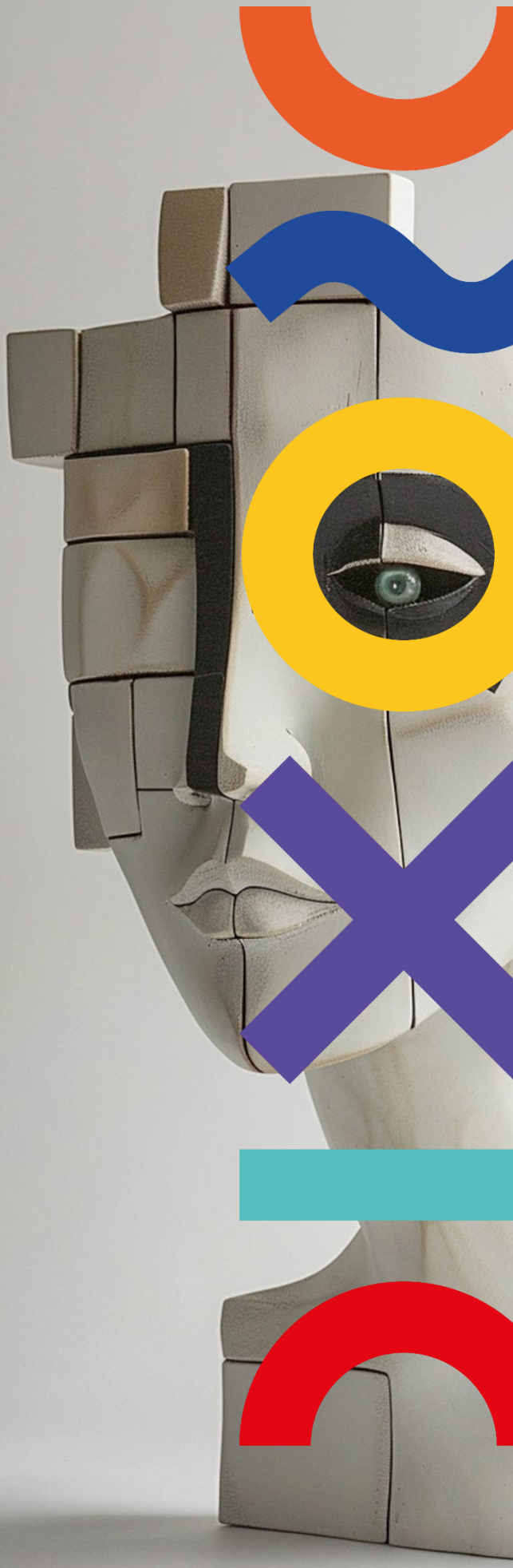
ENCODE

D5.2

Experimentally-validated survey questions



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D5.2 Experimentally-validated survey questions

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ENCODE - Unveiling emotional dimensions of politics to foster European democracy

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DISCLAIMER

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LIST OF ACRONYMS

ACRONYM	FULL NAME
D5.2	Deliverable 5.2
ESS	European Social Survey
EVS	European Values Study
LASSO	Least Absolute Shrinkage and Selection Operator
OLS	Ordinary Least Squares
R6	Round 6
R10	Round 10
VCEE	Vienna Center for Experimental Economics
W7	Wave 7
WP	Work Package
WTA	Willingness to accept
WVS	World Values Survey

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EXECUTIVE SUMMARY

The study develops and compares incentivized behavioral tasks and survey instruments to measure citizens' willingness to uphold fundamental democratic rights. Measuring these individual-level foundations of democratic resilience by means of survey methods is challenging, because self-reports are prone to social desirability bias and often diverge from actual behavior, as for example in reported versus observed election turnouts.

To address this, the project proposes a behavioral-economics approach, where real-stake experimental games eliciting preferences and values, are combined with questions from standard survey modules. Experimental and survey measures are directly compared, enabling more reliable identification of the latent democratic values that support resilient democracies. The core objective is to generate quantitative indicators of democratic resilience and, in doing so, to pinpoint where democratic values may be under strain in Europe. By linking self-reported attitudes to actual behavioral choices with broad political implications, the project offers policymakers an empirically grounded basis for monitoring democratic vulnerabilities.

Between September and December 2025, the study collected approximately 4,550 completed questionnaires in Austria, Denmark, Italy, and North Macedonia. Central to the design are two behavioral measures that capture if citizens find it repugnant to give up their (1) political voice on salient issues such as immigration, inequality, and climate change or (2) opportunity to vote in an upcoming election, in exchange for money.

Across all four countries, results indicate high baseline levels of democratic resilience: more than three quarters of respondents refuse any offer to relinquish either their Voice or their Vote for money. At the same time, respondents systematically underestimate how many of their fellow citizens would reject such offers, revealing a substantial gap between perceived and actual collective democratic commitment. The analysis uncovers meaningful variation in resilience by political orientation, socio-demographic characteristics, and emotional states. Higher education and greater life satisfaction are associated with a stronger refusal to monetize democratic rights, while emotional indifference emerges as a risk factor for democratic erosion. Emotions such as anger or excitement, by contrast, tend to accompany active democratic engagement.

Task 5.2 delivers a validated methodological toolbox consisting of: (1) a set of incentivized experimental tasks measuring political preferences and democratic commitment, and (2) a targeted survey whose items are selected and validated against behavioral benchmarks. While the survey module explains a larger share of the overall variation in resilience outcomes, the experiments are more efficient on a per-variable basis, allowing the selection of a smaller set of high-performing, behaviorally relevant survey items and survey-based predictors of the Voice and Vote measures. Taken together, these selected items form the basis of a scalable, cost-effective toolkit for tracking democratic resilience over time, which will support the construction of a cross-national democratic resilience heat map by country and socio-demographic group in Task 5.3.

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1. INTRODUCTION

1.1 THE ENCODE PROJECT

The ENCODE project, titled "Unveiling Emotional Dimensions of Politics to Foster European Democracy," aims to explore and decode the role of emotions in political discourse and their impact on democratic processes. Recognizing that emotional appeals have significantly influenced political movements and voter behaviour, ENCODE seeks to understand the interplay between emotions, values, and identities. The project's primary goal is to create new positive narratives that can foster trust and engagement in European democratic processes, thereby counteracting the negative emotions that often dominate political discussions. Through innovative methodologies, including social media sentiment analysis, biometric research, and surveys, ENCODE aims to provide policymakers with tools and strategies to better incorporate the emotional needs of citizens into governance, ultimately enhancing democratic resilience and fostering a more inclusive political environment.

1.2 OBJECTIVES OF THIS DELIVERABLE

Task 5.2 focuses on Emotions and Democratic Values. This deliverable pursues four main objectives. Firstly, it provides an overview of the methodological approach developed to study democratic resilience at the individual level across countries and presents key descriptive statistics. Secondly, it analyses how socio-demographic characteristics and emotional evaluations of current political issues and corresponding policy proposals are associated with value individuals attach to two fundamental democratic rights: political voice and vote. Thirdly, the deliverable identifies and compares the most informative indicators of democratic resilience by assessing the predictive performance of experimental choice tasks relative to survey items in explaining an incentivized behavioral task capturing the value individuals place on their political voice and their vote. Finally, it validates established survey-based measures of democratic attitudes and behaviors from European Social Survey and World Values Survey against these behavioral outcomes, thereby mitigating some limitations of self-reported data. This validation leads to the identification of a reduced set of ten high-yield survey items with the strongest predictive power.

1.3 STRUCTURE OF THE DOCUMENT

The deliverable is structured in the following sections:

- Chapter 1 introduces the deliverable and outlines its objectives.
- Chapter 2 outlines study design and sampling.
- Chapter 3 presents the framework for jointly analyzing the different elicitation methods that underly this study.
- Chapter 4 details our primary dependent variables for democratic resilience: the direct behavioral measures of Voice and Vote and sketches the two other components of the triangulation framework: experimental games and survey instruments.

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- Chapter 5 reports the main empirical findings on democratic resilience across the surveyed countries, including the role of emotions and socio-demographic factors in shaping democratic engagement and resilience.
- Chapter 6 compares the performance of experimental and survey-based measures in predicting the direct behavioral measure.
- Chapter 7 identifies a concise set of survey items that best predict our behavioral outcome measures for democratic resilience using econometric methods.
- Chapter 8 highlights interlinkages with other ENCODE work packages, summarizes the main conclusions, and outlines implications and recommendations for monitoring and policy.
- Annexes A–H provide supplementary methodological material, including detailed descriptions of the experimental tasks, an abridged version of the survey instrument, and regression tables.

1.4 RELATION TO OTHER TASKS

This deliverable on Emotions and Democratic Values is part of Work Package 5 and links the conceptual dimensions of democratic resilience and erosion to survey tools for measuring individual-level democratic engagement and behavior. In doing so, it builds on the conceptual framework developed in WP2, which relates values and beliefs to political behavior and highlights the critical role of emotions and affects in processes of democratic consolidation and erosion. By examining these interconnections through behavioral and survey-based measures, this deliverable provides an empirical perspective on the theoretical distinctions advanced in WP2. Moreover, this study uses the same set of emotions as in Task 5.1, which explores the role of emotions in political information processing and thus contributes to contextualizing our findings on the interface of emotions and democratic engagement.

Task 5.2 complements WP3 and WP4, which analyze how emotions can be triggered and amplified through media and political communication, by observing individual-level behavioral responses and investigating their emotional associations. Lastly, our data collection in four countries provides a blueprint for implementing the same design in other countries, thus allowing cross-national comparisons over time. Accordingly, D5.2 feeds directly into Task 5.3, which combines the validated experimental games and short survey module identified and developed here with cross-national panel data to construct a democratic resilience “heat map” across ten project countries (Austria, Bulgaria, Denmark, Poland, France, Italy, Hungary, Bosnia and Herzegovina, North Macedonia, and Belgium).

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2. STUDY DESIGN AND SAMPLING

2.1 COUNTRY AND TIMING

From September to December 2025, we fielded our survey in Austria, Italy, North Macedonia, and Denmark, yielding a total of 4,550 complete responses. The main questionnaire was completed by approximately 3,600 respondents, while an additional 950 observations derive from adapted versions and treatments used for analyzing the baseline questionnaire design (see Section 4.1.4).

With the support of native speakers and country experts, including our ENCODE cooperation partners in North Macedonia and Denmark, all questionnaires were translated into the respective national languages, with country-specific wording for political offices and institutions.

A pilot study (N = 54) was conducted in September 2025 using the Vienna Center for Experimental Economics (VCEE) subject pool. This was followed by the study in Austria (N = 1,168), which ran from mid-September to October 2025. Data collection in Italy, North Macedonia, and Denmark was timed to coincide with the weeks preceding nationwide elections, ensuring that the Voice and Vote tasks referred to salient and concrete political events. Participation in the survey was restricted to respondents who were eligible to vote and had not yet cast their ballot in the respective elections.

Specifically, these survey waves relating to forthcoming nationwide elections were conducted as follows:

- In Italy, the main questionnaire was fielded from October to November 2025 (N = 1,017), ahead of regional elections in Aosta Valley, Apulia, Calabria, Campania, Marche, Tuscany, and Veneto, held on different dates in autumn 2025.
- In North Macedonia, data collection took place in October 2025 (N = 581), ahead of the nationwide local elections held on October 19, 2025.
- In Denmark, the main survey wave was conducted in November 2025 (N = 823), preceding the municipal and regional council elections on November 18, 2025.

Surveys with modified direct behavioral measures were administered in Austria (N = 254), Italy (N = 501), and Denmark (N = 209), again timed to precede the relevant elections where applicable.

2.2 SAMPLING

Participants were recruited through the professional online panel provider “Bilendi”. Table 1 summarizes the key features of the sample by country, including the total sample size across all treatments, eligibility criteria, and survey languages. Quality controls included checks for speeding[1] and duplicate IP addresses, as well as in-survey attention checks, and participants who failed one of these checks were excluded from the dataset. To ensure that participants

[1] Given the expected survey length of 40 minutes, speeding was defined as a total duration of less than 20 minutes.

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understood the technical aspects of the incentivized experimental tasks, we implemented comprehension checks that participants were required to pass before proceeding.

Table 1: Country-level sampling

COUNTRY	SAMPLE SIZE	ELIGIBILITY	LANGUAGE
Austria	1,426	Citizens eligible to vote in national elections.	German
Denmark	1,029	Citizens eligible to vote in the upcoming elections who had not yet cast their ballot.	Danish
Italy	1,518	Citizens eligible to vote in the upcoming elections who had not yet cast their ballot.	Italian
North Macedonia	581	Citizens eligible to vote in the upcoming elections who had not yet cast their ballot.	Macedonian and Albanian

2.3 ETHICS, INFORMED CONSENT, AND DATA PROTECTION

The study received ethical approval from the University of Vienna's Ethics Committee in July 2025 (reference number: 01384; see Annex A.1 for the full document) and complies with GDPR requirements. Participants received clear information and a consent form explaining the purpose of the study, the procedures involved, and data handling practices, and were informed that they could withdraw from participation at any time without penalty (see Annex A.2 for an abridged version). Participants were identified solely through pseudonymous participant IDs managed by the panel provider, and the research team had no access to directly identifying personal information. Only anonymized datasets are used for analysis, and no individual-level results are reported.

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3. MEASUREMENT FRAMEWORK: COMBINING BEHAVIOR, GAMES, AND SURVEYS

3.1 THE TRIANGULATION FRAMEWORK

While traditional surveys offer the advantage of cheap implementation on a large scale, they involve important trade-offs if not carefully designed. In particular, when addressing politically sensitive topics, survey responses may be affected by social desirability bias[2] and related forms of misreporting, potentially leading to biased or distorted estimates (Rosenfeld et al. 2016).[3] Consequently, in order to leverage the freely accessible data on democratic attitudes provided by large-scale and cross-national survey programs such as the ESS or WVS, it is essential to identify survey items that are less susceptible to such biases.

Incentivized elicitation offers a promising complementary behavioral approach widely used in the economics, as it mitigates the problem of "cheap talk"[4] by linking decisions to real financial consequences (Blair et al. 2020)[5]. At the same time, incentivized experiments are more costly to implement and challenging to scale up. Our research design therefore leverages the respective strengths of surveys (scalability and low cost) and experiments (real consequences) by using incentivized tasks to validate survey items – that is, by assessing the extent to which different measures predict incentivized behavioral outcomes related to democratic attitudes and behaviors.

To this end, the methodological design of the study follows a triangulation approach, combining multiple data sources and methods to study democratic resilience to enhance the validity, and credibility of the findings and to identify a subset of elicitation tools that can be deployed cost-effectively on a large scale. Specifically, the triangulation framework underpinning our study (see Figure 1) integrates three complementary measurement components:

(1) Incentivized direct behavioral measures of democratic resilience, capturing decisions to trade away or retain Voice (e.g., signing a petition) and Vote (voting rights) in exchange for monetary rewards.
(2) Incentivized experimental games, designed to elicit civic and democratic behaviors under controlled conditions and implemented in both neutral and political frames (tailored to respondents' political leanings) (Del Ponte et al. 2020)[6].

[2] The tendency of survey respondents to report answers they perceive as socially acceptable rather than their true beliefs, leading to a discrepancy between stated and revealed preferences and practices
[3] Rosenfeld, B., Imai, K. and Shapiro, J.N. (2016). An empirical validation study of popular survey methodologies for sensitive questions. *American Journal of Political Science*, *60*(3), 783–802.
[4] The reporting of socially desirable or normatively appropriate answers when responses are costless and carry no real consequences.
[5] Blair, G., Coppock, A. and Moor, M. (2020). When to worry about sensitivity bias: A social reference theory and evidence from 30 years of list experiments. *American Political Science Review*, *114*(4), 1297–1315.
[6] Del Ponte, A., Kline, R. and Ryan, J. (2020). Behavioral analysis in the study of politics: The conflict laboratory. In *The Oxford Research Encyclopedia of Political Decision Making*.

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(3) Standardized survey questions measuring attitudes, beliefs, and self-reported political behaviors.

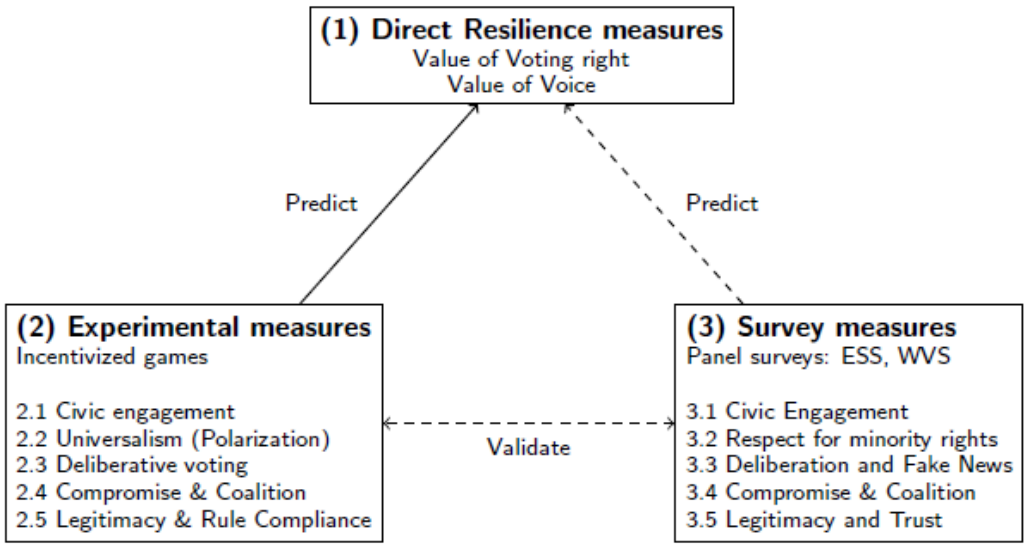

Figure 1: Triangulation framework

To enhance comparability, both the experimental games and survey items were grouped and organized along five key dimensions of democratic resilience that can be summarized under the following labels:

- Civic Engagement
- Universalism and Polarization,
- Coalition and Compromise,
- Legitimacy and Rule-Compliance,
- Deliberation and Accurate Information.

Following a brief overview of the structure of our triangulated questionnaire, each of these components is described in detail in the subsequent section.

3.2 OVERVIEW OF THE SURVEY FLOW

The full questionnaire consists of 17 blocks, structured as follows:

- Block 1: Introduction and informed consent
- Block 2: Socio-demographic background
- Block 3: Behavioral Outcome 1 – Value of an Expressed Opinion (Voice)
- Block 4: Behavioral Outcome 2 – Value of the Vote (Vote)
- Blocks 5–9. Experimental Games 1–5 (according to the five dimensions of democratic resilience; see Section 3.1)

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- Block 10: Complementary questions (e.g., populism, technocracy, zero-sum beliefs)
- Blocks 11–16: Standardized survey questions adapted from ESS and WVS (grouped according to the five dimensions of democratic resilience)
- Block 17: Debriefing

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4. MEASUREMENT COMPONENTS

4.1 DIRECT BEHAVIORAL MEASURES: *VOICE* AND *VOTE*

4.1.1 VOICE: VALUE OF THE RIGHT TO EXPRESS ONE'S OPINION

In the direct behavioral measure of *Voice*, participants evaluated three salient policy proposals:

- Fight Climate Change: *Banning the sale of all gasoline and diesel cars by the year 2030*.
- Reduce Inequality: *Introducing an annual 2% tax on wealth for the richest 1% of citizens*.
- Reduce Immigration: *Significantly reducing the number of foreign immigrants to [country]*.

