Unpacking Accountability in Multi-layered Organizations

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Abstract

Information asymmetries between voters and politicians can impair electoral accountability, particularly in multilayered governance structures with unclear allocation of responsibilities. This paper examines how voters process performance metrics and assign responsibility over public services, focusing on healthcare provision in Spain. We conduct a survey experiment with a representative sample of Spanish voters in July 2023, randomly providing information about healthcare waiting times to two-thirds of respondents. Our findings reveal that while voters understand the formal delegation of healthcare responsibilities, their attribution of responsibility varies with ideological alignment and prior beliefs. In regions with misaligned regional and national principals, we find evidence of strategic blame attribution: right-wing voters receiving negative performance signals attribute responsibility to the left-wing national principal, while left-wing voters assign it to the right-wing regional principal. These attribution mechanisms have electoral implications: in right-wing regions, positive performance signals increase support for the regional principal among ideologically aligned voters, with opposite effects for misaligned voters. The results highlight how partisan bias distorts accountability mechanisms in complex organizational structures.

1 Introduction

The idea that voters should reward politicians for good performance is at the backbone of models of political accountability in democracies (Ashworth, 2012; Malhotra and Kuo, 2008). However, voters frequently lack information about public service provision and/or the effectiveness of the government, which might impair their ability to hold politicians accountable.

Accountability itself is a cornerstone of democratic governance, yet what accountability entails and how voters process information to hold politicians accountable remain complex and contested. While providing information is often viewed as a fundamental mechanism to enhance accountability, the literature has yielded mixed evidence on the effectiveness of information campaigns in influencing voter behavior.

Existing research tends to focus on whether voters update their beliefs or adjust their voting choices in response to new information about candidates or policy outcomes, yet it frequently overlooks the ways through which accountability operates, particularly in multilayered political systems.

To understand accountability in its entirety, it is essential to recognize that providing information is only the first step in a multi-stage process. For accountability to occur:

- Voters must have priors to which new information constitutes a relevant shock.
- Voters need to receive, understand, and believe the information.
- Voters must decide whom to reward or punish based on this updated information.

This last step is particularly challenging in multilayered governance systems, where responsibility for outcomes is often unclear. Attribution of responsibility plays a pivotal role here, as voters' decisions hinge on their perceptions of who should be held accountable. Yet, much of the existing literature operates within a "one-layer" framework, neglecting the complexities of multilayered systems and their implications for accountability. The type of information provided also likely plays a critical role. Specifically, distinguishing between information about policy outcomes (e.g., public good provision) and candidate characteristics is crucial. Information about candidate characteristics, such as competence or integrity, is less subject to

endogenous attribution bias, as it directly relates to the individual. In contrast, information about policy outcomes, while typically more observable and relevant to voters, often involves ambiguities in assigning responsibility—especially in multilayered political systems.

Are people aware of the level of public goods being provided? Do they correctly attribute responsibility for the management of services, particularly in decentralized contexts?

Our paper addresses these gaps by exploring how voters process and act on information about policy outcomes and its implications for accountability in a complex governance context. Specifically, we focus on the role of partisan priors and the attribution of responsibility in shaping voters' responses to new information. Unlike prior studies that emphasize candidate valence or ideological positioning, we analyze the endogenous ways voters assign responsibility for policy outcomes and the implications of this attribution for voting behavior.

We study these questions through a unique survey experiment in one of the most important types of publicly provided services in Europe: healthcare. Most European countries are struggling with providing healthcare services to an increasingly aging population. The Covid pandemic exacerbated previously existing deteriorating trends in the public provision of healthcare services. As of today, wait times for some inpatient services are as high as two years in many countries. It is thus unsurprisingly that the management of healthcare and of waiting times is at the core of the political debate.

We conducted an original survey of a large representative sample of the Spanish population in early July 2023, in the weeks leading up to the Spanish general elections of July 23, 2023. We start by collecting a wide set of baseline socio-demographic characteristics, as well as subjective prior beliefs about waiting times in healthcare and preferences for public health spending and views about appropriate waiting times. As part of our pre-registered experiment, we then randomly expose two-thirds of respondents to information about the waiting times for healthcare services in their region of residence.[1] We then elicit posteriors, as well as a set of political attitudes and beliefs that we explore as outcomes: attribution of responsibility,

[1]One third of the sample also receives benchmarking information about the relative performance of their region with respect to the other regions of Spain in terms of waiting times in healthcare. We currently do not explore this variation.

assessment of competence and trust for both national and regional institutions, and voting intentions for both regional and national elections.

We start by documenting how informed individuals are about both public service quality as well as the institutional attribution of responsibility in Spain. Respondents have inaccurate beliefs about waiting times: over 60 % of respondents overestimate the time they would need to wait to receive medical services. We classify these respondents as *pessimists*. On the other hand, 39 % are *optimists*, who underestimate waiting times. About 20% of respondents have beliefs that are over 1 standard deviation away from the truth. On the other hand, we detect a substantial degree of accuracy in individuals' information about the institutional distribution of power in Spain regarding healthcare. Around 60% of respondents correctly identified that regions are *legally* responsible for managing healthcare services in Spain.[2] Yet, a very different picture emerges when exploring how individuals attribute *political* responsibility, in the sense of which institutions they deem to be *accountable* for the quality of healthcare services. 22% considered the central government mostly responsible, 36% the Regional government mostly responsible, and the rest in between, with around 11% of respondents deemed the Central and Regional governments exactly equally responsible.

However, the patterns of responsibility greatly diverge by ideology as well as depending on respondents' prior beliefs. We start by focusing on divided regions, as these are the places in which individuals might have scope to endogenously shift the blame of responsibility across levels of government depending on their ideology and their priors. We start by comparing people who have similar beliefs but differ along the ideological spectrum. Consistent with our hypotheses, we find that pessimist (optimist), progressive individuals attribute more (less) responsibility to the right-wing regional government, relative to the left-wing central government, than conservatives. When we instead compare individuals with the same ideology but who differ in their priors, we again find results that are consistent with an endogenous attribution of responsibility: pessimist progressives attribute more responsibility to the right-wing regional government than optimist progressives, while the opposite happens

[2]Among the rest, 13 % didn't know and only 28% mistakenly attributed the competence to other levels of government.

for conservatives. We further exploit individuals residing in non-divided regions as a control group to account for potentially omitted factors that might drive these relationships, and we obtain even stronger results.[3]

Our analyses up to now cannot be interpreted as causal given that we cannot account for other, potentially unobservable factors that are not constant between divided and non-divided regions. To make progress, we exploit our information experiment. Our treatment gives rise to exogenous variation in both the direction and degree of updating of beliefs about service quality. For example, a subject that believes that patients have to wait over 180 days to get an appointment for surgery might learn that the actual waiting time in their region is of 90 days. This pessimist subject receives a positive news shock, and we would expect her to update her beliefs downward. Indeed, we show that respondents update in the "right" direction, in the sense that, when providing with information, their posteriors are closer to the actual waiting times than their priors. We then leverage these shocks to estimate the causal effect of beliefs on the full accountability chain, namely the attribution of responsibility, assessment of government capacity, and, in the end, the voting decisions of citizens. Focusing on right-wing regions, i.e. those regions in which the national and the regional governments are not aligned, we document three sets of results. First, right-wing individuals who receive a negative news shock are less likely to attribute responsibility to the regional government, i.e., they *shift the blame* towards the national government, while the opposite is true for left-wing individuals who receive a negative news shock. Furthermore, comparing individuals who both receive a negative news shock, right-wing individuals are less likely to attribute responsibility to the regional government, relative to left-wing individuals. These results provide clear evidence of the mediating role of ideology in affecting accountability.

We then move to investigate the implications of the information provision shock on individuals' evaluation of the competence of the regional government in managing healthcare. Here, we find that left-wing individuals who receive positive (negative) news about the regional government do not positively (negatively) update their assessment, while right-wing

[3]For example, age, income or education levels might be correlated with both ideology and beliefs and potentially drive some of our observed patterns.

individuals do. On the other hand, we fail to detect any significant treatment effect in non-divided, left-wing regions.

Finally, we look at the last step of the accountability chain, namely the effects on voting intentions. Here, in right-wing regions, we find that right-wing individuals who receive positive (negative) news shock are significantly more (less) likely to vote for the regional government, while the opposite is true for left-wing individuals.

1.1 Literature

We begin by contextualizing our contribution within the broader literature on information and accountability. While prior research has highlighted the importance of information in enabling voters to reward or punish incumbents, it often documents limited or no effects of information campaigns on incumbent vote shares (Dunning et al., 2019). We argue that this lack of consistent effects stems from two critical issues. First, the possibility of an endogenous process of blame-shifting, whereby voters may internally adjust their attributions of responsibility, mitigating the impact of information on their evaluations of incumbents (Powell and Whitten, 1993; Martin and Raffler, 2021). Second, the role of polarization and beliefs citepbursztynScapegoatingCrises2022. Here, we think that the interaction between partisan priors and information processing has been underexplored in multilayered systems. While this body of work examines whether voters' priors or updating processes differ based on partisanship, it seldom investigates how these dynamics intersect with attribution of responsibility. This omission is critical, as accountability in real-world democracies often involves disentangling responsibility across layers of government. By focusing on this intersection, we move beyond the binary notions of partisan bias to reveal a more nuanced picture: voters engage in Bayesian updating, but their ideological priors about which party is better influence both their baseline beliefs and their attributions of responsibility.

Our findings also challenge conventional narratives about motivated reasoning and partisan bias. Contrary to the view that voters are irrational or impervious to information, our results indicate that voters are rational Bayesian updaters, conditional on their partisan priors. Importantly, we argue that it is important to distinguish between two types of information

shocks. Several previous experiments have focused on the provision of information about politicians (Ferraz and Finan, 2008). This type of information is less likely to enable blame-shifting, as the connection between the information and the politician is explicit. On the other hand, here we focus specifically on information about policy outcomes, where the link between outcomes and specific actors is often ambiguous, creating opportunities for strategic blame-shifting by politicians. This distinction underscores why most theoretical models of accountability, which emphasize outcomes rather than candidate characteristics, may fail to capture the full spectrum of voter behavior in complex systems.

Closest to the spirit of our work, Kendall et al. (2015) examine how voters respond to information on candidate valence and ideology during an electoral campaign. Using a randomized controlled trial in an Italian mayoral election, they find that valence-focused messages significantly increase support for the incumbent, while ideological messaging has limited impact. They emphasize voters' belief updating and the influence of campaign strategies on electoral outcomes.

In contrast, our research focuses on policy outcomes rather than candidate valence, exploring the impact of information shocks on voters' attribution of responsibility and other endogenous behaviors that are crucial for understanding voting decisions. This distinct perspective sheds light on mechanisms beyond valence or ideological assessments, contributing a new dimension to the literature on voter behavior and policy evaluation.[4]

More recently, Acemoglu et al. (2020) use lab-in-the-field experiments in Pakistan to examine whether providing information about improved state service delivery influences citizens' beliefs and behavior. Their findings indicate that information about reduced delays in state courts increases citizens' likelihood of using them and shifts resource allocations toward the state in lab games. Additionally, the study reveals negative spillover effects on nonstate actors, as improved perceptions of state institutions lead individuals to interact less with and downgrade their beliefs about nonstate alternatives.

[4]Most recently, Martinez-Bravo and Sanz (2025) investigate whether, in the context of Covid19 pandemic management in Spain, deficiencies in government performance eroded trust in public institutions and if ideology affected the way in which people process information about performance.

2 Experimental Design and Data

2.1 Survey

The data used in this project was collected on an online survey that we ran from 10-17 July 2023. Field work was conducted by data analytics firm Yougov. The company has access to a large panel of individuals that have been recruited through online adds and that regularly respond to surveys on a variety of topics. Respondents accumulate points for answering surveys and they can exchange points for small gifts. The sampling is designed to be representative of the Spanish adult population according to age, gender, region of residence, and education level. This is achieved through a quota-sampling system. This system first segments the population into mutually exclusive sub-groups of age, gender, region, and education level. Then it establishes target numbers respondents of each sub-group that would be necessary to achieve representativeness of the sample. These targets are referred as quotas. Individuals are contacted from the company's panel of respondents until the quotas are filled.

Our survey proceeds as follows:

1. Background Information. 2. Questions to Proxy Preferences for Public Health Spending. 3. Individuals in the treatment groups receive the treatment. 4. Outcomes. 5. Health Status and Use of Health Resources 6. Follow-up Questions and Quality of Information.

We reproduce the complete questionnaire in Appendix C.

2.2 Description of Experiment

The experiment consists of two treatment groups and a control group:

- T1: Participants receive information on healthcare waiting times in their region (Autonomous Communities in Spain). This group is further divided into two subgroups:
  - T1a: Information about waiting times for specialists' consultation
  - T1b: Information about waiting times for elective surgery procedures
- T2: Participants receive the same information as T1, plus additional information on how waiting times in their region compare to other Spanish regions. This group is also

divided into two subgroups (T2a and T2b) corresponding to specialists' consultation and elective surgery procedures.

Before providing subjects with information, we elicit participants' beliefs about waiting times and preferences for appropriate waiting times.

We assign individuals to treatment groups according to a stratified randomization procedure. First, individuals are classified in 204 groups or strata with similar baseline characteristics in terms of age (3 levels: 18-35 years old, 36-50, 50+), education (2 levels: secundary schooling or less, more than secundary schooling) region (17 levels, one per region), and ideology (2 levels: 1-4 or 5-10 on ideology scale). Within each strata, we randomly assign individuals to the three groups according to the following proportions: T1 (1/3 of the sample, then split equally among T1a and T1b), T2 (1/3 of the sample, then split equally among T2a and T2b), Control (1/3 of the sample).

Our experimental design was pre-specified in a pre-analysis plan (PaP) that we registered with the AEA Randomized Control Trial Registry on 7 July 2023. We also obtained approval from the ethics committee at CEMFI for the survey and experimental design (Application Reference Number 3; Approval date: 18 June 2023).

Our initial sample covers 4,620 individuals. Following our pre-analysis plan, We drop individuals that did not pass the attention check (555 observations) or completed the questionnaire in less then 11 minutes (207 additional observations). We also drop one observation with a very large outlier in the waiting time prior. Our final sample contains 3,857 observations.

2.3 Variables and Measures

2.3.1 Key Independent Variables

- **Right-wing Region (R Reg)**: A dummy variable indicating whether the individual's regional government is right wing. Given that the central government is left wing, R Reg indicates that the government is divided. We consider a government as divided if none of the two parties that were in the central government coalition at the time of the survey (PSOE or Unidas Podemos) was also part of the government coalition in

the regional government. Divided regions are Andalusia, Castille and Leon, Catalonia, Madrid, Galicia, and Murcia—see Table B.1.

- **Right-wing Individual (RI)**: A dummy variable indicating whether the respondent is right wing. We code a respondent as right wing if he or she voted for one of the parties that voted "yes" to the investiture of the regional government. Table B.1 shows the list of parties. Alternative definitions of alignment based on which parties are part of the executive, or which party has the regional presidency, yield very similar results. Following our PaP, for individuals with missing past vote information, we use ideological placement on a 1-10 scale, where 0 is extreme left and 10 is extreme right. We code a respondent as aligned with the regional government if the regional government is right-wing and the respondent positions himself at a 5 or above, or if the regional government is left-wing and the respondent positions himself below 5. We also show results when we define RI based exclusively either on ideology or on past vote.

- **Optimist**: A dummy variable indicating whether an individual's prior belief about waiting times was lower than the actual waiting time in their region (i.e., 1 if (Actual - Prior) > 0). For robustness, we consider four alternative definitions. First, we consider a respondent as Optimist if he or she is below the median prior, regardless of actual waiting time. Second, we do the same but where the median prior is defined separately for each combination of region and individual's ideology. Third, we consider a respondent as optimist if he or she is below the median in the difference between the prior and optimal waiting time. Fourth, we consider a continuous variable, defined as the standardized difference in Actual - Prior.

- **Treated**: A dummy variable indicating whether an individual received the treatment.

2.3.2 Key Outcome Variables

- **Responsibility Healthcare**: Measured on a scale from -10 (all responsibility lies with the Spanish Government) to 10 (all responsibility lies with the Regional Government).

- **Management of healthcare**: Captures which administration the respondent believes would be better managing healthcare. Measured on a scale from -10 (the Spanish government is better) to 10 (the regional government is better).
- **Vote Intention for Regional Incumbent**: A dummy variable indicating intention to vote for the regional incumbent.
- **Vote Intention for Central Incumbent**: A dummy variable indicating intention to vote for the central incumbent.
- **De Jure Responsibility**: Captures which public administration the respondent believes has competencies in healthcare matters. Measured on a scale from -10 (all competence lies with the Spanish Government) to 10 (all competence lies with the Regional Government).

2.3.3 Control Variables

All specifications include region fixed effects (interacted with the treatment in the experimental results). For robustness, we include the following controls: age group dummies, education dummies, female, indicator for having kids, living in a rural municipality, and work status (worker, student, retired).

2.4 Representativeness and descriptive statistics

Our sample closely mirrors the Spanish population in terms of demographic characteristics, with slight differences in education levels (Table B).

Table 1 shows the summary statistics of our main variables.

3 Conceptual Framework

3.1 Attribution of responsibility

Our analysis examines how beliefs and information about public service quality affects political accountability in a decentralized system. We focus on healthcare waiting times in Spain, where responsibility of healthcare is primarily managed at the regional level.

Our framework considers two key dimensions that we deem shape citizens' attribution of responsibility in decentralized systems:

1. Individual ideology (conservative vs. progressive)
2. Prior beliefs about service quality (optimist vs. pessimist)

We will focus on right-wing regions Those are where the government is divided (central left government, regional right government) and hence we have clear predictions regarding blame-shifting. For left-wing regions, it's ambiguous how individuals will assign the blame, as the two levels of government are of the same party.

Hence, we have distinct groups with different patterns of responsibility attribution:

- **Pessimist Leftists:** Attribute more responsibility to regional government, viewing right-wing regional control as problematic.
- **Pessimist Rightists:** Minimize regional responsibility, protecting aligned regional government
- **Optimist Leftists:** Balance attribution, but lean toward regional responsibility due to institutional structure
- **Optimist Rightists:** Maximize regional credit, claiming success for aligned government

This framework generates our baseline hypotheses (H1-H4) about responsibility attribution differences between these groups in the absence of specific information about service quality, that we can test looking at the behavior of the control group as follows:

Within ideology, across beliefs

- H1: Pessimist left individuals attribute more responsibility to the regional government than optimist left individuals, or $Y_{Pess,LI} > Y_{Opt,LI}$.
- H2: Optimist right individuals attribute more responsibility to the regional government than pessimist right individuals, or $Y_{Opt,RI} > Y_{Pess,RI}$.

Within beliefs, across ideology

- H3: Optimist right individuals attribute more responsibility to the regional government than optimist left individuals, or $Y_{Opt,RI} > Y_{Opt,LI}$
- H4: Pessimist left individuals attribute more responsibility to the regional government than pessimist right individuals, or $Y_{Pess,LI} > Y_{Pess,RI}$.

Note that the previous hypotheses imply the following:

- H5: $Y_{Opt,RI} - Y_{Pess,RI} > Y_{Opt,LI} - Y_{Pess,LI}$.

Nonetheless, it is useful to state H5 separately because, as we will see, it will provide a direct interpretation for some of the coefficients we will estimate.

Finally, when the treatment group is considered, we can estimate the effect of the treatment within ideology and within beliefs. In particular, we can define one hypothesis for each of the four groups:

- HT1: The treatment effect for pessimist LI should be negative as they are receiving good news, or $Y_{Pess,LI,Treat} - Y_{Pess,LI,Control} < 0$.
- HT2: The treatment effect for optimist LI should be positive as they are receiving bad news. Hence, $Y_{Opt,LI,Treat} - Y_{Opt,LI,Control} > 0$.
- HT3: The treatment effect for pessimist RI should be positive as they are receiving good news, or $Y_{Pess,RI,Treat} - Y_{Pess,RI,Control} > 0$.
- HT4: The treatment effect for optimist RI should be negative as they are receiving bad news, or $Y_{Opt,RI,Treat} - Y_{Opt,RI,Control} < 0$.

3.2 Accountability

Within ideology, across beliefs

- HV1: Pessimist left individuals attribute more responsibility to the regional government than optimist left individuals, or $Y_{Pess,LI} > Y_{Opt,LI}$.
- H2: Optimist right individuals attribute more responsibility to the regional government than pessimist right individuals, or $Y_{Opt,RI} > Y_{Pess,RI}$.

Within beliefs, across ideology

- H3: Optimist right individuals attribute more responsibility to the regional government than optimist left individuals, or $Y_{Opt,RI} > Y_{Opt,LI}$
- H4: Pessimist left individuals attribute more responsibility to the regional government than pessimist right individuals, or $Y_{Pess,LI} > Y_{Pess,RI}$.

For the treatment part, we can define the following hypotheses:

- HVT1: Pessimist LIs should rate the regional incumbent be negative as they are receiving good news, or $Y_{Pess,LI,Treat} - Y_{Pess,LI,Control} < 0$.
- HT2: The treatment effect for optimist LI should be positive as they are receiving bad news. Hence, $Y_{Opt,LI,Treat} - Y_{Opt,LI,Control} > 0$.
- HT3: The treatment effect for pessimist RI should be positive as they are receiving good news, or $Y_{Pess,RI,Treat} - Y_{Pess,RI,Control}0$.
- HT4: The treatment effect for optimist RI should be negative as they are receiving bad news, or $Y_{Opt,RI,Treat} - Y_{Opt,RI,Control} < 0$.

4 Empirical Strategy

Specifications Our first step to test H1-H5 is to consider a DiD specification in the sample of right-wing regions (i.e., those with a divided government):

$$Y_i = \alpha_0 + \alpha_1 Opt_i + \alpha_2 RI_i + \alpha_3 Opt_i \text{x} RI_i + \phi_{ir} + u_i, \tag{1}$$

where Y_i is the dependent variable (e.g.,the responsibility attribution to the regional vs central government on a scale from -10 to 10), $Opt_i = 1$ if individual i is an optimist, $RI_i = 1$ if he or she is a conservative, ϕ_{ir} are fixed effects indicating the region of residence of respondent i, and u_i is an error term.

The previous specification suffers from several potential biases. Our next step is to use non-divided regions as a control group. We consider the following triple difference specification:

$$\begin{aligned} Y_i \;=\; & \beta_0 \\ & + \beta_1 Opt_i + \beta_2 RI_i + \beta_3 Opt \text{x} RI_i \\ & + \beta_4 RG_i + \beta_5 Opt \text{x} RG_i + \beta_6 RI \text{x} RG_i + \beta_7 Opt \text{x} RI \text{x} RG_i \\ & + \phi_{ir} + u_i, \end{aligned} \tag{2}$$

where $RG_i = 1$ if resident i is a resident of a region with a right-wing (and therefore divided) government. Note that, when the region fixed effects are included (as in our main specification), $\beta_4 = 0$.

By using non-divided regions as a control group, we can account for omitted factors that are constant across divided and non-divided regions. For example, suppose that conservative optimist individuals are less likely to trust pollsters, and, as a result, our sample of respondents from that group is self-selected in a way that biases their responses. If this distrust of pollsters is the same in divided and non-divided governments, then equation (2) accounts for this factor.

Next, we bring the treatment group to the analysis, leveraging the random assignment to treatment and control groups. As in the nonexperimental analysis, we begin by focusing on regions with a right government, where the government is divided. We estimate:

$$
\begin{aligned}
Y_i \;=\;& \gamma_0 \\
& + \gamma_1 Opt_i + \gamma_2 RI_i + \gamma_3 Opt\text{x}RI_i \\
& + \gamma_4 Treat_i + \gamma_5 Opt\text{x}Treat_i + \gamma_6 RI\text{x}Treat_i + \gamma_7 Opt\text{x}RI\text{x}Treat_i \\
& + \phi_{ir} + u_i, \qquad (3)
\end{aligned}
$$

where $Treat_i = 1$ if individual i is in the treatment group.

This specification allows us to lay out additional hypotheses for individuals within ideology and within beliefs, by comparing treated and control individuals (HT1-HT4). This approach has the advantage that it relies only on the exogenous assignment to treatment and control groups, allowing for a clean identification of causal effects.

