Do Mainstream Party Positions Cause Far-Right Support?*

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June 30, 2026

Abstract

Western democracies are experiencing a surge in far-right electoral support. One explanation points to the policy positioning of mainstream parties: when they adopt positions that diverge from voter preferences on salient issues, they create electoral space for far-right challengers. We test this hypothesis in an information-provision experiment conducted in the weeks leading up to the 2025 German federal election. A sample of 5,040 German citizens was randomly assigned varying information about the immigration stance of the mainstream center-right CDU. Using the randomly assigned signal as an instrument for beliefs about the CDU's position, we estimate the causal effect of perceived party positioning on political attitudes and incentivized behavioral measures. Perceiving the CDU as one unit more liberal on immigration (on a 0–10 scale) increases the intention to vote for the far-right AfD by 2.1 pp. in standard two-stage least squares estimates, an effect that persists in an obfuscated follow-up survey. Because standard IV overweights respondents who update their beliefs the most—and these strong updaters exhibit systematically smaller treatment effects—it understates the average effect. We employ a Local Least Squares estimator, which recovers the average population effect of 4.7 pp.—nearly a quarter of the AfD's vote share in the 2025 election—and shows significant effects on incentivized behavioral outcomes. These findings demonstrate that mainstream party positioning is a first-order determinant of far-right support. The electoral space available to far-right challengers depends critically on where voters believe mainstream parties stand.

Keywords: Far-Right Parties, Elections, Information Provision Experiment, Immigration.
JEL Codes: D72, C93, K37.

*We are grateful to Felix Chopra, Mathilde Emeriau, Luca Henkel, Timothy Neal, Giacomo Ponzetto, Chris Roth, Johannes Wohlfart and audiences at the 2025 Bocconi-Columbia Political Economy Conference, 2025 CSEF-IGIER Symposium on Economics and Institutions, 2026 Resilient Democracy Workshop, 2026 CEPR Political Economy Symposium, Bergamo, UNSW, Melbourne, and Monash for useful comments and discussions. This study was approved by the Bocconi Research Ethics Committee (Application RA000845). The pre-registration is available at https://osf.io/5kjmt. We acknowledge financial support from the European Research Council (SN; POPULIZATION Grant No. 852526) and the French Agence Nationale de la Recherche (LG; Investissement d'Avenir Programme, ANR-17-EURE-0010). A previous version of this paper circulated under the title "Do Political Representation Gaps Cause Populism? Evidence from the 2025 German Election."

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1 Introduction

Across Western democracies, far-right parties have surged in electoral support. In Europe, their vote shares have more than doubled since 2000, reshaping political landscapes with major effects on the economy (Funke et al., 2023; Guriev and Papaioannou, 2023). Over the same period, citizens have increasingly come to feel unrepresented: in polls conducted by Pew Research in 2023, around half of the electorate in many Western democracies did not feel represented by any political party (Pew Research Center, 2024). One explanation connects these trends and points to the policy positioning of mainstream parties. On cultural issues—most notably immigration—mainstream parties in many European countries have adopted positions that are systematically more liberal than those of the median voter (Guenther, 2026). Spatial voting models predict that such gaps in the political offer invite entry by new parties positioned to exploit unrepresented voter segments (Downs, 1957; Persson and Tabellini, 2002). Consistent with this prediction, far-right parties have filled this space by offering cultural policies to the right of mainstream parties.

Figure 1 illustrates this pattern for Germany, the setting of our experiment. Using data from the German Longitudinal Election Study (GLES, 2023), the figure tracks the average difference between citizens' preferred immigration policy and their perceived immigration stance of each major party. From 2009 to 2023, all mainstream parties—including the CDU, Germany's main center-right party—have been consistently perceived as more liberal on immigration than the average voter. When the Alternative for Germany (AfD) emerged, it positioned itself as the only party to the right of the median voter on immigration, precisely filling the gap that mainstream parties had left open. These patterns are not unique to Germany: Guenther (2026) documents similar gaps across European countries, with far-right parties systematically occupying the space between mainstream party positions and voter preferences on cultural issues.

While these patterns are suggestive, they cannot establish causality. Far-right support may stem from economic grievances, dissatisfaction with political elites, cultural anxiety, or other factors that coincide with—but are not caused by—mainstream party positioning (Guriev and Papaioannou, 2023). The paper at hand provides causal evidence by exploiting voters' uncertainty about the immigration stance of the CDU during the 2025 German federal election. Through