For each policy measure, respondents indicated their level of support on a four-point scale ranging from "strong support" to "strong opposition." They were then asked to identify which of these policy issues they felt most strongly about.[7] Subsequently, participants selected the emotion – *Anxiety*, *Anger*, *Disgust*, *Excitement*, *Hope*, *Indifference* or *Other* (with the possibility to specify) – when thinking about their selected issue. They were then offered the opportunity to sign a real petition addressed to their respective heads of government, either supporting or opposing the selected policy, conditional on their stated position (see Annex D for example petitions).

To elicit the first behavioral measure of democratic resilience, that is, Voice, respondents were subsequently presented with the opportunity to sign a petition contradicting their true opinion on their selected issue in exchange for monetary compensation. For respondents who supported a given policy, this entailed signing the petition that would otherwise be shown to respondents opposed to the policy, and vice versa. Participants who had previously indicated a willingness to sign a petition in support of their stated position were explicitly informed that, if they accepted the offer, the opposing petition would be sent instead of the original one.

Before viewing the specific monetary offer, participants were asked to choose between the following options:

- Option A: *I find the proposal to accept money to sign a petition contradicting my true opinion to be outrageous and inappropriate, and I refuse to even consider it* (no information about the amount offered).
- Option B: *I am willing to learn more details about the offer* (directed to an explanation about the money on offer).

[7] For a sub-sample in Austria (n = 153), two additional policy measures – COVID-19 (*Enforcing mandatory vaccinations in the event of a new variant*) and the Russian invasion of Ukraine (*Severing all business and economic ties with Russia*) – were included. In this treatment, these two issues were selected least frequently as the policy areas respondents felt most strongly about. Specifically, 9.2% and 11.8% selected COVID-19 and the Russian invasion, respectively, compared to 12.4% for climate change, 26.1% for inequality, and 40.5% for immigration. The main data collection focused on the latter three policy domains because of their broad applicability and enduring relevance in political debate across national contexts, making them particularly well suited for capturing stable patterns of democratic engagement.

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The proportion choosing Option A provides a direct measure of "repugnance": the categorical refusal to commodify one's own political voice.

Importantly, all participants were informed about the real financial stakes involved in this task. Respondents who selected Option B were directed to a page detailing the money on offer, and told that they could earn up to an amount approximately equal to the median national wage. With the aid of a graphical illustration (see Annex E), participants were informed that they would state a minimum willingness to accept (WTA) by choosing a value between zero and the pre-specified maximum amount. A random offer would then be drawn from the same range. If the randomly drawn offer was greater than or equal to the participant's stated WTA, there was a 1-in-1,000 probability that the participant would receive the corresponding payment. If the stated WTA exceeded the maximum amount, or if the randomly drawn offer was below the stated WTA, no payment was made.

4.1.2 VOTE: VALUE OF THE RIGHT TO VOTE

The Vote task follows a similar logic. Participants were asked whether they would be willing to forgo voting in the upcoming national election in exchange for a monetary offer and again chose between Option A, capturing a categorical refusal (that is, repugnance), and Option B, indicating a willingness to learn more about the monetary offer. The payment mechanism (see Annex E) followed the same structure as in the Voice measure to ensure consistency across behavioral measures. However, unlike the petition task (Voice), the Vote scenario was hypothetical to comply with legal and ethical requirements, i.e., no money changed hands, and participants did not actually forfeit their right to vote.

4.1.3 AGGREGATE DESCRIPTIVE RESULTS OF VOICE AND VOTE

Out of 3,586 respondents in the main survey waves, 963 (26.9%), 1,456 (40.6%), and 1,167 (32.5%) selected fighting climate change, reducing inequality, and reducing immigration, respectively, as the policy issue they felt most strongly about. Table 2 reports the distribution of emotions respondents stated they experienced when thinking about their selected policy issue. Both the choice of policy issues and the emotions reported exhibit substantial variation across countries, consistent with differences in issue salience in national political contexts. Table 3 illustrates the distribution of strongest policy positions by country (see Annex F for the distribution of emotions).

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Table 2: Distribution of emotions across the whole sample

EMOTION	OBSERVATIONS (N)	PERCENTAGE
Anxiety	698	19.5%
Anger	999	27.9%
Disgust	393	11%
Excitement	212	5.9%
Hope	774	21.6%
Indifference	268	7.5%
Other	242	6.8%

Table 3: Distribution of strongest policy-positions by country

COUNTRY	FIGHT CLIMATE CHANGE	REDUCE INEQUALITY	REDUCE IMMIGRATION
Austria	20.3%	35.7%	44%
Denmark	35.1%	29.3%	35.6%
Italy	28.2%	48.6%	23.2%
North Macedonia	26%	52.5%	21.5%

Across all four countries and 3,600 observations from the main questionnaire, more than three quarters of participants categorically refused to consider accepting money (Option A) either to sign a petition contradicting their expressed opinion (78.3%) or to forgo their right to vote (77.5%). As more closely examined in Section 5.1, this pattern is broadly consistent across surveyed countries.

Moreover, respondents considered the monetary offer displayed substantial variability in their WTA, with values ranging from 0 to 1,000,000. Among participants who initially opted to learn more about the monetary offer in the Voice and Vote tasks, 8.2% and 6.3%, respectively, reported a WTA exceeding the explicitly stated maximum amounts, indicating a refusal upon further reflection.

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4.1.4 MODIFICATIONS AND SENSITIVITY ANALYSIS

In the process of data collection, two modified versions of our direct behavioral measures were trialed to explore whether alternative implementations would induce systematic variations in response behavior: (1) The private political treatment, and (2) the private non-political treatment, with details on respective sample sizes and treated countries reported in Table 4.

Table 4: Modified treatment versions used in sensitivity analyses

TREATMENT	OBSERVATIONS (N)	FIELDED COUNTRIES
Private Political	386	Austria, Denmark, Italy
Private Non-Political	312	Austria, Denmark, Italy

The private political and non-political treatments modified the framing of the Voice task while retaining the same incentives as the main questionnaire. In the private political scenario, the policy proposal remained the same as in the baseline version. However, instead of signing an official petition to the head of the state, respondents were first asked whether they would be willing to record a private written statement in support of or opposition to the policy issue they felt most strongly about. They were then offered monetary compensation to anonymously record a statement expressing the opposite position. In this private setting, a smaller share of respondents (65.5%) categorically refused the offer, compared to the main Voice measure (78.3%), suggesting that repugnance is heightened when actions carry explicit democratic implications.

The private non-political framing followed the same procedure as the private political treatment, with the exception that policy proposals were replaced by statements outside a directly political context. Rather than expressing support for or opposition to salient policy issues, respondents were, for example, asked whether they believed that hard work and effort are more important than innate talent in achieving success. While the private political treatment already indicated lower levels of repugnance when no explicit democratic consequences were involved, the private non-political framing suggests that repugnance is further reduced when the issues at stake are not directly political. In this condition, only 62.5% of respondents expressed initial repugnance.

4.2 EXPERIMENTAL GAMES: CIVIC AND DEMOCRATIC TRAITS

Before the experimental section in the online survey, participants were informed about the conversion rate between the experimental currency ("tokens") and their national currency. They were also told that one of the five games would be randomly selected for actual payout, ensuring that respondents understood the real financial consequences, i.e., incentives, of their choices. Where relevant, experimental instructions were adapted to respondents' political leaning (left or right) as reported in the socio-demographic questionnaire (Block 2).

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A brief overview of the experiments is given here, while Annex B contains more detail on instructions and payoff structures.

4.2.1 CIVIC ENGAGEMENT (PUBLIC GOODS GAME)

Participants decide how many of 10 tokens to contribute to a group project with two others. Tokens contributed to the group are pooled, reduced by a fixed factor, and then shared equally among all group members. By contrast, tokens kept by participants for themselves are not discounted and benefit only the individual. This task captures the willingness to sacrifice private benefits for collective gain.

4.2.2 LEGITIMACY AND RULE-COMPLIANCE (PUBLIC GOODS GAME WITH RULE)

This experiment builds on the Civic Engagement Game (Game 1) by introducing a rule that requires a full 10-token contribution and imposes a 2-token penalty for non-compliance. Each participant takes part in two versions of the task.

(1) In the exogenous version, the rule is imposed externally and applies regardless of participants' preferences.

(2) In the endogenous version, participants vote by majority on whether to adopt the rule.

Comparing behavior across these two conditions demonstrates how democratic legitimacy affects compliance.

4.2.3 UNIVERSALISM AND POLARIZATION (SHARING GAME)

Participants allocate 10 tokens between two other players, one of whom belongs to the same group as the allocator, while their own payoff remains fixed. They choose between an equal split (5–5) and an unequal split (10–0). In a neutral version of the task, group membership is defined by arbitrary team labels (Team A & B). In the subsequent political version, the same decision is made, but group membership is based on political leaning. The choice between equal and unequal allocations reveals general fairness and universalism, as well as in-group favoritism when group boundaries are politicized.

4.2.4 COMPROMISE AND COALITION (BARGAINING GAME)

Participants are paired with a player from the opposite side of the political spectrum and asked to reach an agreement on how to divide a fixed number of tokens. Each participant makes decisions for both possible roles, proposer and responder, although only one role, selected at random, determines the actual payment. As proposer, participants indicate the maximum number of tokens they are willing to give to the other player. As responder, they state the minimum offer they would be willing to accept. If these choices allow for an agreement, both players receive a payout based on the agreed division. If no agreement is possible, the outcome is determined by a lottery in which only the proposer may receive a

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payout, while the responder receives nothing. This task measures the willingness to compromise with participants holding opposing political views.

4.2.5 DELIBERATION (WILLINGNESS TO PAY FOR ADDITIONAL INFORMATION)

Participants are grouped with two other players, one left-leaning and one right-leaning, and asked to make a decision that determines the earnings of the other two. They start from a situation in which their own political group is better off. Participants can choose to pay a small cost to obtain information about an alternative option before making a final decision. They are informed in advance that this alternative is equally likely to either further benefit their own group or benefit the opposing group. If participants do not seek additional information, the initial option automatically applies. If they do, they can choose between the initial option and the revealed alternative. Paying to obtain information serves as a measure of the willingness to deliberate beyond immediate partisan reactions. For an illustration of the Deliberation Game that also served as a visual aid for respondents, see Annex G.

4.3 STANDARD SURVEY MODULES AND ADDITIONAL QUESTIONS

The survey component adapts items from the European Social Survey and the World Values Study across multiple waves, most notably WVS wave 7 (W7 2017–2022)[8] and ESS rounds 6 (R6 2012)[9] and 10 (R10 2020)[10]. While the latter two ESS rounds included dedicated and overlapping modules on understandings and evaluations of democracy, the majority of selected items have been repeatedly fielded across waves. All survey questions were organized into the five dimensions of democratic resilience (see Section 3.1), which also served to structure the experimental games introduced in Section 4.2. Both the five thematic blocks and the questions within each block were presented in random order to preclude order effects.

Prior to the standardized survey questions, respondents answered a set of complementary questions. These served two purposes. First, they included additional socio-demographic measures, such as marital status, that were not part of the core socio-demographic questionnaire, to keep that section concise and because these variables were not required for screening or for assigning respondents to experimental instructions based on political leaning. Second, the complementary questions captured attitudes that help contextualize the incentivized behavioral findings gathered in the preceding sections. An example is the item capturing respondents' opinion on autocracy as a way of governance: they were asked to provide their personal evaluation of having a strong leader who does not have to bother with parliament and elections govern their country.

[8] World Values Survey (WVS). (2017–2022). Wave 7. https://www.worldvaluessurvey.org/WVSDocumentationWV7.jsp.
[9] European Social Survey (ESS). (2012). Round 6. *Europeans' Understandings and Evaluations of Democracy*. https://ess.sikt.no/en/study/7ccf7f30-fd1a-470a-9b90-4c91b0bc7438.
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Table 5 provides an overview of the key attitudes, values, and behaviors covered in each block of standardized questions. An abridged overview with example items is provided in Annex C.

Table 5: Overview of standardized survey items by dimension of democratic resilience

BLOCK	MAIN DOMAINS
Complementary Questions	• Populist attitudes • Support for technocracy or autocracy • Self-reported effort in the survey • Zero-sum beliefs • Marital, household and residence status • Income group
Civic Engagement	• Political and civic participation (e.g. petitions, boycotts, demonstrations, donations, contacting officials) • Organisational membership • Perceived importance of participatory rights (e.g., referenda, freedom of speech) • Voting behavior • Perceived political efficacy
Universalism and Polarization	• Gender equality • Minority rights and inclusion • Immigration attitudes • Social identification across communities (local, national, European, global) • Preferences over welfare distribution • Equality before the law
Coalition and Compromise	• Preferences for coalition versus single-party government • Social trust • Views on income equality and competition • Relevance of party politics and clear political alternatives • Willingness to compromise versus acting independently
Legitimacy and Rule-Compliance	• Trust in various institutions • Perceptions and experiences of corruption • Justifiability of rule violations (e.g., tax evasion, bribery) • Evaluation of aspects of electoral integrity • Preference for democratic versus authoritarian decision-making • Importance of government accountability • Support for checks and balances on state authority
Deliberation and Accurate Information	• Frequency of political discussion • Trust in media and journalism • Perceived reliability of media • Media consumption patterns

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	• Importance of free and independent media • Importance of reliable information • Willingness to engage in political discussion • Perceptions of misinformation in the media

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5. RESULTS: PATTERNS AND DRIVERS OF DEMOCRATIC RESILIENCE

5.1 HIGH BASELINE RESILIENCE

Both the Voice and Vote tasks indicate substantial democratic resilience. Overall, more than three quarters of respondents immediately rejected any monetary trade involving either their right to express an opinion or their right to vote, without even considering the offer (see Section 4.1.3). This pattern is robust across countries and policy issues (Climate Change, Inequality, Immigration). Table 6 reports the share of repugnant respondents for the Voice and Vote measures at the country level, while Table 7 examines categorical refusal to sign a petition contradicting a previously expressed opinion by policy issue.

Table 6: Repugnance to trade Voice and Vote by country

MEASURE	AUSTRIA	DENMARK	ITALY	NORTH MACEDONIA
Voice	77.5%	77%	79.2%	80.2%
Vote	77%	77.2%	79.3%	76.1%

Table 7: Repugnance to trade Voice by strongest policy-position

POLICY	OBSERVATIONS (N)	LEVEL OF REPUGNANCE (%)
Fight Climate Change	963	77.8%
Reduce Inequality	1,456	78.9%
Reduce Immigration	1,167	77.9%

5.2 UNDERESTIMATION OF OTHER'S DEMOCRATIC RESILIENCE

Participants systematically underestimated the share of their peers who would refuse to trade their democratic rights in exchange for money. Before deciding whether to immediately reject the monetary offer or to learn more about it, respondents were asked to estimate how many out of 100 people in their country taking the same survey would consider trading their Voice or Vote for money to be outrageous or inappropriate and would refuse to even consider the offer. Across all observations in the main wave, the average prior beliefs amounted to 53.3% for Voice and 50.2% for Vote. These beliefs stand in stark contrast to the actual refusal rates of 78.3% and 77.5% observed in the behavioral tasks. Tables 8 and

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9 compare average prior beliefs with observed refusal rates at the country level for Voice and Vote, respectively.

Table 8: Average prior beliefs versus observed levels of repugnance to sell Voice by country

COUNTRY	AVERAGE PRIOR BELIEFS ABOUT REPUGNANCE TO SELL *VOICE*	OBSERVED LEVEL OF REPUGNANCE TO SELL *VOICE*
Austria	53.6%	77.5%
Denmark	58.2%	77%
Italy	51.4%	79.2%
North Macedonia	49.1%	80.2%

Table 9: Average prior beliefs versus observed levels of repugnance to sell Vote by country

COUNTRY	AVERAGE PRIOR BELIEFS ABOUT REPUGNANCE TO SELL *VOTE*	OBSERVED LEVEL OF REPUGNANCE TO SELL *VOTE*
Austria	44.8%	77%
Denmark	65.3%	77.2%
Italy	50.4%	79.3%
North Macedonia	39.2%	76.1%

5.3 POLITICAL AND SOCIO-DEMOGRAPHIC DIFFERENCES

Controlling for country fixed effects, differences in democratic resilience are observable across political and socio-demographic groups. Democratic resilience varies along the left–right ideological spectrum as measured by respondents' self-placement. OLS regression analyses suggest that a stronger right-leaning orientation is significantly associated with a higher willingness to trade both Voice and Vote for monetary compensation. Furthermore, respondents who stated that having a strong leader who does not have to bother with parliaments and elections would be a bad thing in their country, were significantly less likely to give up their Voice.

Educational attainment is also systematically related to democratic resilience: respondents with higher levels of completed education exhibit greater resistance to trading both Voice and Vote. Similarly, higher levels of self-reported overall life satisfaction are negatively associated with respondents' willingness to forgo both assessed democratic rights for money.

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Gender differences are likewise evident. On average, women are less likely than men to forgo their vote or to sign a petition contradicting their expressed opinion. At the same time, women are also less likely to sign the initial petition corresponding to their stated position, suggesting that different underlying factors may shape their expressive participation. Finally, age is positively associated with democratic resilience in the Voice task, with older respondents showing greater reluctance to trade their expressed opinions for monetary compensation.

Importantly, while the groups outlined above exhibit higher average levels of democratic resilience, overlaps across groups are substantial, and all socio-demographic categories include both highly resilient individuals and respondents who appear more vulnerable. Taken together, these patterns still point to the importance of targeted communication strategies. Full regression results supporting these findings are reported in Annex H.

5.4 EMOTIONAL STATES

Controlling for country fixed effects as well as socio-demographic and political attributes, and using anxiety as baseline emotion, the analysis shows that selecting indifference as the emotion best describing respondents' feelings toward their strongest policy position corresponds to higher individual levels of democratic erosion (see Annex H). Indifference is significantly related to a higher likelihood of accepting monetary compensation to trade both Voice and Vote. Likewise, it is associated with a lower likelihood of signing the (sincere) petition corresponding to respondents stated position on the issue. Fortunately, indifference is reported by less than 10% of the respondents in every country.

By contrast, OLS estimates indicate that both anger and excitement are positively correlated with purposefully making use of one's democratic Voice. This is reflected in a higher likelihood of signing the petition aligned with respondents expressed opinions.

Taken together, these tendencies underline the potential relevance of communication strategies that strengthen emotional engagement, relevance, and affective pluralization (see WP2) in democratic discourse.

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6. COMPARING EXPERIMENTAL AND SURVEY MEASURES

6.1 PREDICTIVE POWER

As part of the Triangulation Framework (detailed in Section 3.1), we evaluated whether experimental measures (revealed preferences) or survey measures (stated preferences) better predicted "repugnance" – the categorical refusal of the monetary offer in the Voice and Vote tasks.

Initial comparisons indicate that survey items have stronger predictive power. Models based on survey data explained a larger share of the variation in outcomes, achieving a higher adjusted R-square (7.3%) compared to experimental models (3.1%). As shown in Table 10 by example of the Voice outcome, this pattern remains consistent across all five dimensions of democratic resilience.

Table 10: Adjusted R-square for experimental and survey models predicting Voice resilience

DIMENSION	EXPERIMENTS (ADJ. R^2)	SURVEYS (ADJ. R^2)
Civic Engagement	1.65%	2.56%
Universalism and Polarization	0.48%	3.46%
Coalition and Compromise	0.56%	1.94%
Legitimacy and Rule-Compliance	2.58%	5.19%
Deliberation and Accurate Information	0.26%	2.82%

6.2 SCALE AND EFFICIENCY PER ITEM

As outlined in Table 11, the number of survey measures substantially exceeds the number of experimental variables within each dimension.

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Table 11: Number of experimental versus survey variables by dimension of democratic resilience

DIMENSION	EXPERIMENTS (NUMBER OF VARIABLES)	SURVEYS (NUMBER OF VARIABLES)
Civic Engagement	1	24
Universalism and Polarization	2	21
Coalition and Compromise	2	17
Legitimacy and Rule-Compliance	4	38
Deliberation and Accurate Information	3	19

While extensive survey batteries explain more overall variation than the experimental measures (see Section 6.1), this effect narrows as the number of survey items is reduced. Figure 2 illustrates this relationship by comparing the adjusted R-square obtained from the 12 experimental variables with that from models based on randomly drawn subsets of survey items of increasing size for the Voice measure. For small numbers of survey items, experimental measures achieve a higher or comparable explanatory power. As additional survey items are included, however, the explanatory performance of survey-based models increases steadily and eventually surpasses that of the experimental measures.

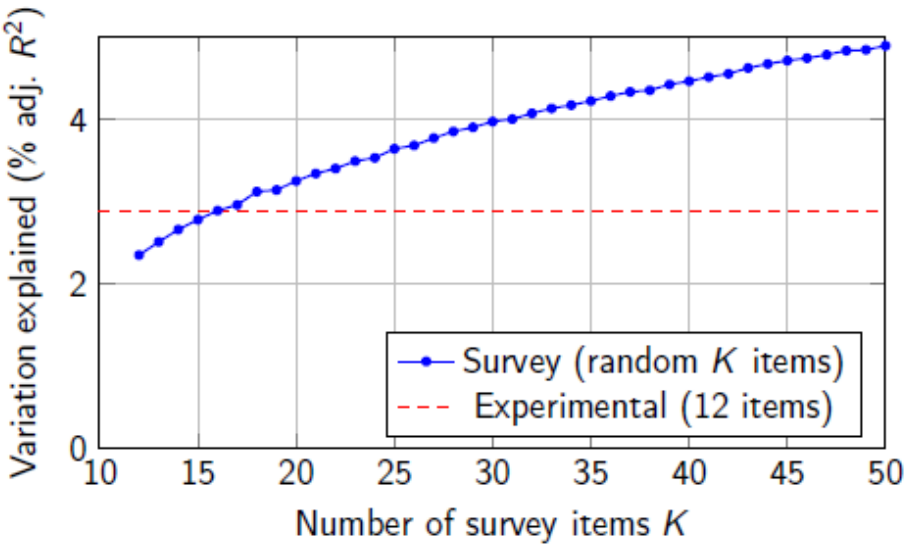

Figure 2: Adjusted R-square from experimental measures versus survey models of increasing size

An important metric used to assess the practicality of different monitoring tools is predictive efficiency per item, that is, R-square divided by the number of items included in the model.

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This comparison shows that, despite relying on roughly one tenth the number of items, the experimental measures achieve approximately twice the predictive efficiency of survey-based measures across both outcomes. Specifically, experiments are five to nineteen times more efficient per variable. Table 12 compares R-square values and predictive efficiency per item for survey-based and experimental models across each dimension, using the behavioral measure of Vote as the outcome.

Table 12: R-square and predictive efficiency of experimental versus survey-based models for Vote resilience, by dimension

DIMENSION	R^2 (EXP.)	R^2 (SUR.)	EFFICIENCY (EXP.)	EFFICIENCY (SUR.)
Civic Engagement	3.4%	4%	3.4	0.17
Universalism and Polarization	2.4%	4.5%	1.2	0.2
Coalition and Compromise	2.5%	3.2%	1.25	0.19
Legitimacy and Rule-Compliance	4.3%	6.2%	1.08	0.16
Deliberation and Accurate Information	2.2%	4.1%	0.73	0.22

6.3 HARMONIZING INDICATORS THROUGH BINARY CONVERSION

To improve comparability across survey-based and experimental measures, we introduce a binary conversion of all variables. Beyond their substantial difference in scale that we have addressed by means of predictive efficiency on a per-item basis (see Section 6.2), survey and experimental variables also tend to differ in how response categories can be interpreted when used as regressors. Without consistent binary conversion, comparisons of predictive performance may therefore be affected by format and scale properties which differ between surveys (e.g., responses to some questions would be “have done”, “might do”, “would never do”) to experimental (e.g., responses would typically be “yes”, “no”). The conversion additionally aligns the independent variables with the structure of the outcome measures themselves, as both Voice and Vote capture a binary decision between categorical refusal and the willingness to learn more about monetizing these democratic rights.

For many survey items, adjacent response categories do not necessarily correspond to uniform or comparable increments. In ordinal response scales, the conceptual distance between categories such as “strongly agree” and “agree” may differ from that between “agree” and “neither agree nor disagree”, while judgements about these differences are likely to vary across individual respondents. Nominal response formats further complicate interpretation in regression-based analyses, as they frequently contain qualitatively distinct states, such as “have done”, “might do”, and “would never do”. Binarizing survey items therefore improves the comparison. As six of the twelve experimental indicators used in the

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validation are binary by design, and the remaining experimental measures are based on contribution scales in public goods and bargaining games (see Section 4.2), these issues primarily affect survey-based measures. However, in order to ensure overall comparability across items and across methods, we apply binary conversion consistently to all variables used in the validation exercise.

To harmonize the measurement structure across validation inputs, ordinal variables are converted by distinguishing between responses that are smaller than or equal to, and those strictly above, the midpoint of the response scale.[11] Nominal items are binarized by converting each response category into a separate dummy-encoded variable capturing the presence or absence of that particular choice. As a result, nominal survey items are represented by multiple dummy variables, increasing the total number of predictors relative to the original specification (see Table 11). However, all subsequent comparative analyses account for this change in dimensionality.

Tables 13 and 14 report adjusted R-square values for survey-based and experimental predictors of Voice and Vote, respectively, from specifications including country fixed effects. These values are lower when using binarized variables, but exhibit the same relative ordering as their non-binarized counterparts. Survey batteries continue to explain a larger share of overall variation, while experimental measures retain a higher efficiency on a per-variable basis. For those dimensions of democratic resilience in which all experimental indicators are already binary, namely, "Universalism and Polarization" and "Deliberation and Accurate Information", binary conversion does not affect predictive power.

Table 13: Adjusted R-square for Voice, using original versus binarized variables, by dimension

DIMENSION	EXP: original	SUR: original	EXP: binary	SUR: binary
Civic Engagement	1.65%	2.56%	1.31%	2.42%
Universalism and Polarization	0.48%	3.46%	0.48%	2.41%
Coalition and Compromise	0.56%	1.94%	0.44%	1.31%
Legitimacy and Rule-Compliance	2.58%	5.19%	1.91%	3.91%
Deliberation and Accurate Information	0.26%	2.82%	0.26%	1.53%
Across Dimensions	3.11%	7.27%	2.43%	6.13%

[11] As a robustness check, we have re-estimated all regressions using an alternative binarization rule that shifts the threshold from strictly greater than to greater than or equal to the midpoint of the ordinal scale.

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Table 14: Adjusted R-square for Vote, using original versus binarized variables, by dimension

DIMENSION	EXP: original	SUR: original	EXP: binary	SUR: binary
Civic Engagement	1.75%	4.51%	1.26%	4.03%
Universalism and Polarization	0.73%	4.05%	0.73%	2.34%
Coalition and Compromise	0.34%	2.12%	0.23%	1.78%
Legitimacy and Rule-Compliance	2.21%	7.53%	1.63%	5.26%
Deliberation and Accurate Information	0.11%	3.04%	0.11%	2.17%
Across Dimensions	2.74%	10.3%	2.28%	8.18%

Taking into consideration these advantages of harmonizing validation inputs through binary conversion, the item selection in Section 7 relies on the binarized indicators introduced here to identify a concise set of behaviorally relevant, that is, validated, survey-based predictors of democratic resilience.

6.4 IMPLICATIONS

In terms of predictive performance, both our original and binarized survey-based models explain a larger share of total variance in democratic resilience outcomes (see Section 6.1 and Section 6.3). However, this advantage is closely tied to scale. As shown in Section 6.2, experimental measures offer a highly efficient and behaviorally validated alternative.

The results point to clear trade-offs between efficiency, on the one hand, and practical considerations related to cost and respondent burden, on the other. Survey modules and experimental games impose a broadly comparable time burden on respondents (approximately 15 minutes for surveys versus 13 minutes for the games). At the same time, experimental tasks incur additional monetary costs due to financial incentives, which amounted to roughly €2 per participant. They also introduce higher cognitive demands. In total, approximately 1,000 respondents (22.3%) made use of the optional feedback function. Of these, 7.4% reported finding the rules of the experimental games or the use of tokens confusing or numerically difficult to understand.

Our Triangulation Framework (see Section 3.1) leverages the respective strengths and weaknesses of surveys and experimental games to identify a set of behaviorally validated high-yield survey items and indicators of democratic resilience. These items enable regular, low-cost implementation across countries while retaining a strong behavioral foundation. This approach is particularly well suited for monitoring democratic resilience over time and across diverse national contexts in future research.

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7. HIGH-PERFORMING SURVEY INDICATORS OF DEMOCRATIC RESILIENCE

To identify which self-reported attitudes, values and behaviors meaningfully predict our direct measures of democratic resilience, that is, Voice and Vote, we apply Least Absolute Shrinkage and Selection Operator (LASSO) regression to the full set of survey items derived from ESS (R6 2012; R10 2020) and WVS (W7 2017–2022) batteries. LASSO simultaneously identifies a compact and informative subset of indicators while limiting model complexity to avoid overfitting and redundancy among highly correlated items. This approach allows us to isolate survey predictors with demonstrated behavioral relevance.

As established in Section 6.3, all items enter the selection process in their binarized form. In addition to the advantages of harmonization and comparability outlined above, this further allows the selection procedure to distinguish between different response categories within a single survey item. More precisely, for nominal questions, binary encoding enables the model to capture asymmetric associations across response options that would otherwise be conflated in a regression model based on the original, that is, non-binarized, survey items. This allows LASSO to identify whether the individual response categories of a single item are differentially associated with our Voice or Vote outcomes, instead of estimating a uniform effect across qualitatively distinct cases.

We estimate separate LASSO models for Voice and Vote resilience. Table 13 summarizes the ten survey items with the highest predictive power for each outcome conditional on country fixed effects, grouped by dimension of democratic resilience. For each item, the table specifies the exact binary predictor used in the selection process. For ordinal survey questions, this corresponds to whether or not a value strictly greater than a specified threshold of the response scale was chosen, while for nominal questions it points to whether a respondent selected a particular response category. The table additionally reports whether an item has been chosen for the Voice or Vote outcome, or both, as well as the sign of the estimated coefficient – either positive (+) or negative (-) – for each predictor. This sign indicates the direction of the standardized LASSO association, with positive (negative) values reflecting a higher (lower) likelihood of trading one's Voice or Vote for money. Given that the binary conversion of nominal survey questions results in multiple dummy-encoded predictors, a single survey item may appear more than once in the table if multiple response categories are selected by the LASSO models. Therefore, in the case of Vote, Table 13 reports eleven distinct predictors corresponding to ten survey items.

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Table 15: Top ten LASSO-selected survey items with demonstrated behavioral relevance for Voice and Vote, grouped by dimension

DIMENSION	SURVEY ITEM AND PREDICTOR	*VOICE*	*VOTE*
Civic Engagement	If you had to choose, which one of these things would you say is most important? (WVS W7) Options: 1 (Maintaining order in the nation), 2 (Giving people more say in important government Decisions), 3 (Fighting rising prices), 4 (Protecting freedom of speech) Predictor: Choice of Option 3	✓ (+)	✓ (+)
Civic Engagement	If you had to choose, which one of these things would you say is most important? (WVS W7) Options: 1 (Maintaining order in the nation), 2 (Giving people more say in important government Decisions), 3 (Fighting rising prices), 4 (Protecting freedom of speech) Predictor: Choice of Option 4		✓ (-)
Civic Engagement	Did you vote in the last [country] national election in [month/year]? (ESS R6, R10) Options: 1 (Yes), 2 (No), 3 (Not eligible) Predictor: Choice of Option 1	✓ (-)	
Civic Engagement	Did you vote in the last [country] national election in [month/year]? (ESS R6, R10) Options: 1 (Yes), 2 (No), 3 (Not eligible) Predictor: Choice of Option 2		✓ (+)
Civic Engagement	How essential do you think it is as a characteristic of democracy that people choose their leaders in free elections? (WVS W7) Scale: 1 (Not essential) – 10 (Essential) Predictor: Choice > 5		✓ (-)
Universalism	When jobs are scarce, men should have more right to a job than women. (WVS W7) Scale: 1 (Agree strongly) – 5 (Disagree strongly) Predictor: Choice > 3	✓ (-)	
Universalism	When jobs are scarce, employers should give priority to people of this country over immigrants. (WVS W7) Scale: 1 (Agree strongly) – 5 (Disagree strongly)		✓ (-)

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	Predictor: Choice > 3		
Universalism	From your point of view, what have been the effects of immigration on the development of [this country]? Do you agree or disagree with the statement that immigration increases the risk of terrorism? (WVS W7) Options: 1 (Agree), 2 (Hard to say), 3 (Disagree) Predictor: Choice of Option 3	✓ (-)	
Universalism	How important do you think it is for democracy in general that the government protects all citizens against poverty? (ESS R6, R10) Scale: 0 (Not at all) – 10 (Extremely) Predictor: Choice > 5		✓ (-)
Compromise	How much do you trust people of another nationality? (WVS W7) Scale: 1 (Completely) – 4 (Not at all) Predictor: Choice > 2	✓ (+)	✓ (+)
Rule-Compliance	Please state whether you think claiming government benefits to which you are not entitled can always be justified, never be justified, or something in between. (WVS W7) Scale: 1 (Never) – 10 (Always) Predictor: Choice > 5	✓ (+)	
Rule-Compliance	Please state whether you think avoiding a fare on public transport can always be justified, never be justified, or something in between. (WVS W7) Scale: 1 (Never) – 10 (Always) Predictor: Choice > 5	✓ (+)	✓ (+)
Rule-Compliance	Please state whether you think cheating on taxes if you have a chance can always be justified, never be justified, or something in between. (WVS W7) Scale: 1 (Never) – 10 (Always) Predictor: Choice > 5	✓ (+)	✓ (+)
Rule-Compliance	How important do you think it is for democracy in general that opposition parties are free to criticize the government? (ESS R6) Scale: 0 (Not at all) – 10 (Extremely) Predictor: Choice > 5		✓ (-)

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Rule-Compliance	How acceptable for you would it be for [country] to have a strong leader who is above the law? (ESS R10) Scale: 0 (Not at all) – 10 (Completely) Predictor: Choice > 5	✓ (+)	✓ (+)
Deliberation	How important do you think it is for democracy in general that the government explains its decisions to voters? (ESS R6) Scale: 0 (Not at all) – 10 (Extremely) Predictor: Choice > 5	✓ (-)	

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8. CONCLUSIONS AND RECOMMENDATIONS

8.1 INTEGRATION WITH OTHER ENCODE WORK PACKAGES

Although Tasks 5.2 and 5.3 within WP5 result in practical deliverables: a validated set of survey questions (D5.2) and a cross-national democratic resilience heat map (D5.3), they are substantially embedded in the ENCODE project. In particular, they build on the conceptual architecture developed in WP2; complement the insights provided by WP3 and WP4, through which emotions are elicited and shaped; and rely on the shared data infrastructure established in WP1, which enables outputs to be combined and compared across work packages. The key points of integration are summarized below.

8.1.1 CONCEPTUAL ALIGNMENT AND CONSTRUCT MAPPING (WP2.1)

WP2.1 clarifies the conceptual boundaries between affect and emotion and highlights how values and beliefs filter affective responses into object-directed emotions that, in turn, shape political behavior. This deliverable draws on that mapping as a conceptual background. Specifically, the core outcome measures, i.e., Voice and Vote, operationalize politically meaningful behaviors within the broader domain of political participation. The experimental games and survey batteries are explicitly structured around democratic values that WP2 characterizes as relatively stable yet potentially activated by affective and emotional cues. Finally, the deliberation and information components are designed to capture how emotionally charged contexts influence information search, judgement, and compliance-relevant decision-making.

8.1.2 SHARED EMOTION SET, TRIGGERS, AND INFORMATION-DISORDER CONTENT (WP3/WP4; TASK 5.1)

The measurement layer developed in WP5 is aligned with the ENCODE emotion set defined in Task 5.1, ensuring that discrete emotions are measured in comparable ways across behavioral experiments, surveys, and media and communication analyses. While WP3 and WP4 develop and deploy emotion triggers, such as narrative prompts, exposure materials, and information- and disinformation-related content, Task 5.2 ensures that the resulting emotional responses can be systematically linked to behavioral outcome measures. This alignment enables emotional effects elicited in different experimental and communication environments to be compared and interpreted within a common analytical framework.

8.1.3 DATA INTEROPERABILITY AND REUSE (WP1)

All respondent-level outputs are documented in accordance with the project-wide standards established in WP1, including harmonised variable naming conventions, metadata on sampling and timing, de-identification procedures, and shared codebooks. This standardization allows the WP5 dataset to be merged with other ENCODE data streams, such as WP3's computational indicators of emotions and values in online discourse and WP4's experimental modules, without the need for ad hoc harmonization. The same

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shared infrastructure also underpins the transition from Task 5.2 to Task 5.3, where the validated measures developed here are scaled to additional countries for the construction of a cross-national democratic resilience heat map.

8.1.3 REUSABLE OUTPUTS FOR OTHER ENCODE WORK PACKAGES

In addition to the findings summarized in Section 8.2, D5.2 generates a set of reusable assets intended for direct uptake across the ENCODE project. These include:

1. A validated short survey module (item bank and final wording) that can be fielded alongside WP3 and WP4 instruments and is used in Task 5.3 for cross-country scaling.

2. Task scripts and implementation notes for the experimental games, including the deliberation and information components that are relevant to WP3's work on disinformation and fake news.

3. Harmonized codebooks and analysis-ready respondent-level variables, aligned with WP1 standards, enabling pooled analyses, replication, and reuse by other project partners.

8.2 MAIN CONCLUSIONS

4. Democratic resilience in the surveyed countries is high as per our direct measure regarding the non-negotiable value citizens attach to their rights to express an opinion and vote.

5. Incentivized experiments are informative measurement tools and complement survey-based measures.

6. Emotional indifference is a key early-warning sign of democratic erosion; anger is not inherently anti-democratic when coupled with engagement.

7. Underestimating others' democratic commitment may erode perceived social support for democracy, even when objective resilience is strong.

8.3 RECOMMENDATIONS FOR POLICY AND MONITORING

1. Monitor indifference as well as anger. Future surveys and observatories should include items that capture apathy and disengagement, not only negative emotions like anger or fear.

2. Include behavioral "repugnance tests" in resilience assessments. Direct questions about willingness to trade key rights, implemented ethically and transparently, provide valuable behavioral signals.

3. Rely on validated survey measures. The selected survey items recommended here can be a more robust monitoring tool for European democracies.

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4. Address misperceptions of others' commitment. Communication strategies that highlight that most citizens remain committed to democratic norms can help bolster resilience.

5. Tailor interventions to groups at risk. Educational and participatory initiatives may be especially effective when directed at groups combining lower trust with higher indifference.

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10. ANNEXES

ANNEX A – ETHICS AND INFORMED CONSENT

A.1 ETHICS APPROVAL

Beschluss der Ethikkommission
Decision of the Ethics Committee

universität wien
Ethikkommission

Antragsteller*in / Applicant: Univ.-Prof. Dr. Jean-Robert Tyran
Bearbeitungsnummer / Reference Number: 01384
Projekttitel / Title of Project: Measuring Democratic Resilience: An Experimental and Behavioral Economics approach

Die Stellungnahme der Ethikkommission erfolgt aufgrund folgender eingereichter Unterlagen / The decision of the Ethics Committee is based on the following documents:

12.05.2025
- Application Form_EthicsCommittee_12May2025_JRT
- ERB_Letter_12May_JRT
- InformedConsent_MeasuringDemocraticResilience_12May2025
- ProjectDescription_IRB_UniVie_12May2025

17.07.2025
- Application_EthicsCommittee_July2025_Tracked
- InformedConsent_MeasuringDemocraticResilience_July2025_Tracked

Die Kommission fasst folgenden Beschluss (mit X markiert) / The Ethics Committee has made the following decision (marked with an X):

☒ Zustimmung: Es besteht kein ethischer Einwand gegen die Durchführung der Studien. / Consent: There is no ethical objection to conduct the study as proposed.

☐ Negative Beurteilung: Der Antrag wird von der Ethikkommission abgelehnt. / Negative evaluation: The proposal is rejected by the Ethics Committee.

Inhaltliche Abänderungen müssen der Ethikkommission vorgelegt werden. / Amendments to the content must be presented to the Ethics Committee.

Unterschrift / Signature

Datum / Date

21.07.2025

Vorsitzender der Ethikkommission / Chair of the Ethics Committee
Univ.-Prof. MMag. DDDr. Martin Voracek

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A.2 QUESTIONNAIRE INTRODUCTION AND INFORMED CONSENT

Participants are welcomed to an academic study on democracy, informed that:

- The study has two parts: incentivized decision-making tasks and a survey.
- They can earn a base payment plus performance-based bonuses.
- Participation is voluntary and can be terminated at any time.
- Data are anonymized and managed according to GDPR.

Consent is obtained via a simple "I agree / I do not agree" question; only consenting participants proceed.

ANNEX B – BEHAVIORAL AND EXPERIMENTAL TASKS (ABRIDGED DESCRIPTIONS)

B.1 DIRECT BEHAVIORAL TASKS

B.1.1 VOICE – VALUE OF AN EXPRESSED OPINION

- Participants evaluate three policy proposals (climate, inequality, immigration) and choose the one they feel most strongly about.
- They can sign a petition reflecting their position.
- They are then asked whether they are willing to accept money to sign an opposite petition.
- They first choose between:
  - Rejecting the offer as "outrageous and inappropriate," or
  - Learning more and subsequently stating the minimum amount they would accept.
- Participants also estimate how many people in their country reject such an offer

B.1.2 VOTE – VALUE OF THE VOTE

- Participants consider a hypothetical offer of money to forgo their vote in an upcoming election.
- As above, they choose whether to reject or learn more and, if they opt in, state a minimum acceptable amount.

Both tasks provide binary resilience indicators (reject vs consider) and continuous valuations for those who consider.

B.2 EXPERIMENTAL GAMES

B.2.1 GAME 1 – CIVIC ENGAGEMENT (PUBLIC GOODS)

- Group of 3; each receives 10 tokens.
- Contributions to a group project are pooled, discounted and shared equally.
- Participants report beliefs about others' contributions.

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B.2.2 GAME 2 – LEGITIMACY AND RULE-COMPLIANCE

- Same group structure and payoffs as Game 1.
- Rule requires full contribution; deviations attract a 2-token penalty.
- In one version, rule is imposed by the state; in another, it is decided by majority vote.
- Participants vote, form expectations about others' votes, and state contributions under both "rule accepted" and "rule rejected" scenarios.

B.2.3 GAME 3 – UNIVERSALISM AND POLARIZATION (SHARING)

- Decision-maker allocates 10 tokens between two others; earns a fixed 4 tokens regardless.
- Neutral version: recipients are randomly labelled (Team A vs B).
- Political version: labels reflect left vs right orientation determined earlier.
- Choices between equal and unequal allocations reveal fairness vs in-group favoritism.

B.2.4 GAME 4 – DELIBERATION (INFORMATION DEMAND)

- Decision affects payoffs of two others (same or opposing political side).
- Default option favors one side; deliberation (at cost of 1 token) reveals whether a different option is available that may benefit one side or the other.
- Participants first indicate which option they would choose in each information state, then decide whether to pay for information.

B.2.5 GAME 5 – COMPROMISE AND COALITION (BARGAINING)

- Pair of ideologically opposed players.
- One states a maximum offer to give, the other states a minimum acceptable amount.
- If max ≥ min, an agreement is implemented; if not, the proposer faces a risky lottery and the responder gets zero.

Understanding checks precede each game.

ANNEX C – SURVEY INSTRUMENT (ABRIDGED OVERVIEW)

This annex summarizes the main survey modules and example questions. For brevity, we do not reproduce every item. The full instrument is available on request and stored in the project's internal documentation.

C.1 SOCIO-DEMOGRAPHIC BACKGROUND

- Age (categories)
- Gender (including non-binary option)
- Citizenship and voting rights
- Country and region of residence
- Highest completed education (country-specific categories)

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- Employment status
- Life satisfaction and satisfaction with the political system (0–10 scales)
- Left–right self-placement (1–10 scale)
- Marital status, household size
- Migration background (self and parents)
- Residence in country more than six months per year

C.2 CIVIC ENGAGEMENT AND PARTICIPATION

Key items adapted from ESS and WVS, including:

- Whether respondents have signed petitions, joined boycotts, attended demonstrations, joined strikes, whether they might do so or would never do so.
- Additional items on donating to campaigns, contacting officials, encouraging others to participate or vote, and online activism (searching political information, e-petitions, organizing protests online).
- Voting behavior in the last national election.
- Membership and activity in organizations (trade unions, political parties, charities).

C.3 UNIVERSALISM AND POLARIZATION

Sample items:

- Agreement with statements such as:
  - "When jobs are scarce, men should have more right to a job than women."
  - "When jobs are scarce, employers should give priority to people of this country over immigrants."
- Feelings of closeness to local community, region, country, continent, and world.
- Perceived effects of immigration (e.g., on cultural life, unemployment, crime, diversity).
- Preferences on allowing immigrants from poorer countries (many/some/few/none).
- Perceived importance for democracy in general that minority rights are protected and that the courts treat everyone the same.

C.4 COALITION AND COMPROMISE

Sample items:

- Preferences regarding income equality vs incentives for effort (1–10 scales).
- Preferences for single-party vs coalition governments, and perceived importance that governments are formed by coalitions.
- Trust in family, neighbors, strangers, people of another religion or nationality.
- Views on whether freedom or equality is more important when forced to choose.
- Perceptions of whether most people would take advantage of others or try to be fair.
- Importance of making one's own decisions independently versus being open to others' opinions.

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C.5 LEGITIMACY AND RULE-COMPLIANCE

Key domains include:

- Confidence in institutions: churches, armed forces, unions, police, courts, government, parliament, political parties, civil service, elections, EU, UN.
- Perceptions of bribery and corruption (overall and in everyday dealings).
- Justifiability of actions such as claiming undeserved benefits, fare evasion, tax evasion, theft, bribery (0–10 scales).
- Perceptions of election quality (e.g., fairness of vote counting, vote-buying, intimidation, genuine choice).
- Importance of democracy, accountability of governing parties, freedom of opposition, judicial checks on government.
- Trust in parliament, legal system, police, politicians, parties (0–10 scales).
- Acceptance of a strong leader above the law (0–10 scale).
- Perceived risk of being held accountable for bribery or corruption.

C.6 DELIBERATION AND ACCURATE INFORMATION

Items include:

- Frequency of political discussion with friends.
- Confidence in press and television.
- Perceptions of media bias in elections (e.g., TV news favoring the governing party).
- Importance for democracy that media can criticize the government, provide reliable information, and that voters discuss politics.
- Values related to listening to people holding a different opinion.
- Media use patterns: daily/weekly/monthly/rarely/never using newspapers, TV, radio, internet, social media, conversations.
- Perceived exposure to misinformation via online/mobile communication.

C.7 COMPLEMENTARY ITEMS

- Importance for democracy that the views of ordinary people prevail over those of elites (0–10).
- Additional socio-demographic attributes (e.g., marital status, migration background, income)
- Evaluations of different political systems (autocracy, technocracy, democracy).
- Self-reported effort devoted to the study (almost no effort to a lot of effort).
- Statement on zero-sum thinking about wealth (“If one group becomes wealthier, it is at the expense of others”).

These modules provide a broad attitudinal background that can be linked to behavioral measures in the Voice/Vote tasks and experimental games.

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ANNEX D – EXAMPLE PETITIONS

D.1 FIGHT CLIMATE CHANGE (SUPPORT)

Petition to support: Banning the sale of all new gasoline and diesel cars by the year 2030.

To the Honorable [head of government – office + name],

We, the undersigned citizens of [country], express our support to impose a ban on the sale of all new gasoline and diesel cars by 2030.

The future of our planet and the health of our citizens depend on bold steps like this, and we urge you to implement this policy without delay.

Respectfully,

A Concerned Citizen

D.2 FIGHT CLIMATE CHANGE (OPPOSE)

Petition to oppose: Banning the sale of all new gasoline and diesel cars by the year 2030.

To the Honorable [head of government – office + name],

We, the undersigned citizens of [country], express our opposition to impose a ban on the sale of all new gasoline and diesel cars by 2030.

The competitiveness of our economy is threatened by this inappropriate policy that will destroy many jobs, and we urge you to not consider this misguided ban entirely.

Respectfully,

A Concerned Citizen

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ANNEX E – *VOICE* AND *VOTE* PAYMENT MECHANISM ILLUSTRATION (EXAMPLE NORTH MACEDONIA)

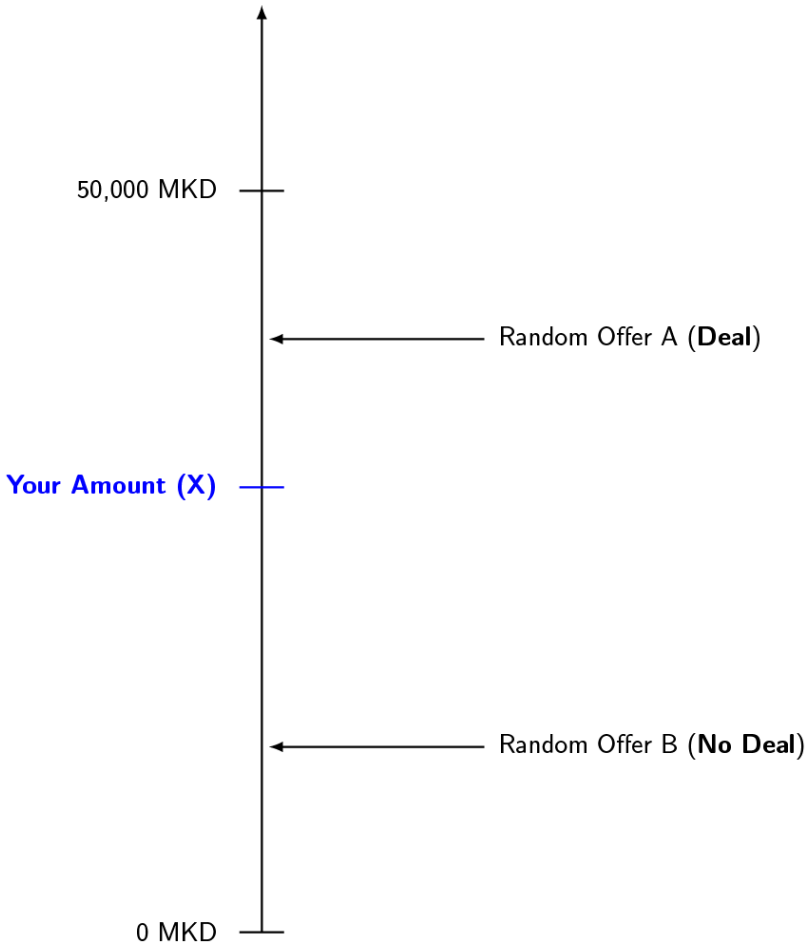

Figure 3: Payment mechanism for the Voice and Vote task, illustrated by the example of North Macedonia

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ANNEX F – COUNTRY-LEVEL DISTRIBUTION OF STATED EMOTIONS

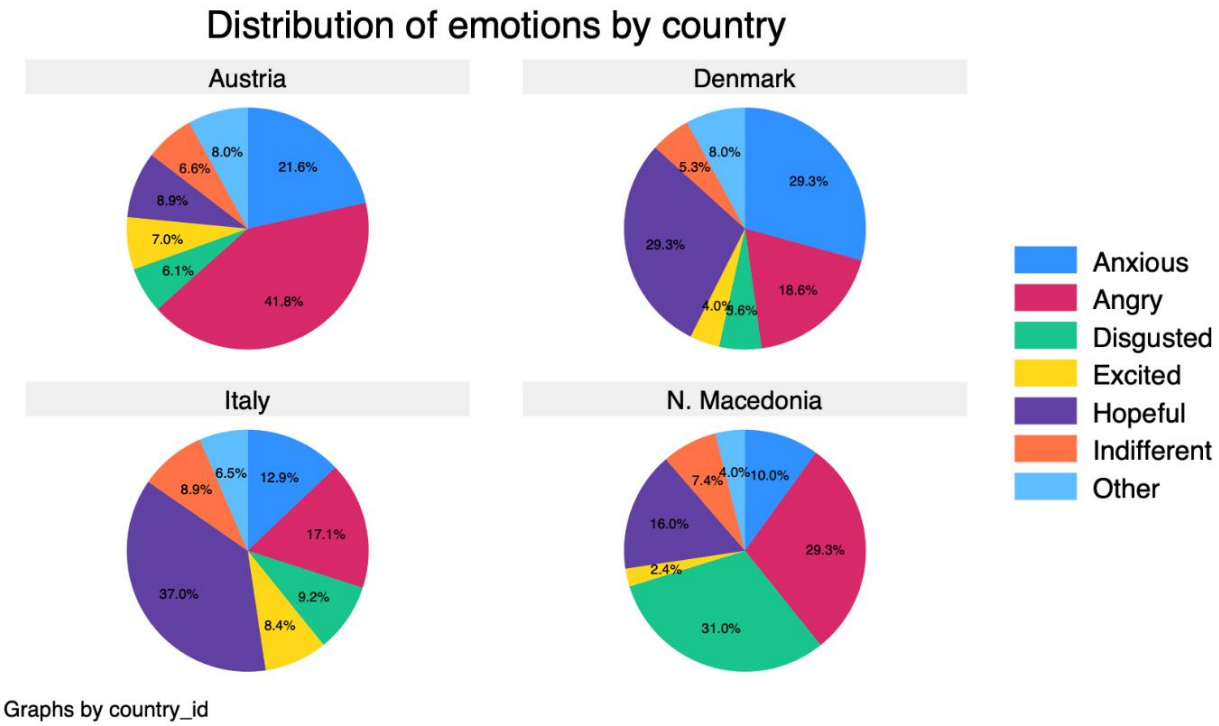

Figure 4: Distribution of emotions respondents felt when thinking about their selected policy issue, by country

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ANNEX G – DELIBERATION GAME (VISUALIZATION)

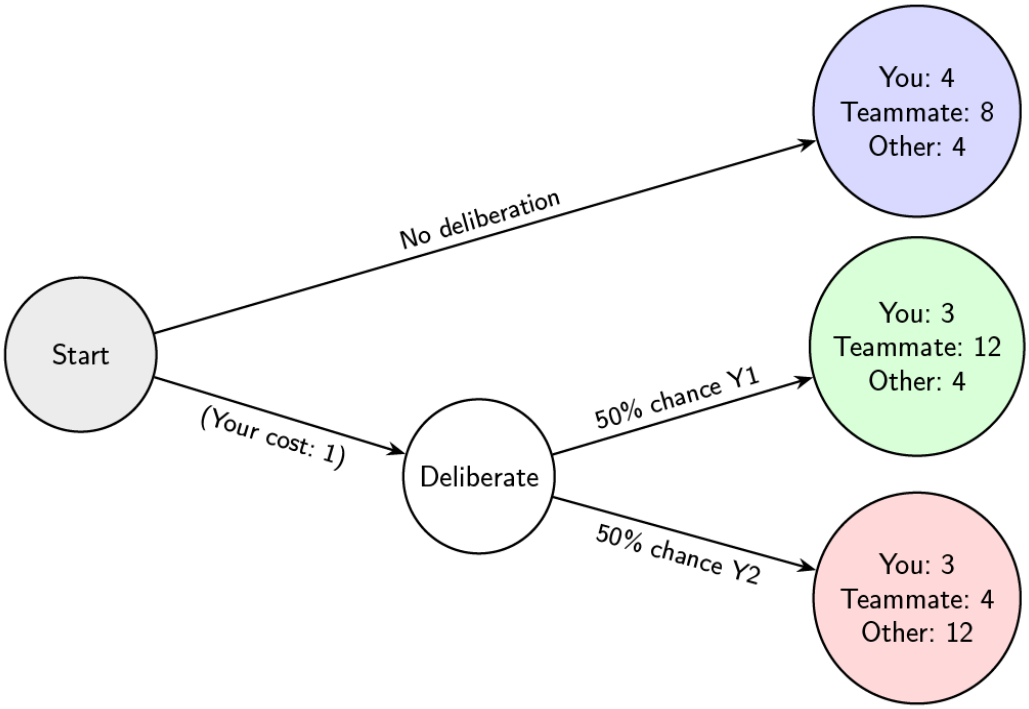

Figure 5: Illustration of the Deliberation Game as displayed to participants

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ANNEX H – STATISTICAL APPENDIX

H.1 PREDICTORS OF WILLINGNESS TO SELL *VOICE*

Table 16: OLS regression results for selling Voice (dependent variable: signed petition opposing stated position)

Regression Results (OLS)

Dependent Var: Signed Opposing Petition (Yes=1)

Predictor	Coeff.	Sig.
Emotions (ref: Anxious)		
Indifferent	+0.094	***
Angry	-0.024	
Excited	+0.037	
Hopeful	+0.017	
Demographics & Well-being		
Age	-0.028	***
Female	-0.054	***
Education	-0.005	***
Life Satisfaction	-0.014	***
Attitudes		
Ordinary citizen view	-0.011	***
Authoritarianism bad	-0.050	***
Political Right	+0.008	**
Country (ref: Austria)		
Denmark	-0.006	
Italy	-0.028	
N. Macedonia	-0.080	***

Note: *** $p < 0.01$, ** $p < 0.05$. Positive coefficients indicate higher likelihood of selling voice.

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H.2 PREDICTORS OF WILLINGNESS TO SELL *VOTE*

Table 17: OLS regression results for selling Vote (dependent variable: willing to forgo Vote)

Regression Results (OLS)

Dependent Var: Willing to Forgo Vote (Yes=1)

Predictor	Coeff.	Sig.
Emotions (ref: Anxious)		
Indifferent	+0.080	***
Angry	-0.008	
Excited	+0.036	
Hopeful	+0.020	
Demographics		
Political Right (Dummy)	+0.071	***
Female	-0.031	**
Education	-0.006	***
Life Satisfaction	-0.015	***
Pol. System Sat.	-0.005	*
Country (ref: Austria)		
Denmark	-0.001	
Italy	-0.021	
N. Macedonia	-0.007	

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Positive coefficients indicate higher likelihood of selling vote (lower resilience).

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