As a last step, we bring in non-divided regions as a control group. We consider the fourth-difference specification:

$$
\begin{aligned}
Y_i \;=\;& \delta_0 \\
& + \delta_1 Opt_i + \delta_2 RI_i + \delta_3 Opt\text{x}RI_i \\
& + \delta_4 Treat_i + \delta_5 Opt\text{x}Treat_i + \delta_6 RI\text{x}Treat_i + \delta_7 Opt\text{x}RI\text{x}Treat_i \\
& + \delta_8 RG_i \\
& + \delta_9 Opt\text{x}RG_i + \delta_{10} RIRG_i + \delta_{11} Opt\text{x}RI\text{x}RG_i \\
& + \delta_{12} Treat\text{x}RG_i + \delta_{13} Opt\text{x}Treat\text{x}RG_i + \delta_{14} RI\text{x}Treat\text{x}RG_i + \delta_{15} Opt\text{x}RI\text{x}Treat\text{x}RG_i \\
& + \phi_{ir} + u_i. \qquad (4)
\end{aligned}
$$

Note that, when region fixed effects are included, δ_8 is no identified.

Hypotheses Testing Hypotheses H1-H5 can be tested as follows in each of the specifications (see Appendix A for the derivation):

- H1: $\alpha_1 < 0$, $\beta_5 < 0$, $\gamma_5 > 0$, $\delta_{13} > 0$.
- H2: $\alpha_1 + \alpha_3 > 0$, $\beta_5 + \beta_7 > 0$, $\gamma_5 + \gamma_7 < 0$, $\delta_{13} + \delta_{15} < 0$.

- H3: $\alpha_2 < 0$, $\beta_6 < 0$, $\gamma_6 > 0$, $\delta_{14} > 0$.
- H4: $\alpha_2 + \alpha_3 > 0$, $\beta_6 + \beta_7 > 0$, $\gamma_6 + \gamma_7 < 0$, $\delta_{13} + \delta_{15} < 0$.
- H5: $\alpha_3 > 0$, $\beta_7 > 0$, $\gamma_7 < 0$, $\delta_{15} < 0$.

Notice that the sign flips for all hypotheses in the non-experimental and experimental results.

Additional hypotheses HT1-HT4 can be tested as:

- HT1: $\gamma_4 < 0$, $\delta_{12} < 0$.
- HT2: $\gamma_4 + \gamma_5 < 0$, $\delta_{12} + \delta_{13} > 0$.
- HT3: $\gamma_4 + \gamma_6 < 0$, $\delta_{12} + \delta_{14} > 0$.
- HT4: $\gamma_4 + \gamma_5 + \gamma_6 + \gamma_7 < 0$, $\delta_{12} + \delta_{13} + \delta_{14} + \delta_{15} < 0$.

For voting,

- HV1: $\beta_1 > 0$.
- HV2: $\beta_1 + \beta_3 > 0$.
- HV3: $\beta_2 > 0$.
- HV4: $\beta_2 + \beta_3 > 0$.
- HV5: $\beta_3 > 0$.

Same for HV1'-HV5':

- HV1: $\beta_5 > 0$.
- HV2: $\beta_5 + \beta_7 > 0$.
- HV3: $\beta_6 > 0$.
- HV4: $\beta_6 + \beta_7 > 0$.

- HV5: $\beta_7 > 0$.

β_4 captures the effect of good news on left individuals. Hence, expect $\beta_4 > 0$.

$\beta_4 + \beta_5$ captures the effect of bad news on left individuals. Hence, expect $\beta_4 + \beta_5 < 0$.

$\beta_4 + \beta_6$ captures the effect of good news on right individuals. Hence, expect $\beta_4 + \beta_6 > 0$.

$\beta_4 + \beta_5 + \beta_6 + \beta_7$ captures the effect of bad news on right individuals. Hence, expect $\beta_4 + \beta_5 + \beta_6 + \beta_7 < 0$.

β_7 captures the differential effect of bad news on right vs left individuals. HERE THE PREDICTION IS NOT SO CLEAR? PERHAPS $\beta_7 < 0$ BECAUSE OF CEILING EFFECTS. RIGHT INDIVIDUALS HAVE MORE ROOM TO VOTE LESS FOR THE REG GOV.

- HV1: $\beta_5 < 0$.
- HV3: $\beta_6 > 0$.
- HV5: $\beta_7 > 0$.

5 Results

5.1 Do individuals have accurate information on waiting times?

We begin by analyzing the distribution of individuals' prior beliefs on waiting times, in the top panel of Figure 1. The priors range from 0 to approximately 1000 days, with most responses concentrated between 0 and 300 days, showing a clear right-skewed distribution with a peak around 50-100 days. In the bottom panel, we compare priors (in red) against the actual distribution of waiting times (in black). The actual waiting time distribution is more concentrated, with a pronounced peak between 0-100 days. The comparison between prior beliefs and actual waiting times reveals systematic inaccuracies in respondents' perceptions. To further investigate this point, for each individual, we compute the difference between their prior and the actual waiting time in their region, and we display the distribution of these differences in Figure B.1. Based on this figure, 60% of respondents can be classified as "pessimists" who overestimate the time they would need to wait for medical services. This overestimation

is visible in the extended right tail of the red distribution in the figure, where prior beliefs stretch well beyond the actual waiting times shown in black. Conversely, 39% of respondents are ”optimists” who underestimate waiting times. This is evident in the left portion of the figure, where some respondents anticipated shorter waiting times than typically experienced. The magnitude of these misperceptions is substantial: approximately 20% of respondents hold beliefs that deviate from the truth by more than one standard deviation, indicating significant misconceptions about the healthcare system's efficiency. In particular, the presence of long right tails in the prior beliefs distribution indicates that a subset of respondents holds particularly pessimistic views about waiting times, expecting delays far longer than typically observed in practice.

These findings suggest that public perception of healthcare waiting times is characterized by substantial noise, despite the availability of official waiting time statistics in Spain. This misalignment between beliefs and reality is likely to have important implications for healthcare policy and public satisfaction with the healthcare system, as individuals might be making healthcare decisions based on overly pessimistic expectations of waiting times.

5.2 First Stage: Information Updating

Figures 4-5 illustrate how participants update their beliefs about waiting times after receiving the treatment information. The updating process appears to vary based on whether the participant's region has a divided government and whether the participant is politically aligned with the regional government.

There is quite a bit of spurious learning in the control group (on average, the slope is between 0.3 and 0.45). However, we still have a strong first stage, meaning that the slope for the treatment group is usually almost twice as large as the one for the control group. But given the high degree of spurious learning, we might want to control for it and do a 2sls specification for our main effects.

5.3 Attribution of Responsibility

We next move to investigate how individuals attribute responsibility for the quality of public healthcare in Spain. We start by focusing on individuals who do not receive any exogenous information shock to their priors, that is, the 1274 individuals who were randomly assigned to the control group in our experiment.

In the top panel of Figure 2, we plot the distribution of respondents' beliefs about the legal competence for healthcare. Here, we detect a high degree of accuracy, with approximately 60% of respondents who correctly identified that regions are *legally* responsible for managing healthcare services in Spain. Among the remaining respondents, 13% expressed uncertainty, and only 28% mistakenly attributed competence to other governmental levels.

In the bottom panel, we plot the distribution of respondents' beliefs about political responsibility for the quality of healthcare. Here, a more complex picture emerges: 22% considered the central government mostly responsible, 36% attributed most responsibility to the regional government, and 11% viewed the central and regional governments as exactly equally responsible.[5] Taken together, these figures indicate that, while most respondents accurately understand the legal framework of regional healthcare management, they do not necessarily attribute political responsibility to regional governments. This disconnect suggests that perceived accountability is influenced by factors beyond legal mandates,.According to our theory, we expect partisanship to potentially play a key role. To start shedding light on this, we plot the distribution of the same variable, separately for individuals who are aligned with the regional government vs. not. Results are displayed in Figure 3. The figure illustrates clearly divergent patterns of responsibility attribution by partisanship right-wing and left-wing governed regions. In right-wing regions, there is a stark contrast between aligned and non-aligned voters: aligned, right-wing voters predominantly attribute responsibility to the regional government, while non-aligned, left-wing voters heavily favor the central government. Conversely, in left-wing regions—where the regional and central governments share political alignment—the difference between aligned and non-aligned voters is substantially less pronounced, suggesting

[5]We classify people who indicate a value of -5 or lower as deeming the central government mostly responsible, and people who who indicate a value of 5 or higher as deeming the regional government mostly responsible.

minimal strategic blame attribution. This asymmetry hints at the complex interplay between political alignment, institutional responsibility, and voters' beliefs in attributing governmental accountability.

Results Columns (1)-(4) of Table 2 show the results from estimating equations (1)-(4) for our main dependent variable, the attribution of responsibility for the regional (vs the central) government. The last rows in the table indicate the estimated coefficient (or combination of coefficients) corresponding to each hypothesis.

Let us consider each hypothesis in turn. H1 compares pessimist and optimist LIs. In the first column, corresponding to the difference-in-differnce analysis, the coefficient on α_1 indicates that, relative to pessimist left individuals, optimist left individuals are 1.09 points (on a -10 to 10 scale) less likely to make the regional government responsible (relative to the central government), consistent with H1. Similarly, we find strong evidence for H1 in columns 2 and 4, while the coefficient is not significant in column 3.

H2 compares optimist and pessimist right individuals. There is statistically significant evidence for this hypothesis in columns (1) and (3). In columns (2) and (4), the effect is not significant but the magnitudes are non-negligible (with the expected sign).

H3 compares left and right pessimist individuals. There is evidence for this hypothesis in the non-experimental evidence (columns (1) and (2)). In the experimental evidence (columns (3) and (4)), the sign is the expected but it is not significant.

H4 compares left and right optimist individuals. Here column (1) points to a marginally significant effect in the opposite direction we expected. However, in the better-identified remaining columns, the sign turns and becomes statistically significant in columns (3) and (4).

Finally, H5 looks at interaction effects. In all cases, the coefficient has the expected sign and is strongly statistically significant.

Next, let us turn to hypotheses HT1-HT4, which focus on the effect of receiving the treatment for individuals with a given ideology and beliefs.

HT1 looks at the effects of the treatment on pessimist LIs. There is no significant evidence supporting HT1.

HT2 looks at the effects of the treatment on optimist LIs. The coefficient is insignificant for the third difference (with the expected sign) and strongly significant (also with the expected sign) for the fourth difference.

HT3 looks at the effects of the treatment on pessimist RIs. The effect is positive and marginally significant for the third difference and positive and insignificant for the fourth difference.

HT4 looks at the effects of the treatment on optimist RIs. We can see that it is insignificant for the third difference (with the expected sign) and strongly significant (also with the expected sign) for the fourth difference.

In sum, the evidence yields evidence for all hypotheses H1-H5, no evidence for HT1, some evidence for HT3, and strong evidence for HT2 and HT4.

Balance and Robustness Tables B.3-B.6 test for the balance in specifications (1)-(4), respectively. The tables show placebo estimates where the dependent variable in each specification is a socio-demographic variable. Hence, we should see zero effects on these variables. The results are reassuring, with no more significant effects than those expected by chance.

In Tables B.7, B.8, and B.9 we study the robustness of the results using our three main specifications (2)-(4), respectively. Column (1) shows the baseline results, for reference. Column (2) drops the region fixed effects. Column (3) controls for the socio-demographic variables. Columns (4)-(6) use alternative measures of RI. Column (4) defines an individual as RI based on their ideology (ignoring past vote). Column (5) defines it based on past vote (ignoring ideology). Columns (6)-(9) use alternative measures of optimist. Column (6) defines optimist as being below the median prior, regardless of actual waiting time. Column (7) defines optimist if he or she is below the median in the difference between the prior and optimal waiting time. Column (8) defines optimist as being below the median prior, where the median prior is defined separately for each combination of region and individual's ideology. Column (9) considers a continuous variable, defined as the standardized difference in Actual - Prior. Column (10) drops Catalonia from the sample. The results are remarkably robust to all these changes.

5.4 Accountability: Voting and Assessment of Regional Government

Results Table 3 shows the results for the rating of the regional government.

6 Discussion and Conclusion

References

Acemoglu, Daron, Ali Cheema, Asim I Khwaja, and James A Robinson, "Trust in state and nonstate actors: Evidence from dispute resolution in Pakistan," *Journal of Political Economy*, 2020, *128* (8), 3090–3147.

Ashworth, Scott, "Electoral accountability: Recent theoretical and empirical work," *Annual Review of Political Science*, 2012, *15* (1), 183–201.

Dunning, Thad, Guy Grossman, Macartan Humphreys, Susan D Hyde, Craig McIntosh, Gareth Nellis, Claire L Adida, Eric Arias, Clara Bicalho, Taylor C Boas et al., "Voter information campaigns and political accountability: Cumulative findings from a preregistered meta-analysis of coordinated trials," *Science advances*, 2019, *5* (7), eaaw2612.

Ferraz, Claudio and Frederico Finan, "Exposing corrupt politicians: the effects of Brazil's publicly released audits on electoral outcomes," *The Quarterly journal of economics*, 2008, *123* (2), 703–745.

Kendall, Chad, Tommaso Nannicini, and Francesco Trebbi, "How do voters respond to information? Evidence from a randomized campaign," *American Economic Review*, 2015, *105* (1), 322–353.

Malhotra, Neil and Alexander G. Kuo, "Attributing Blame: The Public's Response to Hurricane Katrina," *The Journal of Politics*, 2008, *70* (1), 120–135.

Martin, Lucy and Pia J. Raffler, "Fault Lines: The Effects of Bureaucratic Power on Electoral Accountability," *American Journal of Political Science*, January 2021, *65* (1), 210–224.

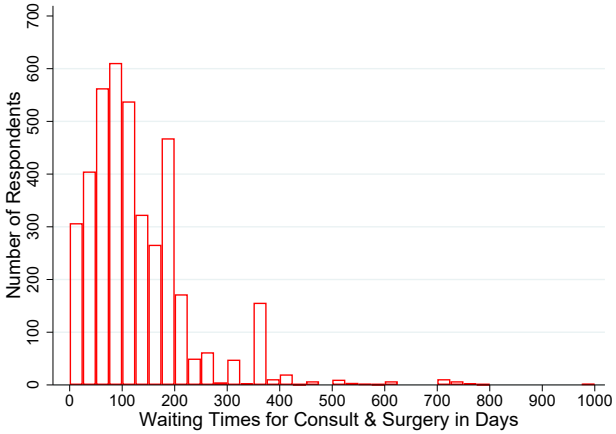
Martinez-Bravo, Monica and Carlos Sanz, "Trust and Accountability in Times of Crisis," *Economica*, 2025, *92* (365), 230–258.

Powell, G. Bingham and Guy D. Whitten, "A Cross-National Analysis of Economic Voting: Taking Account of the Political Context," *American Journal of Political Science*, May 1993, *37* (2), 391.

7 Figures

Figure 1: Distribution of Priors

Panel A: Prior Beliefs on Waiting Times



Panel B: Priors vs Actual Waiting Times

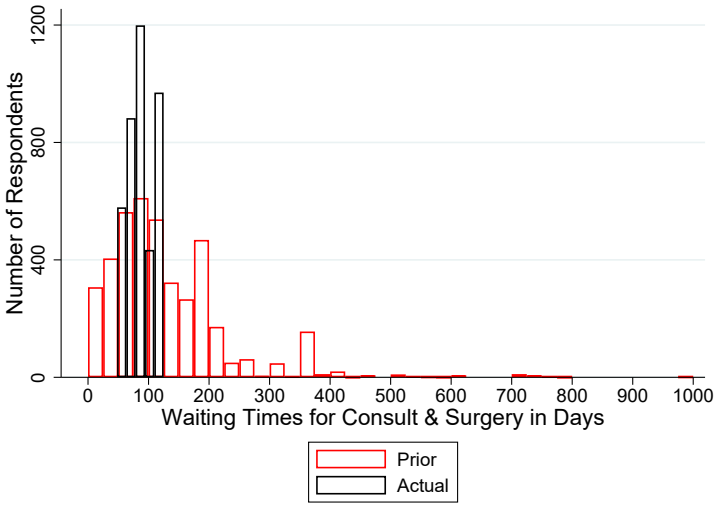
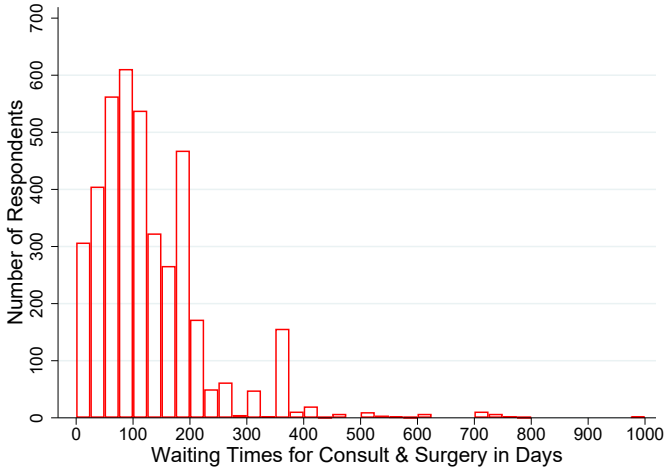


Figure 2: Distribution of Attribution of Responsibility

Panel A: Legal Responsibility



Panel B: Political Responsibility

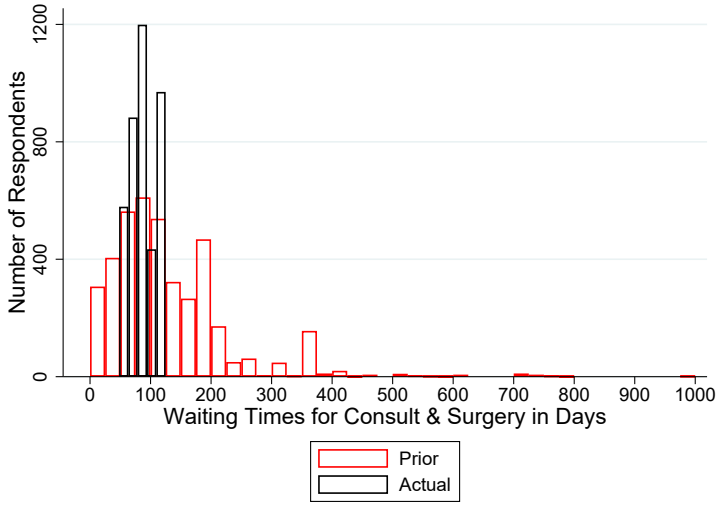
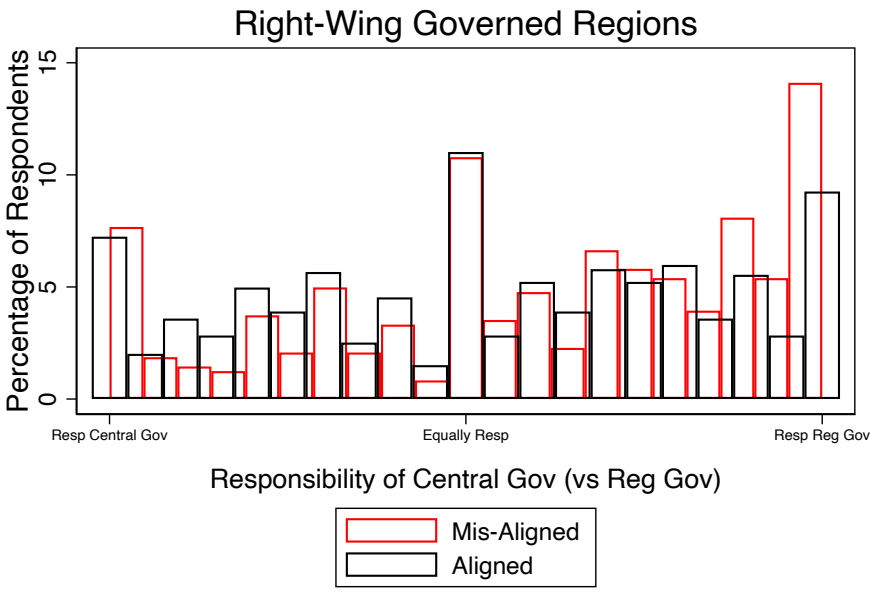


Figure 3: Political Responsibility of Healtcare, by Individual Political Alignment and Regional Government Type



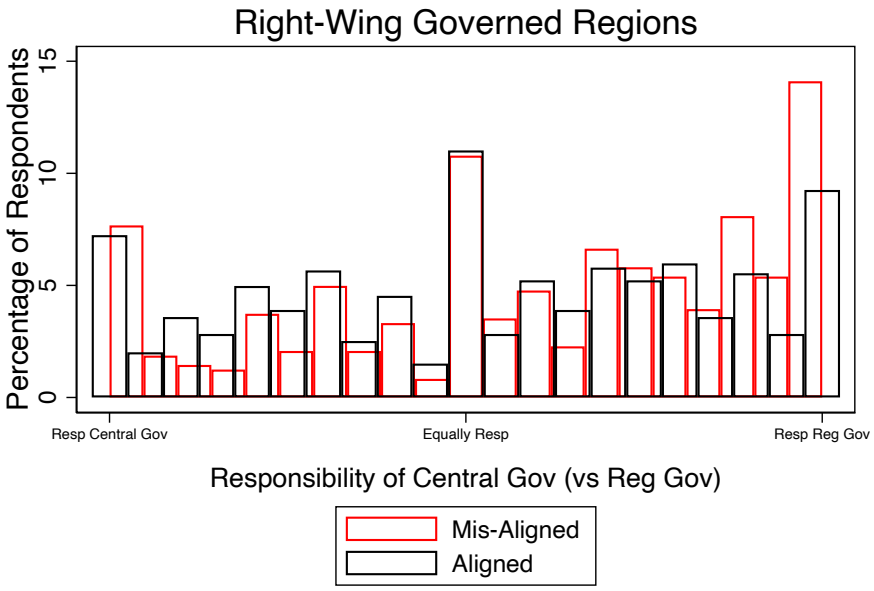


Figure 4: Learning: Progressives in Divided (left) vs Non-Divided (right)

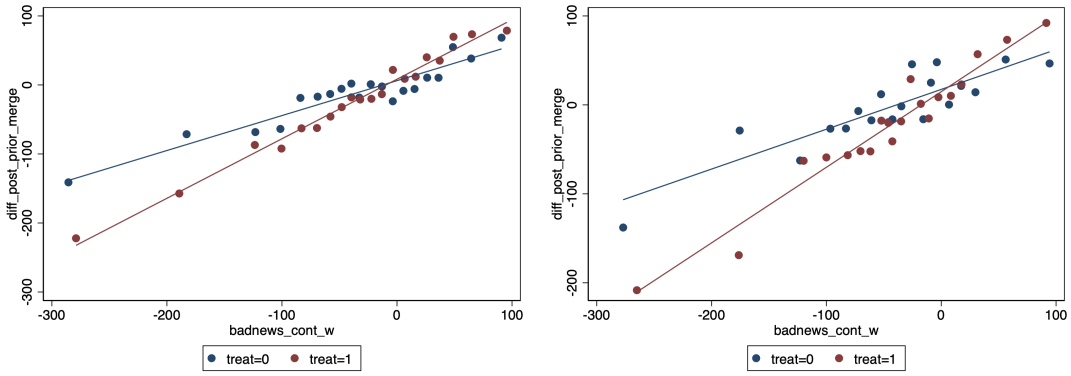
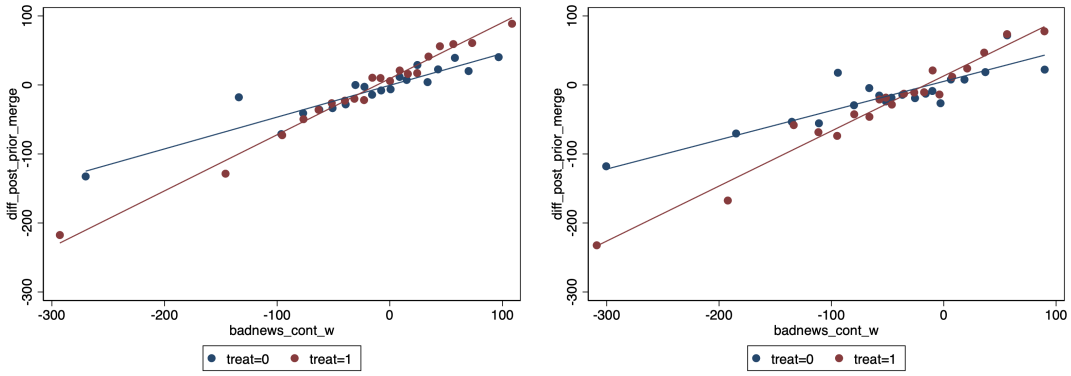


Figure 5: Learning: Conservatives in Divided (left) vs Non-Divided (right)



8 Tables

Table 1

Summary Statistics

	Mean	Min.	Max.	Std. Dev.	Observations
Age <35	0.22	0	1	0.42	3857
Age 36-50	0.32	0	1	0.47	3857
Age >50	0.45	0	1	0.50	3857
Low Educ	0.14	0	1	0.35	3857
High Educ	0.86	0	1	0.35	3857
Female	0.56	0	1	0.50	3857
Kids	0.34	0	1	0.47	3857
Rural	0.22	0	1	0.42	3857
Worker	0.61	0	1	0.49	3857
Student	0.06	0	1	0.24	3857
Retired	0.14	0	1	0.35	3857
Independent Variables					
Optimist	0.39	0	1	0.49	3857
Opt. (Continuous)	-40.00	-910	122	103.04	3857
Right Indiv	0.46	0	1	0.50	3806
Right RG	0.65	0	1	0.48	3857
Treatment	0.67	0	1	0.47	3857
Outcomes					
Resp RG (vs CG)	1.37	-10	10	6.19	3857
Vote RG	0.28	0	1	0.45	3857
Vote CG	0.36	0	1	0.48	3857
Rate RG (vs CG)	0.94	-10	10	6.52	3857
DeJure RG	0.58	0	1	0.49	3857

Table 2

Attribution of Responsibility

	(1)	(2)	(3)	(4)
	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)
Optimist	-1.09**	0.98	-1.09**	1.01*
	(0.59)	(0.80)	(0.58)	(0.78)
Right Indiv	-3.83***	-1.77***	-3.80***	-1.65**
	(0.58)	(0.73)	(0.57)	(0.73)
Optimist × Right Indiv	2.78***	-0.60	2.80***	-0.67
	(0.89)	(1.17)	(0.89)	(1.15)
Right RG		0.00		0.00
		(.)		(.)
Optimist × Right RG		-2.07**		-2.10**
		(1.00)		(0.98)
Right Indiv × Right RG		-2.06**		-2.15**
		(0.93)		(0.93)
Optimist × Right Indiv × Right RG		3.37**		3.47***
		(1.47)		(1.45)
Treatment			0.45	0.43
			(0.43)	(0.63)
Optimist × Treatment			0.01	-2.35***
			(0.70)	(0.98)
Right Indiv × Treatment			0.31	-0.24
			(0.70)	(0.88)
Optimist × Right Indiv × Treatment			-1.88**	1.37
			(1.08)	(1.41)
Treatment × Right RG				0.01
				(0.76)
Optimist × Treatment × Right RG				2.35**
				(1.20)
Right Indiv × Treatment × Right RG				0.55
				(1.12)
Optimist × Right Indiv × Treatment × Right RG				-3.25**
				(1.78)
Constant	2.60***	2.58***	2.58***	2.54***
	(0.37)	(0.30)	(0.36)	(0.30)
H1	-1.09**	-2.07**	0.01	2.35**
H2	1.69***	1.30	-1.87**	-0.90
H3	-3.83***	-2.06**	0.31	0.55
H4	-1.05*	1.31	-1.57**	-2.70**
H5	2.78***	3.37**	-1.88**	-3.25**
HT1			0.45	0.01
HT2			0.45	2.37***
HT3			0.76*	0.56
HT4			-1.12	-0.33**
Observations	819	1253	2485	3806
R^2	0.06	0.07	0.07	0.06

Notes: Columns (1)-(4) show the results from estimating equations (1)-(4), respectively. The unit of observation is a respondent. The dependent variable is how much responsibility the respondent assigns to the regional versus the central government, measured on a scale from -10 (all responsibility lies with the Spanish Government) to 10 (all responsibility lies with the Regional Government). Robust standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 3

Evaluation of Regional Government

	(1)	(2)	(3)	(4)
	Rate RG (vs CG)	Rate RG (vs CG)	Rate RG (vs CG)	Rate RG (vs CG)
Optimist	0.00	0.31	0.04	0.26
	(0.61)	(0.87)	(0.61)	(0.86)
Right Indiv	0.67	-1.91***	0.62	-1.85***
	(0.62)	(0.72)	(0.61)	(0.72)
Optimist × Right Indiv	1.40*	-0.21	1.40*	-0.40
	(0.92)	(1.22)	(0.92)	(1.23)
Right RG		0.00		0.00
		(.)		(.)
Optimist × Right RG		-0.31		-0.21
		(1.06)		(1.05)
Right Indiv × Right RG		2.58***		2.48***
		(0.95)		(0.94)
Optimist × Right Indiv × Right RG		1.60		1.80
		(1.53)		(1.53)
Treatment			-0.32	-0.44
			(0.47)	(0.67)
Optimist × Treatment			0.45	-0.97
			(0.73)	(1.08)
Right Indiv × Treatment			1.25**	0.83
			(0.74)	(0.90)
Optimist × Right Indiv × Treatment			-2.68***	1.20
			(1.12)	(1.51)
Treatment × Right RG				0.12
				(0.82)
Optimist × Treatment × Right RG				1.41
				(1.30)
Right Indiv × Treatment × Right RG				0.42
				(1.17)
Optimist × Right Indiv × Treatment × Right RG				-3.87**
				(1.88)
Constant	0.37	1.00***	0.39	1.02***
	(0.38)	(0.32)	(0.38)	(0.31)
H1	0.00	-0.31	0.45	1.41
H2	1.40**	1.30	-2.23***	-2.46**
H3	0.67	2.58***	1.25**	0.42
H4	2.07***	4.18***	-1.43	-3.45***
H5	1.40*	1.60	-2.68***	-3.87**
HT1			-0.32	0.12
HT2			0.12	1.54*
HT3			0.93*	0.54
HT4			-1.30**	-1.91**
Observations	819	1253	2485	3806
R^2	0.06	0.09	0.05	0.06

Notes: Columns (1)-(4) show the results from estimating equations (1)-(4), respectively. The unit of observation is a respondent. The dependent variable is how much responsibility the respondent assigns to the regional versus the central government, measured on a scale from -10 (all responsibility lies with the Spanish Government) to 10 (all responsibility lies with the Regional Government). Robust standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$

Table 4

Voting for Regional Government

	(1)	(2)	(3)	(4)
	Vote RG	Vote RG	Vote RG	Vote RG
Optimist	-0.03*	0.05	-0.02*	0.07
	(0.02)	(0.07)	(0.02)	(0.06)
Right Indiv	0.40***	-0.65***	0.40***	-0.64***
	(0.04)	(0.05)	(0.04)	(0.05)
Optimist × Right Indiv	0.19***	-0.03	0.19***	-0.05
	(0.06)	(0.08)	(0.06)	(0.08)
Right RG		0.00		0.00
		(.)		(.)
Optimist × Right RG		-0.08		-0.09*
		(0.07)		(0.07)
Right Indiv × Right RG		1.05***		1.04***
		(0.06)		(0.06)
Optimist × Right Indiv × Right RG		0.22**		0.24***
		(0.10)		(0.10)
Treatment			-0.03**	-0.02
			(0.02)	(0.05)
Optimist × Treatment			0.07***	-0.03
			(0.02)	(0.08)
Right Indiv × Treatment			0.11***	0.00
			(0.05)	(0.06)
Optimist × Right Indiv × Treatment			-0.26***	0.04
			(0.07)	(0.09)
Treatment × Right RG				-0.01
				(0.05)
Optimist × Treatment × Right RG				0.10
				(0.08)
Right Indiv × Treatment × Right RG				0.11*
				(0.07)
Optimist × Right Indiv × Treatment × Right RG				-0.30***
				(0.12)
Constant	0.06***	0.29***	0.06***	0.29***
	(0.01)	(0.02)	(0.01)	(0.02)
H1	-0.03*	-0.08	0.07***	0.10
H2	0.16***	0.14**	-0.18***	-0.20***
H3	0.40***	1.05***	0.11***	0.11*
H4	0.59***	1.27***	-0.15***	-0.19
H5	0.19***	0.22**	-0.26***	-0.30***
HT1			-0.03**	-0.01
HT2			0.04***	0.09*
HT3			0.08**	0.10**
HT4			-0.10***	-0.10**
Observations	819	1253	2485	3806
R^2	0.33	0.40	0.33	0.39

Notes: Columns (1)-(4) show the results from estimating equations (1)-(4), respectively. The

A Derivation of Hypotheses Testing

A.1 First Specification

According to equation (1), we can categorize the dependent variable in the four groups as follows:

- Pessimist Left Individual: $Y_{Pess,LI} = \alpha_0$.
- Optimist Left Individual: $Y_{Opt,LI} = \alpha_0 + \alpha_1$.
- Pessimist Right Individual: $Y_{Pess,RI} = \alpha_0 + \alpha_2$.
- Optimist Right Individual: $Y_{Opt,RI} = \alpha_0 + \alpha_1 + \alpha_2 + \alpha_3$.

Hence,

- H1: $Y_{Pess,LI} - Y_{Opt,LI} = \alpha_1 < 0$.
- H2: $Y_{Opt,RI} - Y_{Pess,RI} = \alpha_1 + \alpha_3 > 0$.
- H3: $Y_{Opt,RI} - Y_{Opt,LI} = \alpha_2 > 0$
- H4: $Y_{Pess,LI} - Y_{Pess,RI} = \alpha_2 + \alpha_3 > 0$.
- H5: $(Y_{Opt,RI} - Y_{Pess,RI}) - (Y_{Opt,LI} - Y_{Pess,LI}) = \alpha_3 > 0$.

A.2 Second Specification

From equation (2), we can characterize individuals as follows:

- $Y_{Pess,LI,NonD} = \beta_0$.
- $Y_{Pess,RI,NonD} = \beta_0 + \beta_2$.
- $Y_{Opt,LI,NonD} = \beta_0 + \beta_1$.
- $Y_{Opt,RI,NonD} = \beta_0 + \beta_1 + \beta_2 + \beta_3$.

- $Y_{Pess,LI,Div} = \beta_0 + \beta_4$.
- $Y_{Pess,RI,Div} = \beta_0 + \beta_2 + \beta_4 + \beta_6$.
- $Y_{Opt,LI,Div} = \beta_0 + \beta_1 + \beta_4 + \beta_5$.
- $Y_{Opt,RI,Div} = \beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7$.

And our hypotheses can be written as:

- H1': $Y_{Pess,LI,RG} - Y_{Opt,LI,RG} > Y_{Pess,LI,LG} - Y_{Opt,LI,LG}$. Or $\beta_5 < 0$.
- H2': $Y_{Pess,Con,RG} - Y_{Opt,Con,RG} < Y_{Pess,Con,LG} - Y_{Opt,Con,LG}$. Or $\beta_5 + \beta_7 > 0$.
- H3': $Y_{Pess,LI,RG} - Y_{Pess,Con,RG} > Y_{Pess,LI,LG} - Y_{Pess,Con,LG}$. Or $\beta_6 < 0$.
- H4': $Y_{Opt,LI,RG} - Y_{Opt,Con,RG} < Y_{Opt,LI,LG} - Y_{Opt,Con,LG}$. Or $\beta_6 + \beta_7 > 0$.
- H5': $(Y_{Opt,Con,RG} - Y_{Pess,Con,RG}) - (Y_{Opt,LI,RG} - Y_{Pess,LI,RG}) > (Y_{Opt,Con,LG} - Y_{Pess,Con,LG}) - (Y_{Opt,LI,LG} - Y_{Pess,LI,LG})$. Or $\beta_7 > 0$.

A.3 Third Specification

- H1": $Y_{Opt,LI,Treat} - Y_{Pess,LI,Treat} > Y_{Opt,LI,Control} - Y_{Pess,LI,Control}$. $\gamma_5 > 0$.
- H2": $Y_{Opt,RI,Treat} - Y_{Pess,RI,Treat} < Y_{Opt,RI,Control} - Y_{Pess,RI,Control}$. Or $\gamma_5 + \gamma_7 < 0$.
- H3": $Y_{Pess,RI,Treat} - Y_{Pess,LI,Treat} > Y_{Pess,RI,Control} - Y_{Pess,LI,Control}$. Or $\gamma_6 > 0$.
- H4": $Y_{Opt,RI,Treat} - Y_{Opt,LI,Treat} < Y_{Opt,RI,Control} - Y_{Opt,LI,Control}$. Or $\gamma_6 + \gamma_7 < 0$.
- H5": $(Y_{Opt,RI,Treat} - Y_{Pess,RI,Treat}) - (Y_{Opt,LI,Treat} - Y_{Pess,LI,Treat}) > (Y_{Opt,RI,Control} - Y_{Pess,RI,Control}) - (Y_{Opt,LI,Control} - Y_{Pess,LI,Control})$. Or $\gamma_7 < 0$.

A.4 Fourth Specification

- $Y_{PessProNondCon} = \beta_0$.
- $Y_{PessConNonDCon} = \beta_0 + \beta_2$.
- $Y_{OptProNonDCon} = \beta_0 + \beta_1$.
- $Y_{OptConNonDCon} = \beta_0 + \beta_1 + \beta_2 + \beta_3$.
- $Y_{PessProDivCon} = \beta_0 + \beta_4$.
- $Y_{PessConDivCon} = \beta_0 + \beta_2 + \beta_4 + \beta_6$.
- $Y_{OptProDivCon} = \beta_0 + \beta_1 + \beta_4 + \beta_5$.
- $Y_{OptConDivCon} = \beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7$.
- $Y_{PessProNonDTreat} = \beta_0 + \beta_8$.
- $Y_{PessConNonDTreat} = \beta_0 + \beta_2 + \beta_8 + \beta_{10}$.
- $Y_{OptProNonDTreat} = \beta_0 + \beta_1 + \beta_8 + \beta_9$.
- $Y_{OptConNonDTreat} = \beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_8 + \beta_9 + \beta_{10} + \beta_{11}$.
- $Y_{PessProDivTreat} = \beta_0 + \beta_4 + \beta_8 + \beta_{12}$.
- $Y_{PessConDivTreat} = \beta_0 + \beta_2 + \beta_4 + \beta_6 + \beta_8 + \beta_{10} + \beta_{12} + \beta_{14}$.
- $Y_{OptProDivTreat} = \beta_0 + \beta_1 + \beta_4 + \beta_5 + \beta_8 + \beta_9 + \beta_{12} + \beta_{13}$.
- $Y_{OptConDivTreat} = \beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 + \beta_9 + \beta_{10} + \beta_{11} + \beta_{12} + \beta_{13} + \beta_{14} + \beta_{15}$.

Hence:

- H1"': $(Y_{PessProDivCon} - Y_{OptProDivCon}) - (Y_{PessProNonDCon} - Y_{OptProNonDCon}) > (Y_{PessProDivTreat} - Y_{OptProDivTreat}) - (Y_{PessProNonDTreat} - Y_{OptProNonDTreat})$, or $\beta_{13} > 0$..

- H2"': $(Y_{PessConDivCon} - Y_{OptConDivCon}) - (Y_{PessConNonDCon} - Y_{OptConNonDCon}) < (Y_{PessConDivTreat} - Y_{OptConDivTreat}) - (Y_{PessConNonDTreat} - Y_{OptConNonDTreat})$, or $\beta_{13} + \beta_{15} > 0$..

- H3"': $(Y_{PessProDivCon} - Y_{PessConDivCon}) - (Y_{PessProNonDCon} - Y_{PessConNonDCon}) > (Y_{PessProDivTreat} - Y_{PessConDivTreat}) - (Y_{PessProNonDTreat} - Y_{PessConNonDTreat})$, or $\beta_{14} > 0$.

- H4"': $(Y_{OptProDivCon} - Y_{OptConDivCon}) - (Y_{OptProNonDCon} - Y_{OptConNonDCon}) < (Y_{OptProDivTreat} - Y_{OptConDivTreat}) - (Y_{OptProNonDTreat} - Y_{OptConNonDTreat})$, or $\beta_{14} + \beta_{15} < 0$..

- H5"':

  $[(Y_{OptConDivCon} - Y_{PessConDivCon}) - (Y_{OptProDivCon} - Y_{PessProDivCon})] - [(Y_{OptConNonDCon} - Y_{PessConNonDC}$

  $[(Y_{OptConDivTreat} - Y_{PessConDivTreat}) - (Y_{OptProDivTreat} - Y_{PessProDivTreat})] - [(Y_{OptConNonDTreat} - Y_{PessCon}$

  , or $\beta_{15} < 0$.

B Appendix Tables and Figures

Figure B.1: Distribution of (Actual - Prior) Waiting Times

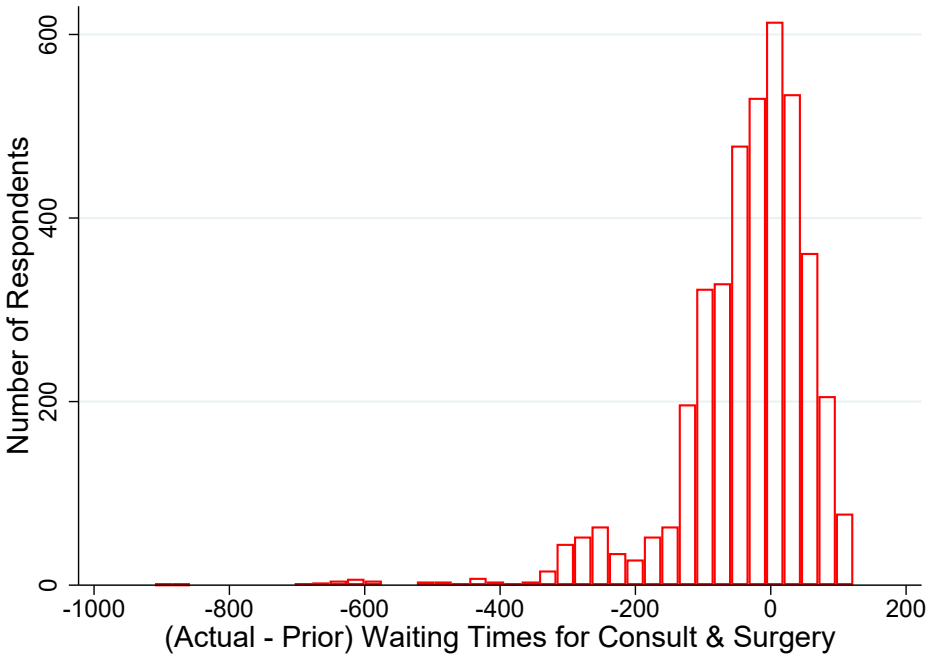


Table B.1

Government Coalitions and Divided Governments, by Region

Region	President	Gov Coalition	Gov Formation	Divided Gov
	(1)	(2)	(3)	(4)
Central Government	PSOE	PSOE, UP	PSOE, UP, MP, PNV, BNG, Reg.	
Andalucía	PP	PP, Cs	PP, Cs, VOX	Yes
Aragón	PSOE	PSOE, UP, Reg.	PSOE, UP, Reg.	No
Asturias	PSOE	PSOE	PSOE, UP	No
Canarias	PSOE	PSOE, UP, Reg.	PSOE, UP, Reg.	No
Cantabria	Reg	PSOE, Reg.	PSOE, Reg.	No
Castilla y León	PP	PP, Cs	PP, Cs	Yes
Castilla La Mancha	PSOE	PSOE	PSOE	No
Cataluña	ERC	JxC, ERC	JxC, ERC	Yes
Ceuta	PP	PP	PP	Yes
Com. Valenciana	PSOE	PSOE, UP, Reg.	PSOE, UP, Reg.	No
Com. Madrid	PP	PP, Cs	PP, Cs, VOX	Yes
Galicia	PP	PP	PP	Yes
Extremadura	PSOE	PSOE	PSOE	No
Islas Baleares	PSOE	PSOE, UP, Reg.	PSOE, UP, Reg.	No
La Rioja	PSOE	PSOE, UP	PSOE, UP	No
Melilla	Cs	Cs, PSOE, Reg	Cs, PSOE, Reg	No
Murcia	PP	PP, Cs	PP, Cs, VOX	Yes
Navarra	PSOE	PSOE, UP, PNV	PSOE, UP, PNV	No
País Vasco	PNV	PNV, PSOE	PNV, PSOE	No

Notes: The column President indicates the party of the president of the regional government at the time of the survey. Gov Coalition indicates the parties that are part of the regional government (the executive). Gov Formation indicates the parties that voted "yes" to the investiture of the regional president. The first row shows analogous values for the central government, i.e., party of the prime minister, parties that are part of the central government, and parties that voted "yes" to the investiture of the prime minister. Divided Gov indicates regions in which there is no overlap between the government formation parties for that region and for the central government. "Reg." stands for voting for any regionalist (or nationalist) party running in that region only.

Table B.2

Sample Characteristics

	Spanish Population (source: INE)	Our Sample
Female	0.52	0.56
Ages 18-24	0.08	0.07
Ages: 25-34	0.14	0.14
Ages: 35-44	0.19	0.20
Ages: 45-54	0.19	0.21
Ages: 55+	0.39	0.38
North-East Region	0.21	0.21
East Region	0.14	0.14
South Region	0.24	0.23
Center Region	0.22	0.24
North-West Region	0.09	0.09
North Region	0.09	0.08
Primary Education or Less	0.18	0.02
Secondary Education	0.29	0.11
Upper Secondary Education	0.14	0.23
Vocational Training	0.08	0.30
Tertiary Education	0.31	0.33
Observations	1	3858

Table B.3

DiD: Balance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Age <35	Age 36-50	Age >50	Low Educ	High Educ	Female	Kids	Rural	Worker	Student	Retired
Optimist	0.02	-0.06*	0.04	0.00	-0.00	-0.08**	0.01	-0.04	0.07*	0.02	0.01
	(0.04)	(0.04)	(0.05)	(0.03)	(0.03)	(0.05)	(0.05)	(0.04)	(0.05)	(0.02)	(0.03)
Right Indiv	-0.00	-0.04	0.05	-0.01	0.01	0.03	-0.02	0.06**	0.04	0.00	-0.01
	(0.04)	(0.04)	(0.05)	(0.03)	(0.03)	(0.05)	(0.04)	(0.04)	(0.04)	(0.02)	(0.03)
Optimist × Right Indiv	-0.03	0.10*	-0.07	-0.03	0.03	-0.08	0.01	0.03	-0.14**	-0.01	0.03
	(0.06)	(0.07)	(0.07)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)	(0.07)	(0.04)	(0.05)
Constant	0.23***	0.34***	0.43***	0.14***	0.86***	0.59***	0.34***	0.19***	0.59***	0.06***	0.15***
	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)	(0.01)	(0.02)
Observations	819	819	819	819	819	819	819	819	819	819	819
R^2	0.00	0.01	0.01	0.01	0.01	0.03	0.01	0.10	0.01	0.01	0.01

Standard errors in parentheses

* $p < .2$, ** $p < .1$, *** $p < .02$

Table B.4

DDD (control group): Balance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Age <35	Age 36-50	Age >50	Low Educ	High Educ	Female	Kids	Rural	Worker	Student	Retired
Optimist	-0.03	0.06	-0.02	0.02	-0.02	-0.17***	0.08	0.02	-0.09	-0.03	-0.02
	(0.06)	(0.07)	(0.08)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)	(0.08)	(0.04)	(0.06)
Right Indiv	0.02	0.01	-0.03	-0.01	0.01	-0.08*	0.03	0.01	-0.01	-0.00	-0.04
	(0.05)	(0.06)	(0.06)	(0.04)	(0.04)	(0.06)	(0.06)	(0.05)	(0.06)	(0.03)	(0.04)
Optimist × Right Indiv	0.15**	-0.08	-0.07	0.00	-0.00	0.07	-0.02	0.02	0.15*	0.03	-0.02
	(0.09)	(0.10)	(0.10)	(0.08)	(0.08)	(0.10)	(0.10)	(0.09)	(0.10)	(0.06)	(0.07)
Right RG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Optimist × Right RG	0.06	-0.12*	0.06	-0.02	0.02	0.09	-0.07	-0.06	0.15**	0.05	0.04
	(0.07)	(0.08)	(0.09)	(0.06)	(0.06)	(0.09)	(0.08)	(0.07)	(0.09)	(0.05)	(0.07)
Right Indiv × Right RG	-0.02	-0.05	0.07	0.00	-0.00	0.11*	-0.05	0.05	0.06	0.00	0.04
	(0.06)	(0.07)	(0.08)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)	(0.07)	(0.04)	(0.05)
Optimist × Right Indiv × Right RG	-0.18**	0.18*	0.00	-0.03	0.03	-0.16	0.03	0.01	-0.29**	-0.05	0.05
	(0.11)	(0.12)	(0.13)	(0.09)	(0.09)	(0.12)	(0.12)	(0.10)	(0.13)	(0.07)	(0.08)
Constant	0.22***	0.33***	0.45***	0.14***	0.86***	0.62***	0.33***	0.21***	0.60***	0.07***	0.15***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)
Observations	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253	1,253
R^2	0.01	0.01	0.01	0.02	0.02	0.04	0.02	0.10	0.01	0.02	0.02

Standard errors in parentheses

* $p < .2$, ** $p < .1$, *** $p < .02$

Table B.5

DDD (treatment group): Balance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Age <35	Age 36-50	Age >50	Low Educ	High Educ	Female	Kids	Rural	Worker	Student	Retired
Optimist	0.02	-0.06*	0.04	0.00	-0.00	-0.08**	0.00	-0.04	0.07*	0.03	0.01
	(0.04)	(0.04)	(0.05)	(0.03)	(0.03)	(0.05)	(0.04)	(0.04)	(0.05)	(0.02)	(0.03)
Right Indiv	-0.01	-0.04	0.05	-0.00	0.00	0.03	-0.01	0.06*	0.05	0.00	-0.01
	(0.04)	(0.04)	(0.05)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)	(0.02)	(0.03)
Optimist × Right Indiv	-0.04	0.10*	-0.07	-0.02	0.02	-0.09	0.02	0.03	-0.14**	-0.01	0.03
	(0.06)	(0.07)	(0.07)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)	(0.07)	(0.04)	(0.05)
Treatment	0.00	-0.03	0.03	-0.02	0.02	-0.01	-0.02	0.02	0.02	0.01	-0.01
	(0.03)	(0.03)	(0.04)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)
Optimist × Treatment	0.01	0.04	-0.05	0.03	-0.03	-0.02	0.01	0.04	-0.04	-0.02	-0.02
	(0.05)	(0.05)	(0.06)	(0.04)	(0.04)	(0.06)	(0.05)	(0.04)	(0.06)	(0.03)	(0.04)
Right Indiv × Treatment	-0.02	0.06	-0.04	0.01	-0.01	0.03	0.06	-0.05	-0.04	-0.03	-0.00
	(0.05)	(0.05)	(0.06)	(0.04)	(0.04)	(0.06)	(0.05)	(0.04)	(0.06)	(0.03)	(0.04)
Optimist × Right Indiv × Treatment	0.04	-0.07	0.04	-0.00	0.00	0.03	-0.06	-0.03	0.10	0.03	0.00
	(0.07)	(0.08)	(0.09)	(0.06)	(0.06)	(0.09)	(0.08)	(0.07)	(0.09)	(0.04)	(0.06)
Constant	0.23***	0.34***	0.43***	0.14***	0.86***	0.59***	0.34***	0.19***	0.58***	0.06***	0.15***
	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)	(0.01)	(0.02)
Observations	2,485	2,485	2,485	2,485	2,485	2,485	2,485	2,485	2,485	2,485	2,485
R^2	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.08	0.00	0.01	0.01

Standard errors in parentheses

* $p < .2$, ** $p < .1$, *** $p < .02$

Table B.6

Fourth Difference: Balance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Age <35	Age 36-50	Age >50	Low Educ	High Educ	Female	Kids	Rural	Worker	Student	Retired
Optimist	-0.03	0.06	-0.03	0.03	-0.03	-0.18***	0.09	0.02	-0.10*	-0.02	-0.03
	(0.06)	(0.07)	(0.08)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)	(0.07)	(0.04)	(0.05)
Right Indiv	0.02	0.01	-0.03	-0.01	0.01	-0.09*	0.04	0.01	-0.02	0.01	-0.04
	(0.05)	(0.06)	(0.06)	(0.04)	(0.04)	(0.06)	(0.06)	(0.05)	(0.06)	(0.03)	(0.04)
Optimist × Right Indiv	0.14*	-0.07	-0.07	0.01	-0.01	0.09	-0.03	0.01	0.15*	0.03	-0.02
	(0.09)	(0.10)	(0.10)	(0.07)	(0.07)	(0.10)	(0.10)	(0.09)	(0.10)	(0.06)	(0.07)
Right RG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Optimist × Right RG	0.05	-0.12*	0.07	-0.03	0.03	0.10	-0.09	-0.06	0.17**	0.05	0.04
	(0.07)	(0.08)	(0.09)	(0.06)	(0.06)	(0.09)	(0.08)	(0.07)	(0.09)	(0.04)	(0.06)
Right Indiv × Right RG	-0.03	-0.05	0.08	0.00	-0.00	0.12*	-0.05	0.05	0.06	-0.00	0.03
	(0.06)	(0.07)	(0.07)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)	(0.07)	(0.04)	(0.05)
Optimist × Right Indiv × Right RG	-0.17*	0.17*	0.00	-0.03	0.03	-0.17*	0.05	0.03	-0.29**	-0.04	0.05
	(0.11)	(0.12)	(0.12)	(0.09)	(0.09)	(0.12)	(0.12)	(0.10)	(0.12)	(0.07)	(0.08)
Treatment	0.00	0.02	-0.02	-0.00	0.00	-0.01	0.01	0.01	0.04	-0.06**	-0.03
	(0.04)	(0.05)	(0.06)	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.05)	(0.03)	(0.04)
Optimist × Treatment	0.07	-0.10	0.03	-0.04	0.04	-0.03	-0.08	-0.04	-0.09	0.10**	0.07
	(0.07)	(0.09)	(0.09)	(0.06)	(0.06)	(0.09)	(0.09)	(0.07)	(0.09)	(0.05)	(0.07)
Right Indiv × Treatment	-0.03	-0.02	0.05	0.02	-0.02	-0.02	0.02	0.00	-0.04	0.02	0.06
	(0.06)	(0.07)	(0.07)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)	(0.07)	(0.03)	(0.05)
Optimist × Right Indiv × Treatment	-0.15*	0.14	0.01	0.05	-0.05	0.03	0.05	0.06	0.03	-0.07	-0.02
	(0.10)	(0.12)	(0.12)	(0.09)	(0.09)	(0.12)	(0.12)	(0.10)	(0.12)	(0.07)	(0.08)
Right RG × Treatment	-0.00	-0.04	0.05	-0.02	0.02	0.01	-0.04	0.01	-0.02	0.07**	0.02
	(0.05)	(0.06)	(0.07)	(0.05)	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)	(0.03)	(0.05)
Optimist × Right RG × Treatment	-0.06	0.15*	-0.08	0.06	-0.06	0.01	0.10	0.08	0.05	-0.13***	-0.09
	(0.09)	(0.10)	(0.11)	(0.08)	(0.08)	(0.11)	(0.10)	(0.09)	(0.11)	(0.05)	(0.08)
Right Indiv × Right RG × Treatment	0.01	0.08	-0.09	-0.01	0.01	0.05	0.04	-0.05	-0.00	-0.05	-0.06
	(0.07)	(0.09)	(0.09)	(0.06)	(0.06)	(0.09)	(0.09)	(0.07)	(0.09)	(0.04)	(0.06)
Optimist × Right Indiv × Right RG × Treatment	0.19*	-0.22*	0.03	-0.05	0.05	-0.00	-0.11	-0.09	0.07	0.10	0.02
	(0.13)	(0.14)	(0.15)	(0.11)	(0.11)	(0.15)	(0.15)	(0.13)	(0.15)	(0.08)	(0.10)
Constant	0.22***	0.33***	0.45***	0.14***	0.86***	0.62***	0.32***	0.21***	0.60***	0.06***	0.15***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)
Observations	3,806	3,806	3,806	3,806	3,806	3,806	3,806	3,806	3,806	3,806	3,806
R^2	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.09	0.01	0.01	0.01

Table B.7

DDD (control group): Robustness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)
Optimist	0.98	1.12*	1.17*	1.46**	1.10	0.79	0.24	1.27*	0.31	0.98
	(0.80)	(0.80)	(0.79)	(0.79)	(0.95)	(0.81)	(0.81)	(0.79)	(0.42)	(0.81)
Right Indiv	-1.77***	-1.53**	-1.65**	-1.40**	-2.82***	-1.70**	-2.08***	-1.84**	-2.11***	-1.77***
	(0.73)	(0.73)	(0.72)	(0.73)	(0.94)	(0.85)	(0.86)	(0.85)	(0.57)	(0.73)
Optimist × Right Indiv	-0.60	-0.85	-0.56	-1.49*	-0.62	-0.63	0.17	-0.29	-0.51	-0.60
	(1.17)	(1.19)	(1.16)	(1.16)	(1.48)	(1.15)	(1.16)	(1.14)	(0.52)	(1.17)
Right RG	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.)	(0.64)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Optimist × Right RG	-2.07**	-2.35***	-2.30**	-1.91**	-2.16**	-2.43***	-1.90**	-2.78***	-0.70*	-1.93**
	(1.00)	(1.00)	(0.99)	(1.02)	(1.16)	(1.00)	(0.99)	(0.97)	(0.52)	(1.09)
Right Indiv × Right RG	-2.06**	-2.13**	-2.31***	-2.23***	-1.81*	-2.37**	-1.76*	-2.19**	-0.71	-2.29***
	(0.93)	(0.93)	(0.92)	(0.92)	(1.21)	(1.06)	(1.07)	(1.05)	(0.73)	(0.98)
Optimist × Right Indiv × Right RG	3.37**	3.72***	3.36**	2.61**	3.18**	3.41***	2.27*	3.09**	1.91***	2.77**
	(1.47)	(1.48)	(1.46)	(1.45)	(1.86)	(1.45)	(1.46)	(1.44)	(0.73)	(1.56)
Constant	2.58***	2.40***	2.57***	2.76***	2.92***	2.79***	2.85***	2.68***	2.43***	2.81***
	(0.30)	(0.53)	(0.30)	(0.32)	(0.35)	(0.34)	(0.33)	(0.34)	(0.23)	(0.34)
H1	-2.07**	-2.35***	-2.30**	-1.91**	-2.16**	-2.43***	-1.90**	-2.78***	-0.70*	-1.93**
H2	1.30	1.38	1.07	0.71	1.01	0.97	0.36	0.31	1.21***	0.84
H3	-2.06**	-2.13**	-2.31***	-2.23***	-1.81*	-2.37**	-1.76*	-2.19**	-0.71	-2.29***
H4	1.31	1.60*	1.05	0.38	1.37	1.03	0.51	0.90	1.20	0.48
H5	3.37**	3.72***	3.36**	2.61**	3.18**	3.41***	2.27*	3.09**	1.91***	2.77**
Observations	1,253.00	1,253.00	1,253.00	1,247.00	873.00	1,253.00	1,253.00	1,253.00	1,253.00	1,041.00
R^2	0.07	0.05	0.10	0.07	0.09	0.07	0.07	0.07	0.06	0.07

Table B.8

DDD (treatment group): Robustness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)
Optimist	-1.09**	-1.23**	-1.19**	-0.44	-1.08*	-1.66***	-1.65***	-1.49***	-0.38	-0.95*
	(0.58)	(0.59)	(0.57)	(0.64)	(0.66)	(0.57)	(0.57)	(0.57)	(0.30)	(0.72)
Right Indiv	-3.80***	-3.66***	-3.86***	-3.55***	-4.62***	-4.08***	-3.80***	-3.97***	-2.78***	-4.01***
	(0.57)	(0.57)	(0.56)	(0.56)	(0.76)	(0.62)	(0.64)	(0.61)	(0.44)	(0.65)
Optimist × Right Indiv	2.80***	2.88***	2.83***	1.09	2.59**	2.86***	2.42***	2.77***	1.40***	2.21**
	(0.89)	(0.89)	(0.88)	(0.87)	(1.12)	(0.87)	(0.88)	(0.87)	(0.50)	(1.02)
Treatment	0.45	0.49	0.40	0.32	0.39	0.18	0.11	0.19	0.46*	0.32
	(0.43)	(0.44)	(0.43)	(0.48)	(0.50)	(0.47)	(0.46)	(0.48)	(0.34)	(0.52)
Optimist × Treatment	0.01	-0.05	0.17	-0.70	-0.02	0.61	0.84	0.55	-0.05	-0.17
	(0.70)	(0.70)	(0.69)	(0.77)	(0.79)	(0.68)	(0.68)	(0.68)	(0.37)	(0.86)
Right Indiv × Treatment	0.31	0.25	0.40	0.73	0.92	0.54	0.36	0.54	-0.41	0.43
	(0.70)	(0.70)	(0.69)	(0.68)	(0.91)	(0.76)	(0.78)	(0.74)	(0.54)	(0.79)
Optimist × Right Indiv × Treatment	-1.88**	-1.84**	-1.96**	-0.57	-2.21*	-2.03**	-1.75*	-2.17**	-0.70	-1.05
	(1.08)	(1.08)	(1.07)	(1.06)	(1.37)	(1.07)	(1.07)	(1.07)	(0.59)	(1.25)
Constant	2.58***	2.56***	2.61***	2.98***	2.79***	2.94***	2.87***	2.88***	2.15***	2.98***
	(0.36)	(0.37)	(0.36)	(0.40)	(0.42)	(0.40)	(0.38)	(0.40)	(0.28)	(0.44)
H1	0.01	-0.05	0.17	-0.70	-0.02	0.61	0.84	0.55	-0.05	-0.17
H2	-1.87**	-1.89**	-1.80**	-1.27**	-2.23**	-1.41**	-0.90	-1.62**	-0.75*	-1.22*
H3	0.31	0.25	0.40	0.73	0.92	0.54	0.36	0.54	-0.41	0.43
H4	-1.57**	-1.59**	-1.56**	0.16	-1.29	-1.49**	-1.39**	-1.64**	-1.11*	-0.62
H5	-1.88**	-1.84**	-1.96**	-0.57	-2.21*	-2.03**	-1.75*	-2.17**	-0.70	-1.05
HT1	0.45	0.49	0.40	0.32	0.39	0.18	0.11	0.19	0.46*	0.32
HT2	0.45	0.45	0.56	-0.38	0.37	0.79*	0.95**	0.75*	0.41	0.15
HT3	0.76*	0.74*	0.80*	1.05**	1.31**	0.72	0.47	0.73*	0.05	0.74
HT4	-1.12	-1.15	-1.00	-0.22	-0.92	-0.69*	-0.44*	-0.89*	-0.70	-0.48
Observations	2485	2485	2485	2476	1764	2485	2485	2485	2485	1839
R^2	0.07	0.06	0.09	0.06	0.08	0.07	0.07	0.07	0.07	0.07

Table B.9

DDDD: Robustness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)	Resp RG (vs CG)
Optimist	1.01*	1.12*	1.07*	1.42**	1.09	0.88	0.36	1.41**	0.38	1.01*
	(0.78)	(0.80)	(0.78)	(0.77)	(0.90)	(0.79)	(0.80)	(0.78)	(0.41)	(0.78)
Right Indiv	-1.65**	-1.53**	-1.57**	-1.37**	-2.57***	-1.55**	-1.88**	-1.60**	-1.99***	-1.65**
	(0.73)	(0.73)	(0.72)	(0.73)	(0.93)	(0.85)	(0.86)	(0.85)	(0.57)	(0.73)
Optimist × Right Indiv	-0.67	-0.85	-0.46	-1.51*	-0.61	-0.74	-0.03	-0.55	-0.54	-0.67
	(1.15)	(1.18)	(1.14)	(1.15)	(1.42)	(1.13)	(1.14)	(1.13)	(0.51)	(1.15)
Right RG	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.)	(0.64)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Optimist × Right RG	-2.10**	-2.35***	-2.22**	-1.86**	-2.17**	-2.54***	-2.01**	-2.89***	-0.76*	-2.10**
	(0.98)	(0.99)	(0.97)	(1.00)	(1.12)	(0.97)	(0.98)	(0.97)	(0.51)	(0.98)
Right Indiv × Right RG	-2.15**	-2.13**	-2.30***	-2.18***	-2.05**	-2.53***	-1.92**	-2.37**	-0.79	-2.15**
	(0.93)	(0.93)	(0.91)	(0.92)	(1.20)	(1.05)	(1.07)	(1.05)	(0.72)	(0.93)
Optimist × Right Indiv × Right RG	3.47***	3.72***	3.23**	2.60**	3.20**	3.59***	2.45**	3.32**	1.94***	3.47***
	(1.45)	(1.48)	(1.44)	(1.44)	(1.81)	(1.43)	(1.44)	(1.43)	(0.72)	(1.45)
Treatment	0.43	0.63	0.50	1.00*	-0.00	0.43	0.22	0.82	-0.43	0.43
	(0.63)	(0.63)	(0.61)	(0.62)	(0.74)	(0.73)	(0.74)	(0.74)	(0.48)	(0.63)
Optimist × Treatment	-2.35***	-2.49***	-2.48***	-2.86***	-2.50**	-1.74**	-1.25*	-2.47***	-0.22	-2.35***
	(0.98)	(0.99)	(0.97)	(0.95)	(1.12)	(0.97)	(0.97)	(0.97)	(0.51)	(0.98)
Right Indiv × Treatment	-0.24	-0.59	-0.38	-1.13*	0.43	-0.20	-0.14	-0.36	0.36	-0.24
	(0.88)	(0.88)	(0.87)	(0.88)	(1.10)	(1.02)	(1.04)	(1.03)	(0.69)	(0.88)
Optimist × Right Indiv × Treatment	1.37	1.54	1.33	2.33**	1.80	0.98	0.81	1.24	0.62	1.37
	(1.41)	(1.44)	(1.39)	(1.40)	(1.73)	(1.37)	(1.38)	(1.38)	(0.67)	(1.41)
Right RG × Treatment	0.01	-0.13	-0.10	-0.69	0.39	-0.26	-0.11	-0.63	0.89*	0.01
	(0.76)	(0.77)	(0.75)	(0.79)	(0.89)	(0.87)	(0.87)	(0.88)	(0.59)	(0.76)
Optimist × Right RG × Treatment	2.35**	2.44**	2.61**	2.16**	2.48**	2.35**	2.09**	3.02***	0.16	2.35**
	(1.20)	(1.22)	(1.19)	(1.23)	(1.37)	(1.18)	(1.19)	(1.18)	(0.63)	(1.20)
Right Indiv × Right RG × Treatment	0.55	0.83	0.77	1.86**	0.48	0.74	0.49	0.89	-0.77	0.55
	(1.12)	(1.12)	(1.11)	(1.11)	(1.43)	(1.27)	(1.30)	(1.27)	(0.88)	(1.12)
Optimist × Right Indiv × Right RG × Treatment	-3.25**	-3.38**	-3.24**	-2.90**	-4.01**	-3.01**	-2.55*	-3.41**	-1.31*	-3.25**
	(1.78)	(1.80)	(1.75)	(1.76)	(2.21)	(1.74)	(1.75)	(1.74)	(0.89)	(1.78)
Constant	2.54***	2.40***	2.54***	2.74***	2.88***	2.75***	2.79***	2.61***	2.40***	2.54***
	(0.30)	(0.53)	(0.29)	(0.32)	(0.35)	(0.34)	(0.33)	(0.34)	(0.23)	(0.30)
H1	-2.35***	-2.49***	-2.48***	-2.86***	-2.50**	-1.74**	-1.25*	-2.47***	-0.22	-2.35***
H2	-0.98	-0.95	-1.15	-0.53	-0.70	-0.76	-0.45	-1.23	0.40	-0.98
H3	-0.24	-0.59	-0.38	-1.13*	0.43	-0.20	-0.14	-0.36	0.36	-0.24
H4	1.13	0.96	0.95	1.21	2.23**	0.79	0.67	0.88	0.98	1.13
H5	1.37	1.54	1.33	2.33**	1.80	0.98	0.81	1.24	0.62	1.37
HT1	0.43	0.63	0.50	1.00*	-0.00	0.43	0.22	0.82	-0.43	0.43
HT2	-1.91***	-1.86***	-1.97***	-1.86***	-2.51***	-1.31**	-1.03**	-1.65***	-0.64	-1.91***
HT3	0.19	0.04	0.13	-0.12	0.43	0.24	0.08	0.46	-0.07	0.19
HT4	-0.79	-0.91	-1.02	-0.65**	-0.27*	-0.52	-0.36	-0.77*	0.34	-0.79
Observations	3806	3806	3806	3793	2673	3806	3806	3806	3806	3806
R^2	0.06	0.05	0.09	0.06	0.08	0.06	0.06	0.06	0.06	0.06

C Questionnaire

This questionnaire aims to gather information about your opinion on various healthcare issues, particularly regarding waiting lists in the public health system. Your participation is voluntary, completely anonymous, and you can leave the survey at any time. Some questions and information will be randomized so that different respondents may receive different versions. The results will be used solely for academic research purposes.

Do you agree to participate?

- Yes
- No

C.1 Basic Information

1. In which autonomous community do you live?
   (List of Spanish autonomous communities)
2. What is your highest level of education?
   (a) Incomplete primary education
   (b) Primary education
   (c) Lower secondary education (ESO or EGB)
   (d) Upper secondary education (Bachillerato, BUP, or COU)
   (e) Vocational training (Intermediate level)
   (f) Vocational training (Higher level)
   (g) Incomplete university studies
   (h) University degree (Bachelor, Licenciatura, Diplomatura)
   (i) Master's or Doctorate
   (j) Other
   (k) Prefer not to answer

3. What is your age? _

4. What is your current employment status?

   (a) Private sector employee

   (b) Public sector employee

   (c) Self-employed, entrepreneur, or professional

   (d) Retired or pensioner

   (e) Unemployed, previously worked

   (f) Unemployed, never worked

   (g) Student

   (h) Unpaid domestic work

   (i) Other (please specify)

C.2 Voting Behavior and Political Preferences

1. Did you vote in the most recent municipal elections?

   (a) Yes

   (b) No

   (c) Prefer not to answer

2. Which party did you vote for in the last municipal elections? (List of political parties)

3. Did you vote in the last regional elections?

4. Which party did you vote for in the last regional elections? (List of political parties)

5. On a scale from 0 (left) to 10 (right), where would you place yourself politically?

C.3 Healthcare Spending Preferences

1. How do you think the public sector budget in Spain is distributed among the following categories? Indicate percentages summing to 100.
   (a) Defense
   (b) Education
   (c) Healthcare
   (d) Pensions
   (e) Infrastructure
   (f) Security/Police
   (g) Unemployment benefits
   (h) Social assistance and housing
2. How would you personally like the public budget to be distributed among these categories?

C.4 Healthcare and Waiting Times

1. What do you consider an acceptable waiting time to see a medical specialist? Keep in mind that reducing wait times might require increased taxes or reallocating funds from other services.
2. How long do you think the actual waiting times were in your region in 2022? (Provide a slider to indicate the number of days)
3. Do you have private health insurance?
4. How many times have you visited a general practitioner in the last year?
5. How many visits have you made to specialists in the public healthcare system in the last year?

6. If you have private health insurance, how many specialist visits have you had through your private insurer?

C.5 Government Trust and Policy Preferences

1. How would you rate the quality of healthcare services in Spain on a scale from 0 to 10?
2. Who do you think is primarily responsible for the state of the public healthcare system?
   (a) The central government
   (b) Regional governments
   (c) Local governments
   (d) European Union institutions
   (e) I don't know
3. How much trust do you have in the healthcare system? (Scale from 0 to 10)
4. How much responsibility should the government have in ensuring equal access to healthcare? (Scale from 0 to 10)

C.6 Economic and Social Attitudes

1. Do you believe that public services (hospitals, education, roads) justify the taxes you pay? (Scale from 0 to 10)
2. If taxes were to increase, which income group should bear the most significant burden?
   (a) People earning more than €120,000 per year
   (b) People earning more than €60,000 per year
   (c) All taxpayers should contribute proportionally to their income
3. Should the government increase spending on public healthcare, even if it means higher taxes?

(a) Strongly agree

(b) Agree

(c) Neutral

(d) Disagree

(e) Strongly disagree

C.7 Final Questions

1. Have you understood all the questions in the survey?

2. How useful did you find the information provided in this survey about waiting lists? (Scale from 0 to 10)

3. If you found the information not useful, what were the reasons?

   (a) I already knew this information

   (b) I do not find this information relevant

   (c) I have doubts about the accuracy of the data

   (d) I disagree with some of the claims

   (e) Other (please specify)

4. Would you like to add any additional comments?