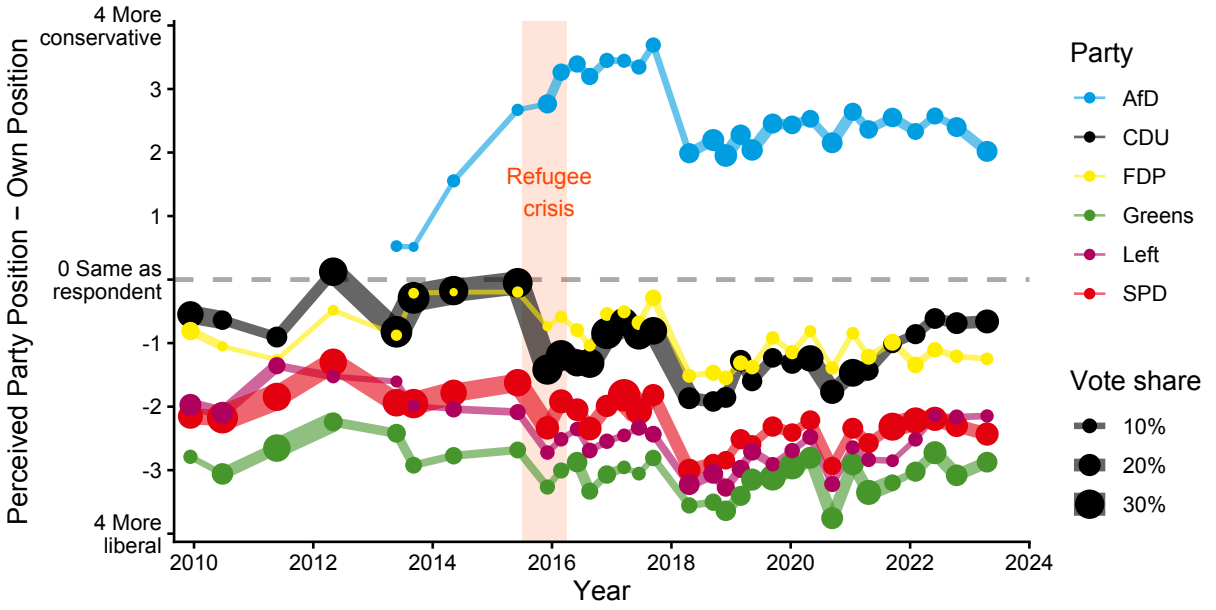


Figure 1: Perceived Immigration Stance of German Parties Relative to Voters
Note: Each point plots the weighted average of (perceived party position − respondent's own position) on a 0–10 immigration scale across all respondents in a given GLES wave. Positive values indicate that voters perceive the party as more conservative than themselves; negative values indicate more liberal. Point size is proportional to the party's vote intention share. The shaded region marks the 2015–16 refugee crisis. Source: GLES (2023).

a novel information-provision experiment, we randomize signals about the CDU's position, exogenously shifting participants' beliefs about where the CDU stands on immigration. This design allows us to answer a simple but fundamental question: does perceiving a mainstream party as more liberal on immigration cause voters to shift toward the far right?

Our answer is that it does—and the effects are large. A signal portraying the CDU as one unit more liberal on immigration raises the intention to vote for the AfD by 1.1 percentage points and feelings toward the AfD by 0.025 standard deviations (reduced form). Instrumenting beliefs with the signal, perceiving the CDU as one unit more liberal on immigration (on a 0–10 scale) increases AfD voting by 2.1 percentage points (standard two-stage least squares). These effects hold under every estimator we employ and persist in an obfuscated follow-up survey conducted approximately one week later. Standard IV, however, understates the average effect of beliefs: it overweights respondents who update their beliefs the most, and in our data, as in other information-provision experiments analyzed by Balla-Elliott (2026), these strong updaters respond the least. The Local Least Squares (LLS) estimator of Balla-Elliott (2026), which recovers the average population effect, implies that the same one-unit shift increases

AfD voting by 4.7 percentage points—equivalent in magnitude to nearly a quarter of the AfD's 20.8% vote share in the 2025 election. The LLS estimator also yields significant average effects on incentivized behavioral outcomes: donations, willingness to distribute campaign ads, and newsletter sign-ups.

To generate our treatment signals, we leverage surveys where parliamentary candidates anonymously report their immigration stance. For the CDU, we draw subsamples of their candidates and inform participants about the median response. By randomly assigning participants to different subsamples, we generate exogenous variation in the reported CDU immigration stance (4, 5, 6, or 7 on the 0–10 scale), while holding information about all other parties constant. This manipulation substantially shifts beliefs about the CDU's position: a one-unit increase in the signal induces an approximately 0.5-unit update in posterior beliefs, with a first-stage F-statistic of 375.

Our empirical strategy uses the randomly assigned signal as an instrument for participants' posterior beliefs about the CDU's immigration position. We present three estimators in sequence. First, the reduced form (RF) captures the direct effect of the signal on outcomes—the cleanest causal effect, requiring no assumptions beyond random assignment. Second, standard two-stage least squares (2SLS) instruments the CDU posterior belief with the signal; it detects significant effects on AfD voting and the AfD feeling thermometer. Third, the LLS estimator corrects the overweighting of strong updaters described above and recovers the average population effect, yielding estimates roughly twice as large as 2SLS and precisely estimated across all twelve outcomes.

We motivate the LLS correction within the results section using Conditional Average Partial Effect (CAPE) curves, which plot the marginal effect of CDU beliefs on outcomes as a function of each respondent's updating intensity. For AfD outcomes, the CAPE is far from flat: treatment effects collapse toward zero among the strongest updaters—precisely the respondents that standard 2SLS weights most heavily—and formal slope tests reject flatness for all AfD outcomes ($p < 0.001$), confirming that 2SLS is attenuated. For the CDU PCA index, by contrast, the CAPE is approximately flat and the gap between 2SLS and LLS is correspondingly smaller.

The existence of the effect on far-right support is established by the reduced form and

standard 2SLS alone; the LLS quantifies the average population effect. The effects are asymmetric: perceiving the CDU as more liberal on immigration increases AfD support much more than it decreases CDU support. This asymmetry is predicted by a spatial voting model given the distribution of immigration preferences in the German electorate, which is strongly skewed toward conservative positions. For most voters in our sample, the CDU is the closest mainstream party on immigration; a leftward shift makes the AfD relatively more attractive. The CDU simultaneously gains some voters with liberal immigration attitudes, partially offsetting its losses on the conservative side. Heterogeneity analyses confirm this mechanism: effects are concentrated among voters with conservative immigration attitudes, amplified among those who consider immigration an important issue, and strongest among voters who initially perceived the CDU as most liberal. Most voters sit to the right of the CDU, and for such a voter, perceiving the CDU as more liberal places it further from their ideal point, where a leftward shift produces a larger response.

These findings advance the literature in two ways. First, we show that perceived mainstream-party positioning causally shifts far-right support, and our evidence is distinctive in two respects. It extends beyond stated vote intentions and party feelings to behavior with real stakes—a willingness-to-accept donation and a consequential campaign-ad allocation—alongside newsletter sign-ups. And because the standard IV estimand here is a complier-weighted local effect, we additionally report the debiased LLS estimator of Balla-Elliott (2026), which recovers the average population effect of beliefs. The result holds across reduced-form, standard 2SLS, and LLS, and persists in an obfuscated follow-up.

Second, our design puts the spatial voting model's distributional predictions to a direct test. Because we measure voters' own immigration positions and the manipulated CDU position on the same scale, we can locate voters relative to the parties and test those predictions: that the effect concentrates among conservative voters, that it is asymmetric because the distribution is skewed, and that it is largest for voters who saw the CDU as most liberal. This separates us from the closest prior causal work: such designs can signal the direction in which a party moves, but, without voters' own positions and the party's position on a single scale, they cannot say where that move falls in the voter distribution—whether it carries the party toward the mass of voters or

away from it. In the nearest experiment, Hjorth and Larsen (2022), respondents are told only that the Social Democrats will continue a restrictive immigration policy or adopt a less restrictive one (against a control arm)—a directional cue; the party's stance is never expressed on the same scale as voters' own attitudes, so the move is never compared to where voters actually stand. This distributional lens—the direction of a shift relative to where voters sit—also offers a way to read the conflicting accommodation findings.

The remainder of the paper is organized as follows. Section 2 reviews the related literature. Section 3 describes Germany's political landscape. Section 4 presents the conceptual framework, including a formal spatial voting model. Section 5 describes the experimental design. Section 6 presents the empirical strategy. Section 7 reports the main results and heterogeneity analyses. Section 8 discusses robustness checks. Section 9 concludes.

2 Related Literature

This study contributes to a growing literature on the rise of far-right parties and the role of political representation in shaping voter behavior. Prior work has documented that gaps between mainstream party positions and voter preferences are widespread in European countries—particularly on immigration and cultural issues—and that perceived ideological misalignment is correlated with support for far-right parties (Guenther, 2026).

Spatial voting models (Downs, 1957; Persson and Tabellini, 2002) predict that voters gravitate toward parties closest to their ideological preferences, yet empirical tests of these models often rely on observational data, limiting causal inference (Adams, 2012; Gallego and Schofield, 2016; Lee et al., 2004; Schofield, 2005; Schofield and Zakharov, 2010; Di Tella et al., 2025).

To achieve causal identification, we build on recent advances in designing information provision experiments. Information provision experiments are an increasingly used tool to assess how individuals react to novel information, for example regarding climate change (Dechezleprêtre et al., 2025; Nyhan et al., 2022), immigration (Alesina et al., 2023; Grigorieff et al., 2023; Guenther, 2025), health (Akesson et al., 2022), protest mobilization (Hager et al., 2022), income

distributions (Bottan and Perez-Truglia, 2022), stockholders' generosity (Henkel and Pugnaghi-Zimpelmann, 2026), labor markets (Jäger et al., 2024) or macroeconomic outcomes (Link et al., 2023; Roth and Wohlfart, 2020; Roth et al., 2022). Haaland et al. (2023) survey the literature and give advice on best practices that we follow.

Information provision experiments and related survey experimental methods (e.g., vignette experiments and conjoint experiments) have been recently used by economists and political scientists to estimate the effects of parties' political positions on various political outcomes (Chou et al., 2021; Grewenig et al., 2020; Hjorth and Larsen, 2022). These studies examine whether party positions affect voting but typically do not measure incentivized outcomes. We extend this approach by collecting multiple incentivized behavioral outcomes and complementing our main study with an obfuscated follow-up to reduce concerns about experimenter demand effects.

Two concurrent studies use quasi-experimental approaches to examine related questions. Using a regression discontinuity design around the CDU's decision to pass a parliamentary motion with AfD support in January 2025, Becker and Hager (2025) find that the CDU gained support while the AfD lost it.[1] Turnbull-Dugarte et al. (2026) leverage the unexpected timing of UK Labour leader Keir Starmer's "Island of Strangers" speech—a major rhetorical shift toward anti-immigration positions—and find that it resulted in electoral costs for Labour with no corresponding gains for the far-right Reform UK. These studies offer high external validity but, by capturing the bundled effects of specific political events, cannot isolate which dimensions of the shift drove the electoral response. The CDU–AfD cooperation event, for instance, simultaneously affected perceptions of legitimation, issue salience, and coalition signals; the Starmer speech bundled credibility concerns, party-identity effects, and media framing. Moreover, the contrasting results highlight that the identity of the accommodating party likely matters: a rightward shift by an already conservative party like the CDU directly closes the gap for voters between the mainstream right and the far right, whereas the same shift by a social democratic party may alienate its base without credibly attracting anti-immigration voters. Our experiment addresses both limitations by exogenously varying a single dimension—voters' beliefs about the CDU's immigration stance—allowing us to directly estimate how much of the AfD's appeal

[1] Heyna et al. (2026) find similar results for cooperation at the local level in earlier years.

is attributable to perceived policy distance alone. More broadly, our results speak to a central debate in the party strategy literature on whether mainstream parties should "accommodate" or "demarcate" against the radical right (Abou-Chadi and Krause, 2020; Hjorth and Larsen, 2022). While observational studies have reached mixed conclusions—partly because accommodation bundles positional shifts with salience changes and legitimation effects—our design isolates the positional channel, providing cleaner evidence that a rightward shift by the mainstream competitor closest to the far-right party reduces far-right support.

The most closely related contribution is Castanho Silva and Wratil (2023), who experimentally vary whether participants learn that some party represents their views on European integration and estimate the effect on populist attitudes. They find null effects. In contrast, we find large effects on voting intentions and incentivized behavioral outcomes, suggesting that gaps in mainstream party positioning shape electoral choices among available parties rather than general attitudes toward politics.[2]

While our study focuses on the role of mainstream party positioning, we do not consider other factors as less relevant in explaining far-right support. Prior work has established that trade exposure (Autor et al., 2020; Colantone and Stanig, 2018a,b), economic insecurity (Algan et al., 2017; Fetzer, 2019; Funke et al., 2016), and new communication technologies (Campante et al., 2018; Guriev et al., 2021; Liberini et al., 2025; Zhuravskaya et al., 2020) are also crucial drivers (Guriev and Papaioannou, 2023). Moreover, party positions are themselves shaped by more fundamental factors, such as political cleavages (Hooghe and Marks, 2018; Lipset and Rokkan, 1967) or economic conditions (Guriev and Papaioannou, 2023). Our paper is complementary to this work, but with a distinctive advantage: the explanatory variable we study—mainstream party positioning—is directly adjustable by political actors. Changing electoral cleavages or macroeconomic conditions is difficult; party positions, by contrast, shift frequently and, as our

[2]Several design differences likely account for the divergent findings. First, Castanho Silva and Wratil (2023) reveal only whether *some* party represents the participant, without identifying which party does so; we vary the perceived position of a specific mainstream party—the CDU—that is the closest competitor to the far-right AfD. Second, they measure populist attitudes (e.g., people-centrism), whereas we focus on voting intentions and incentivized outcomes (e.g., donations). Third, our setting—the weeks before a national election, on the most salient policy issue—likely heightens the relevance of party positioning for electoral behavior. These differences suggest that gaps in mainstream party positioning may not affect diffuse political attitudes but, largely via a spatial voting channel, preferences among available parties in elections. This interpretation is consistent with evidence from vignette studies suggesting that far-right candidates succeed because of their policy platforms rather than their populist rhetoric (Baskaran et al., 2025; Chou et al., 2021; Dai and Kustov, 2024).

results show, with first-order effects on far-right support.

3 Background: Germany's Political Landscape

Germany's parliamentary democracy is characterized by proportional representation and a 5% electoral threshold. It has historically been dominated by two parties: the Christian Democratic Union of Germany (with its Bavarian sister party, the Christian-Social Union; CDU/CSU, henceforth CDU) and the Social Democratic Party of Germany (SPD). Other parties securing parliamentary representation include the Greens, the Free Democratic Party (FDP), and the Left. Coalition governments are typical, as single-party majorities are rare. Newly established parties rarely surpass the 5% threshold to enter parliament. Since the Federal Republic's founding, only the Greens (1980s) and the Left (1990s, as the successor to East Germany's communist party) achieved this before 2017. This stability underscores the significance of the far-right Alternative for Germany (AfD), founded in 2013, which entered parliament in 2017, marking the first time since the consolidation of the postwar party system in the 1960s that a party to the right of the CDU gained national parliamentary representation. In the 2025 national election, the AfD was already the second strongest party, after the CDU. At the time of writing (June 2026), the AfD has surpassed the CDU and is now the most popular party in national polls. Such a rapid rise is unprecedented in the electoral history of post-war Germany.

A defining feature of Germany's recent political landscape is the gap between voter preferences and mainstream party positions on immigration. As shown in Figure 1, the German Longitudinal Election Study (GLES, 2023) reveals that, from 2009 to 2023, all mainstream parties—including the CDU—have been consistently perceived as more liberal on immigration than the average voter. The AfD filled this space by adopting a strongly anti-immigration stance, positioning itself to the right of the CDU. During the 2015 European migrant crisis, when 1.1 million asylum seekers entered Germany, this dynamic amplified: the CDU, then leading the government under Angela Merkel, was perceived as shifting toward a more liberal immigration stance, while the AfD's support surged from approximately 6% in early 2015 to 12% by late 2016, culminating in its 2017 parliamentary breakthrough. By the run-up to the 2025 federal

election, the AfD polled at approximately 20%, ranking second behind the CDU. In Appendix B, we complement this account with a more detailed descriptive exercise using a simple spatial voting model, which correctly predicts both the rise of the AfD and which voters support it.

Two features of the 2025 German federal election make it an ideal setting for our experiment. First, a "cordon sanitaire"—an informal agreement among German mainstream parties not to cooperate with the AfD—created a clear ideological divide between the far-right party and the others. Second, ambiguity over the CDU's immigration stance, driven by conflicting signals from its new leadership, reduced the rigidity of voters' prior beliefs about the party's position. This ambiguity facilitated our experimental manipulation, as it allowed us to exogenously shift perceptions of the CDU's immigration policy.

4 Conceptual Framework

Before presenting our experiment, we outline the theoretical framework guiding our analysis and derive predictions for the effect of our manipulation. We ground the framework in a spatial model of voting, which we then contrast with alternative explanations for far-right support.

4.1 A Spatial Voting Model

We consider a single salient policy dimension: immigration. Voter i holds an ideal policy position $x_i \in [0, 10]$, where higher values indicate more restrictive preferences. Each party p is perceived by voter i to hold position π_{ip}. Voter i's utility from party p is

$$U_i(p) = -(x_i - \pi_{ip})^2 + v_p + \varepsilon_{ip}, \tag{1}$$

where v_p is a party-specific valence term (capturing, e.g., perceived competence, incumbency advantages, or social acceptability) and ε_{ip} is an idiosyncratic preference shock. The voter selects the party that maximizes utility:

$$p_i^* = \underset{p \in \mathcal{P}}{\operatorname{argmax}} \; U_i(p). \tag{2}$$

Consider the choice between the CDU and the AfD. The voter prefers the AfD over the CDU if and only if

$$(x_i - \pi_{i,\text{CDU}})^2 - (x_i - \pi_{i,\text{AfD}})^2 > v_{\text{AfD}} - v_{\text{CDU}} + \varepsilon_{i,\text{AfD}} - \varepsilon_{i,\text{CDU}}. \tag{3}$$

Because the AfD is a newcomer party operating under a cordon sanitaire, we expect $v_{\text{CDU}} > v_{\text{AfD}}$: voters require the AfD to be substantially closer to their ideal point to overcome the CDU's valence advantage. The left-hand side of (3) equals $(2x_i - \pi_{i,\text{CDU}} - \pi_{i,\text{AfD}})(\pi_{i,\text{AfD}} - \pi_{i,\text{CDU}})$, which is increasing in x_i when $\pi_{i,\text{AfD}} > \pi_{i,\text{CDU}}$: more conservative voters are more likely to prefer the AfD.

Our experiment shifts $\pi_{i,\text{CDU}}$—the perceived immigration stance of the CDU—while holding all other perceived party positions and the voter's own attitude fixed. We now derive formally how this shift affects AfD and CDU support at the individual level.

Proposition 4.1 (Effect of CDU positioning on party preference)**.** *Assume $\pi_{i,AfD} > \pi_{i,CDU}$ (the AfD is perceived as more conservative than the CDU). Define $\Delta_i \equiv (x_i - \pi_{i,CDU})^2 - (x_i - \pi_{i,AfD})^2$ as the relative policy cost of the CDU versus the AfD. Then:*

(a) $\frac{\partial \Delta_i}{\partial \pi_{i,CDU}} = 2(\pi_{i,CDU} - x_i)$*. A marginal leftward shift in $\pi_{i,CDU}$ increases Δ_i (making the AfD relatively more attractive) for all voters with $x_i > \pi_{i,CDU}$ and decreases Δ_i for voters with $x_i < \pi_{i,CDU}$.*

(b) $\frac{\partial^2 \Delta_i}{\partial \pi_{i,CDU}\, \partial x_i} = -2$*. The effect of a leftward CDU shift on AfD preference is monotonically increasing in the voter's conservatism x_i.*

Proof. Expanding the left-hand side of (3): $\Delta_i = (x_i - \pi_{i,\text{CDU}})^2 - (x_i - \pi_{i,\text{AfD}})^2$. Differentiating with respect to $\pi_{i,\text{CDU}}$: $\frac{\partial \Delta_i}{\partial \pi_{i,\text{CDU}}} = -2(x_i - \pi_{i,\text{CDU}}) = 2(\pi_{i,\text{CDU}} - x_i)$. This is negative when $x_i > \pi_{i,\text{CDU}}$, so a decrease in $\pi_{i,\text{CDU}}$ (leftward shift) increases Δ_i, establishing (a). Differentiating again with respect to x_i: $\frac{\partial^2 \Delta_i}{\partial \pi_{i,\text{CDU}}\, \partial x_i} = -2$, which is strictly negative, establishing (b). □

The intuition is straightforward. Quadratic loss implies that moving the CDU one unit to the left hurts a voter in proportion to how far that voter already is to the right of the CDU. A voter close to the CDU's position barely notices the shift; a voter far to the right sees the CDU pull away sharply. Because the AfD stays in place, the relative cost of sticking with the CDU

increases most for conservative voters. Part (b) formalizes the gradient: each additional unit of conservatism amplifies the effect by a constant amount. Symmetrically, voters to the left of the CDU see it move toward them, making the CDU relatively more attractive. The change in relative utility is symmetric at equal distance from the CDU, but the resulting change in vote choice is smaller for these liberal voters: they sit far from the CDU–AfD margin where switching occurs, so a marginal shift moves few of them across a decision threshold.

Proposition 4.1 characterizes individual-level effects. Aggregating to the population requires an assumption on the distribution of voter ideal points x_i and the idiosyncratic shocks ε_{ip}.

Hypothesis 1 (Spatial voting). *Perceiving the CDU as more liberal on immigration (a) increases AfD support and (b) decreases CDU support, with both effects (c) concentrated among voters with conservative immigration attitudes.*

Parts (a) and (c) follow directly from Proposition 4.1: the individual-level effect on AfD preference is positive for all voters with $x_i > \pi_{i,\text{CDU}}$ and increasing in x_i. Part (b) follows from the symmetric argument applied to the CDU–left party margins.

Corollary (Asymmetry)**.** *If immigration preferences in the population are right-skewed—so that the density of voters near the CDU–AfD margin exceeds the density near CDU–left-party margins—then the aggregate increase in AfD support from a leftward CDU shift exceeds the aggregate decrease in CDU support.*

This follows because a leftward CDU shift causes the CDU to lose conservative voters to the AfD and gain liberal voters from left-leaning parties. The net effect on CDU support depends on the relative mass of voters near these two margins. Our design lets us measure this distribution directly rather than assume it: because each respondent's own immigration position and their perceived positions of all parties are elicited on the same 0–10 scale, we observe where voters sit relative to every party. We find this distribution to be strongly skewed toward conservative positions (Figure 4): the mass of voters near the CDU–AfD margin far exceeds the mass near CDU–left margins, so CDU losses to the AfD exceed CDU gains from liberal voters.

We next derive a prediction on heterogeneity in the effect of CDU positioning across voters' *prior beliefs* about the CDU's stance.

Proposition 4.2 (Heterogeneity by prior beliefs)**.** *Fix a voter with ideal point $x_i > \pi_{i,CDU}$. The magnitude of the marginal effect of a leftward CDU shift on AfD preference, $|\partial\Delta_i/\partial\pi_{i,CDU}| = 2(x_i - \pi_{i,CDU})$, is strictly decreasing in $\pi_{i,CDU}$: a voter who initially perceives the CDU as more liberal experiences a larger effect.*

Proof. From Proposition 4.1, $|\partial\Delta_i/\partial\pi_{i,\text{CDU}}| = 2(x_i - \pi_{i,\text{CDU}})$ for $x_i > \pi_{i,\text{CDU}}$. Differentiating with respect to $\pi_{i,\text{CDU}}$ yields $-2 < 0$: the magnitude is strictly decreasing in the perceived CDU position. □

The intuition connects to the curvature of the quadratic loss function. A voter who already perceives the CDU as liberal is operating on a steep region of the loss function: a further leftward shift produces a large additional loss. A voter who perceives the CDU as conservative is near the minimum of the loss function: the same shift produces only a small increase in loss. In our experimental setting, this means that voters whose priors place the CDU closer to the center of the policy space should respond more strongly to our liberal signal, because the signal pushes the CDU further into unfamiliar territory.

Hypothesis 2 (Heterogeneity by prior beliefs). *Effects are larger for voters who initially perceive the CDU as more liberal on immigration.*

4.2 Alternative Predictions

A prominent alternative explanation holds that far-right support is driven by generalized frustration or alienation toward mainstream parties, rather than by policy preferences (Mudde and Rovira Kaltwasser, 2017). Under this *protest voting* view, voters choose far-right parties primarily to express dissatisfaction with political elites. Changes in the perceived positions of mainstream parties should have limited or no effect on far-right support, because dissatisfaction with the political establishment persists regardless of specific policy distances. This theory predicts no significant treatment effects.

A second alternative is a *legitimation* channel: when a mainstream party adopts more conservative positions, voters may interpret this as validating positions previously considered controversial or extreme. This can operate through two related mechanisms. First, a *learning*

mechanism: voters who are uncertain about the best immigration policy update positively about conservative positions when a mainstream party embraces them. Second, a *social acceptability* mechanism: positions perceived as extreme or socially undesirable become normalized when a mainstream party adopts them. Under either mechanism, a more conservative CDU signal would *increase* AfD support alongside CDU support—the opposite of the spatial voting prediction for the AfD.

Our design allows us to test these competing predictions about voter responses to positional change. It is not designed to evaluate the protest or legitimation perspectives wholesale: both may operate through channels that our one-shot informational manipulation holds fixed, such as rhetoric, coalition behavior, or repeated elite cues over longer horizons. Our results should accordingly be read as evidence on the positional channel, not as a rejection of these mechanisms in all settings.

5 Experimental Design

This section is organized as follows: Subsection 5.1 gives a general overview of the survey structure. Subsection 5.2 and Subsection 5.3 provide details on the key independent and dependent variables we use in the analysis, respectively. Subsection 5.4 explains our efforts to maximize high-quality responses and Subsection 5.5 provides information on the survey implementation. Finally, Subsection 5.6 describes the design of the follow-up study.

5.1 Structure

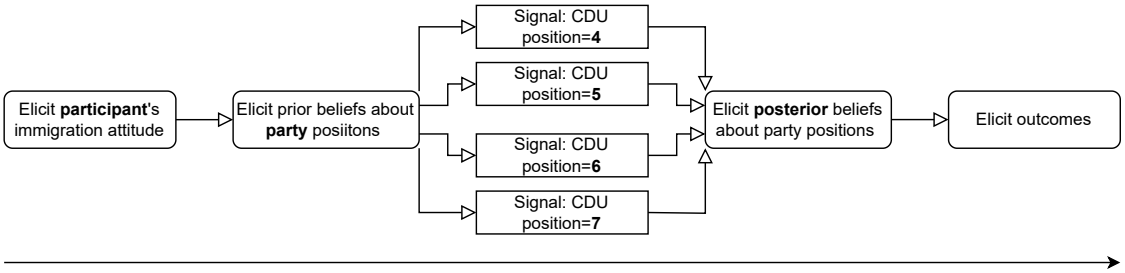


Figure 2: Survey Structure

We conduct an information provision experiment with an active control group (Haaland et al.,

2023). As visualized in Figure 2, the experiment follows a five-step procedure:

1. After initial screening questions (18+, citizenship, attention check), we elicit participants' own immigration attitudes using their response on a scale from 0 to 10 to the following question: *"What is your personal opinion on the topic of immigration opportunities? Please use the following scale from 0 to 10. A value of 0 means that, in your opinion, immigration opportunities should be strongly facilitated. A value of 10 means that, in your opinion, immigration opportunities should be strongly restricted. You can use the values between 0 and 10 to grade your opinion."*
2. We elicit participants' prior beliefs about the immigration stance of the main German parties on the same scale.
3. We randomly assign participants to one of four treatment conditions, each providing a distinct signal about the parties' immigration stances. These signals vary solely in the reported position of the CDU (4, 5, 6, or 7) holding all other party positions constant.
4. We elicit posterior beliefs about the parties' immigration stances, capturing how participants update their perceptions in response to the treatment.
5. We measure outcome variables, variables used to test for heterogeneous treatment effects, and variables used for validation exercises.

These steps share an important feature: participants' own immigration attitudes, their prior and posterior beliefs about each party, and the signal they receive are all measured on the same 0–10 scale. This places voters and parties in the same space, which is what makes the spatial voting model testable. It underlies much of what follows—locating voters relative to the CDU and the AfD, measuring how the signal moves the CDU through the voter distribution, and testing the model's sharper predictions: that conservatives respond more than liberals (Hypothesis 1), that the aggregate effect is asymmetric given the skew of the distribution (Hypothesis 4.1), and that voters with more liberal priors about the CDU respond most (Hypothesis 2).

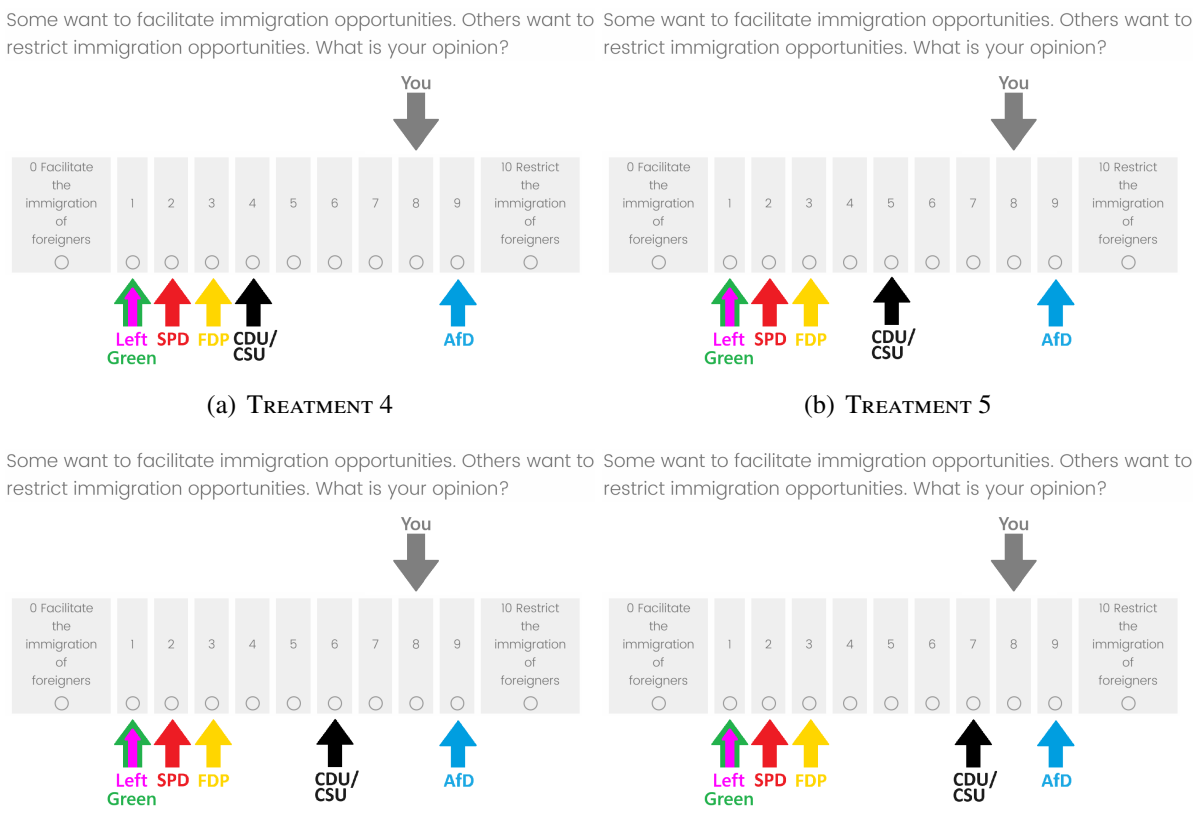
Our central objective is to estimate the causal effect of belief changes on outcomes of interest—such as attitudes toward parties and incentivized behavioral responses—by inducing exogenous variation in participants' information sets. We achieve this by randomized allocation into estimates of parties' immigration stances. To generate these estimates, we employ survey data

on candidates to the previous German federal election who responded to the same question on attitudes toward immigration as our participants. Following studies in political science and economics (Costello et al., 2020; Dalton, 2017; Guenther, 2026; Vasilopoulou and Gattermann, 2013; Walczak and Van der Brug, 2013), we estimate the position of a party as the median position of its candidates. To achieve exogenous variation in the estimate for the CDU while keeping estimates for other parties' constant, we draw a subsample of 11 CDU candidates (out of the 141 we have information for) and calculate their median stance but use the whole sample of available candidates for other parties. