaria	-1.093 (-1.2 -0.99) ***
Netherlands-Germany	-0.253 (-0.34 -0.15) ***
Poland-Germany	03 (-0.09 0.1)
Sweden-Germany	-0.693 (-0.79 -0.6) ***
Poland-Netherlands	0.253 (0.15 0.34) ***
Sweden-Netherlands	-0.453 (-0.54 -0.35) ***
Sweden-Poland	-0.73 (-0.79 -0.6) ***

Figure 29: Country (JTF regions) proportions for the `will_relevant` variable

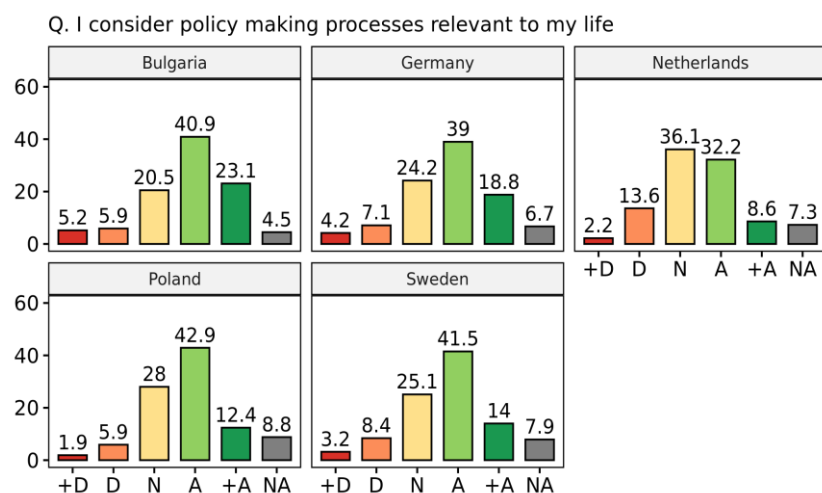


Table 29: Country (JTF regions) descriptives for the `will_relevant` variable

Country	Mean	SD
Bulgaria	3.62	1.02
Germany	3.67	1.02
Netherlands	3.36	0.90
Poland	3.65	0.87
Sweden	3.56	0.98

Table 30: Country (JTF regions) ANOVA for the `will_relevant` variable

Contrast	Estimate
Germany-Bulgaria	0.053 (-0.05 0.14)
Netherlands-Bulgaria	-0.263 (-0.36 -0.17) ***
Poland-Bulgaria	0.033 (-0.06 0.12)
Sweden-Bulgaria	-0.063 (-0.15 0.03)
Netherlands-Germany	-0.313 (-0.4 -0.22) ***
Poland-Germany	-0.023 (-0.1 0.07)
Sweden-Germany	-0.113 (-0.19 -0.02) **
Poland-Netherlands	0.293 (0.2 0.38) ***
Sweden-Netherlands	0.23 (0.12 0.29) ***
Sweden-Poland	-0.093 (-0.17 0) *

Figure 30: Country (JTF regions) proportions for the `will_community` variable

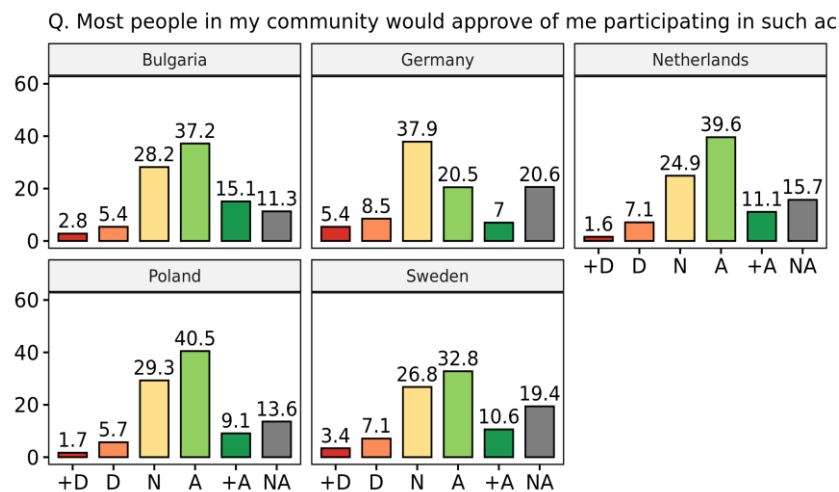


Table 31: Country (JTF regions) descriptives for the `will_community` variable

Country	Mean	SD
Bulgaria	3.54	0.92
Germany	3.24	0.98
Netherlands	3.60	0.89
Poland	3.59	0.83
Sweden	3.47	0.99

Table 32: Country (JTF regions) ANOVA for the `will_community` variable

Contrast	Estimate
Germany-Bulgaria	-0.33 (-0.39 -0.21) ***
Netherlands-Bulgaria	0.063 (-0.04 0.15)
Poland-Bulgaria	0.043 (-0.05 0.14)
Sweden-Bulgaria	-0.073 (-0.16 0.02)
Netherlands-Germany	0.363 (0.27 0.45) ***
Poland-Germany	0.343 (0.26 0.43) ***
Sweden-Germany	0.233 (0.14 0.32) ***
Poland-Netherlands	-0.013 (-0.1 0.07)
Sweden-Netherlands	-0.133 (-0.22 -0.04) ***
Sweden-Poland	-0.113 (-0.2 -0.03) **

11.1.3. Climate attitudes module

The concern sub-module

Q. Do you think that climate change is caused by human activity, natural processes, or some mix of both?

Table 33: Country (JTF regions) descriptives for the `gr_humans` variable

Country	Mean	SD
Bulgaria	4.40	2.61
Germany	4.05	2.53
Netherlands	4.21	2.37
Poland	4.31	2.56
Sweden	3.83	2.49

Table 34: Country (JTF regions) ANOVA for the `gr_humans` variable

Contrast	Estimate
Germany-Bulgaria	-0.343 (-0.58 -0.11) ***
Netherlands-Bulgaria	-0.193 (-0.43 0.05)
Poland-Bulgaria	-0.083 (-0.32 0.15)
Sweden-Bulgaria	-0.573 (-0.81 -0.34) ***
Netherlands-Germany	0.153 (-0.06 0.37)
Poland-Germany	0.263 (0.04 0.47) **
Sweden-Germany	-0.233 (-0.44 -0.01) *
Poland-Netherlands	0.13 (-0.11 0.32)
Sweden-Netherlands	-0.383 (-0.6 -0.17) ***
Sweden-Poland	-0.493 (-0.7 -0.27) ***

Q. In general, how concerned are you about climate change?

Table 35: Country (JTF regions) descriptives for the `gr_concern` variable

Country	Mean	SD
Bulgaria	7.45	2.54
Germany	6.31	2.90
Netherlands	6.01	2.57
Poland	6.71	2.67
Sweden	6.05	2.74

Table 36: Country (JTF regions) ANOVA for the `gr_concern` variable

Contrast	Estimate
Germany-Bulgaria	-1.143 (-1.39 -0.88) ***
Netherlands-Bulgaria	-1.443 (-1.69 -1.18) ***
Poland-Bulgaria	-0.743 (-0.99 -0.49) ***
Sweden-Bulgaria	-1.43 (-1.65 -1.14) ***
Netherlands-Germany	-0.33 (-0.53 -0.07) **
Poland-Germany	0.43 (0.17 0.63) ***
Sweden-Germany	-0.263 (-0.49 -0.03) *
Poland-Netherlands	0.73 (0.47 0.93) ***
Sweden-Netherlands	0.043 (-0.19 0.27)
Sweden-Poland	-0.663 (-0.89 -0.43) ***

Q. How concerned are you that climate change will affect your region?

Table 37: Country (JTF regions) descriptives for the `gr_reg_concern` variable

Country	Mean	SD
Bulgaria	7.27	2.62
Germany	5.77	2.81
Netherlands	5.63	2.54
Poland	6.28	2.71
Sweden	5.31	2.75

Table 38: Country (JTF regions) ANOVA for the `gr_reg_concern` variable

Contrast	Estimate
Germany-Bulgaria	-1.53 (-1.76 -1.25) ***
Netherlands-Bulgaria	-1.643 (-1.89 -1.38) ***
Poland-Bulgaria	-0.993 (-1.24 -0.73) ***
Sweden-Bulgaria	-1.963 (-2.22 -1.71) ***
Netherlands-Germany	-0.143 (-0.37 0.1)
Poland-Germany	0.523 (0.28 0.75) ***
Sweden-Germany	-0.463 (-0.69 -0.23) ***
Poland-Netherlands	0.653 (0.42 0.88) ***
Sweden-Netherlands	-0.323 (-0.56 -0.09) **
Sweden-Poland	-0.983 (-1.21 -0.75) ***

The cost trade-off sub-module

Q. Would you say that environmental protection should take priority over economic development when the two are in conflict?

Table 39: Country (JTF regions) descriptives for the `gr_eco` variable

Country	Mean	SD
Bulgaria	4.96	2.99
Germany	5.22	2.77
Netherlands	5.18	2.52
Poland	5.24	2.65
Sweden	4.32	2.63

Table 40: Country (JTF regions) ANOVA for the `gr_eco` variable

Contrast	Estimate
Germany-Bulgaria	0.263 (0 0.51) *
Netherlands-Bulgaria	0.213 (-0.04 0.47)
Poland-Bulgaria	0.273 (0.02 0.53) *
Sweden-Bulgaria	-0.653 (-0.9 -0.39) ***
Netherlands-Germany	-0.053 (-0.28 0.19)
Poland-Germany	0.013 (-0.22 0.25)
Sweden-Germany	-0.913 (-1.14 -0.67) ***
Poland-Netherlands	0.063 (-0.17 0.29)
Sweden-Netherlands	-0.863 (-1.09 -0.63) ***
Sweden-Poland	-0.923 (-1.15 -0.69) ***

Q. Would you be willing to pay higher taxes if it meant more funding for environmentally-friendly initiatives?

Table 41: Country (JTF regions) descriptives for the `gr_taxes` variable

Country	Mean	SD
Bulgaria	4.63	3.23
Germany	3.54	3.07
Netherlands	4.07	2.87
Poland	4.07	2.87
Sweden	4.29	3.15

Table 42: Country (JTF regions) ANOVA for the `gr_taxes` variable

Contrast	Estimate
Germany-Bulgaria	-1.083 (-1.37 -0.8) ***
Netherlands-Bulgaria	-0.563 (-0.85 -0.27) ***
Poland-Bulgaria	-0.563 (-0.84 -0.27) ***
Sweden-Bulgaria	-0.343 (-0.63 -0.05) *
Netherlands-Germany	0.523 (0.26 0.78) ***
Poland-Germany	0.533 (0.27 0.79) ***
Sweden-Germany	0.743 (0.48 1.01) ***
Poland-Netherlands	0.3 (-0.26 0.26)
Sweden-Netherlands	0.223 (-0.04 0.48)
Sweden-Poland	0.223 (-0.04 0.48)

Q. Would you be willing to accept higher living costs in order to tackle climate change?

Table 43: Country (JTF regions) descriptives for the `gr_costs` variable

Country	Mean	SD
Bulgaria	4.55	3.11
Germany	3.67	3.04
Netherlands	4.06	2.88
Poland	4.03	2.95
Sweden	4.28	3.01

Table 44: Country (JTF regions) ANOVA for the `gr_costs` variable

Contrast	Estimate
Germany-Bulgaria	-0.883 (-1.16 -0.6) ***
Netherlands-Bulgaria	-0.493 (-0.77 -0.21) ***
Poland-Bulgaria	-0.523 (-0.8 -0.24) ***
Sweden-Bulgaria	-0.273 (-0.55 0.01)
Netherlands-Germany	0.393 (0.13 0.65) ***
Poland-Germany	0.363 (0.11 0.62) **
Sweden-Germany	0.613 (0.35 0.87) ***
Poland-Netherlands	-0.033 (-0.29 0.23)
Sweden-Netherlands	0.223 (-0.04 0.48)
Sweden-Poland	0.253 (-0.01 0.51)

Q. Would you be willing to modify your lifestyle (e.g., eat less meat or fly less) in order to combat climate change?

Table 45: Country (JTF regions) descriptives for the `gr_lifestyle` variable

Country	Mean	SD
Bulgaria	5.64	3.29
Germany	5.53	3.29
Netherlands	5.54	2.96
Poland	5.43	3.12
Sweden	5.48	3.16

Table 46: Country (JTF regions) ANOVA for the `gr_lifestyle` variable

Contrast	Estimate
Germany-Bulgaria	-0.113 (-0.41 0.18)
Netherlands-Bulgaria	-0.13 (-0.4 0.2)
Poland-Bulgaria	-0.223 (-0.51 0.08)
Sweden-Bulgaria	-0.163 (-0.46 0.13)
Netherlands-Germany	0.023 (-0.26 0.29)
Poland-Germany	-0.13 (-0.37 0.17)
Sweden-Germany	-0.053 (-0.32 0.22)
Poland-Netherlands	-0.123 (-0.39 0.15)
Sweden-Netherlands	-0.073 (-0.34 0.21)
Sweden-Poland	0.053 (-0.22 0.32)

11.1.4. Trust

General trust

Q. Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? On a scale of 0 to 10, where 0 means "you can't be too careful" and 10 means that "most people can be trusted", where would you place yourself?

Table 47: Country (JTF regions) descriptives for the `trust_individual` variable

Country	Mean	SD
Bulgaria	4.63	2.40
Germany	4.21	2.63
Netherlands	5.35	2.42
Poland	4.13	2.66
Sweden	5.16	2.61

Table 48: Country (JTF regions) ANOVA for the `trust_individual` variable

Contrast	Estimate
Germany-Bulgaria	-0.423 (-0.66 -0.18) ***
Netherlands-Bulgaria	0.723 (0.48 0.96) ***
Poland-Bulgaria	-0.53 (-0.74 -0.26) ***
Sweden-Bulgaria	0.533 (0.29 0.77) ***
Netherlands-Germany	1.143 (0.92 1.36) ***
Poland-Germany	-0.083 (-0.29 0.14)
Sweden-Germany	0.953 (0.73 1.17) ***
Poland-Netherlands	-1.223 (-1.44 -1) ***
Sweden-Netherlands	-0.193 (-0.41 0.03)
Sweden-Poland	1.023 (0.8 1.24) ***

Institutional trust

Table 49: Country (JTF regions) descriptives for the `trust_govt` variable

Country	Mean	SD
Bulgaria	3.48	2.73
Germany	4.39	2.80
Netherlands	5.35	2.20
Poland	3.81	2.84
Sweden	5.02	2.39

Table 50: Country (JTF regions) ANOVA for the `trust_govt` variable

Contrast	Estimate
Germany-Bulgaria	0.923 (0.67 1.16) ***
Netherlands-Bulgaria	1.873 (1.63 2.12) ***
Poland-Bulgaria	0.343 (0.09 0.58) **
Sweden-Bulgaria	1.543 (1.3 1.79) ***
Netherlands-Germany	0.963 (0.73 1.18) ***
Poland-Germany	-0.583 (-0.8 -0.36) ***
Sweden-Germany	0.633 (0.4 0.85) ***
Poland-Netherlands	-1.543 (-1.76 -1.31) ***
Sweden-Netherlands	-0.333 (-0.56 -0.11) ***
Sweden-Poland	1.213 (0.98 1.43) ***

Table 51: Country (JTF regions) descriptives for the `trust_local` variable

Country	Mean	SD
Bulgaria	4.22	2.68
Germany	4.99	2.62
Netherlands	5.72	2.01
Poland	4.89	2.42
Sweden	5.16	2.29

Table 52: Country (JTF regions) ANOVA for the `trust_local` variable

Contrast	Estimate
Germany-Bulgaria	0.773 (0.55 1) ***
Netherlands-Bulgaria	1.53 (1.28 1.73) ***
Poland-Bulgaria	0.673 (0.45 0.9) ***
Sweden-Bulgaria	0.943 (0.71 1.16) ***
Netherlands-Germany	0.733 (0.52 0.94) ***
Poland-Germany	-0.13 (-0.31 0.11)
Sweden-Germany	0.163 (-0.04 0.37)
Poland-Netherlands	-0.833 (-1.04 -0.62) ***
Sweden-Netherlands	-0.573 (-0.77 -0.36) ***
Sweden-Poland	0.263 (0.06 0.47) **

Table 53: Country (JTF regions) descriptives for the `trust_eu` variable

Country	Mean	SD
Bulgaria	4.33	2.97
Germany	4.38	2.81
Netherlands	4.96	2.44
Poland	5.03	2.85
Sweden	4.67	2.40

Table 54: Country (JTF regions) ANOVA for the `trust_eu` variable

Contrast	Estimate
Germany-Bulgaria	0.053 (-0.2 0.3)
Netherlands-Bulgaria	0.633 (0.38 0.89) ***
Poland-Bulgaria	0.73 (0.45 0.96) ***
Sweden-Bulgaria	0.343 (0.09 0.6) **
Netherlands-Germany	0.593 (0.35 0.82) ***
Poland-Germany	0.653 (0.42 0.88) ***
Sweden-Germany	0.293 (0.06 0.53) **
Poland-Netherlands	0.073 (-0.16 0.3)
Sweden-Netherlands	-0.293 (-0.52 -0.06) **
Sweden-Poland	-0.363 (-0.59 -0.13) ***

Table 55: Country (JTF regions) descriptives for the `trust_civic` variable

Country	Mean	SD
Bulgaria	4.35	2.57
Germany	5.10	2.43
Netherlands	5.81	1.88
Poland	5.52	2.27
Sweden	5.78	2.21

Table 56: Country (JTF regions) ANOVA for the `trust_civic` variable

Contrast	Estimate
Germany-Bulgaria	0.753 (0.53 0.96) ***
Netherlands-Bulgaria	1.463 (1.24 1.67) ***
Poland-Bulgaria	1.173 (0.96 1.38) ***
Sweden-Bulgaria	1.433 (1.22 1.64) ***
Netherlands-Germany	0.713 (0.51 0.91) ***
Poland-Germany	0.423 (0.23 0.62) ***
Sweden-Germany	0.683 (0.49 0.88) ***
Poland-Netherlands	-0.293 (-0.48 -0.09) ***
Sweden-Netherlands	-0.033 (-0.22 0.17)
Sweden-Poland	0.263 (0.07 0.46) **

Table 57: Country (JTF regions) descriptives for the `trust_media` variable

Country	Mean	SD
Bulgaria	3.36	2.66
Germany	4.66	2.73
Netherlands	5.14	2.27
Poland	4.48	2.57
Sweden	5.16	2.47

Table 58: Country (JTF regions) ANOVA for the `trust_media` variable

Contrast	Estimate
Germany-Bulgaria	1.33 (1.06 1.54) ***
Netherlands-Bulgaria	1.793 (1.55 2.03) ***
Poland-Bulgaria	1.123 (0.88 1.36) ***
Sweden-Bulgaria	1.83 (1.56 2.04) ***
Netherlands-Germany	0.483 (0.27 0.7) ***
Poland-Germany	-0.183 (-0.4 0.03)
Sweden-Germany	0.53 (0.28 0.72) ***
Poland-Netherlands	-0.673 (-0.89 -0.45) ***
Sweden-Netherlands	0.023 (-0.2 0.24)
Sweden-Poland	0.683 (0.47 0.9) ***

Political ideology

Q. In political matters, people sometimes talk of "left" and "right." Generally speaking, how would you place your views on the scale below where "0" means "Left" and "10" means "Right"

Figure 31: Descriptives for the left-right self-placement (respondents from the JTF regions from each country). The response scale was measured on a 0:10 point scale.

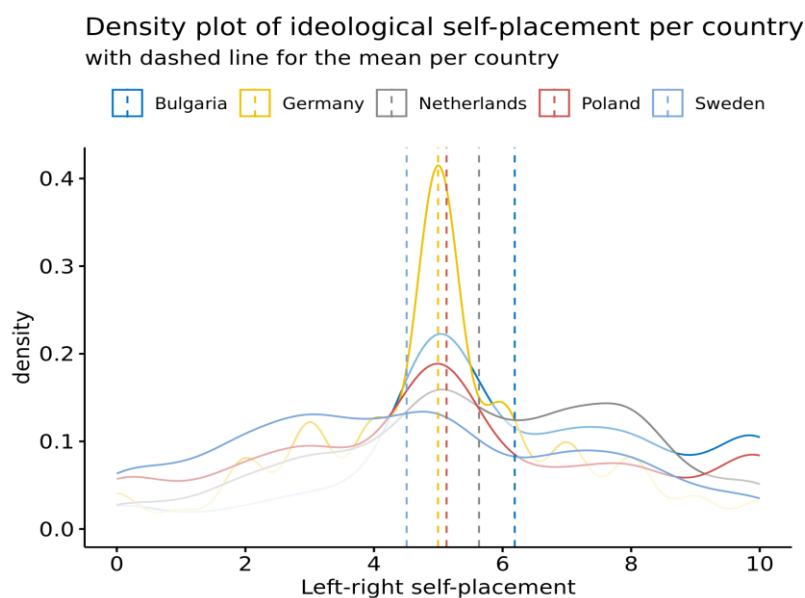


Table 59: Country (JTF regions) descriptives for the `lr` variable

Country	Mean	SD
Bulgaria	6.01	2.46
Germany	4.93	2.05
Netherlands	5.66	2.51
Poland	5.11	2.91
Sweden	4.90	2.78

Table 60: Country (JTF regions) ANOVA for the `lr` variable

Contrast	Estimate
Germany-Bulgaria	-1.073 (-1.32 -0.82) ***
Netherlands-Bulgaria	-0.343 (-0.59 -0.1) **
Poland-Bulgaria	-0.893 (-1.14 -0.65) ***
Sweden-Bulgaria	-1.113 (-1.36 -0.86) ***
Netherlands-Germany	0.733 (0.5 0.95) ***
Poland-Germany	0.183 (-0.05 0.4)
Sweden-Germany	-0.043 (-0.26 0.19)
Poland-Netherlands	-0.553 (-0.77 -0.33) ***
Sweden-Netherlands	-0.763 (-0.99 -0.54) ***
Sweden-Poland	-0.213 (-0.44 0.01)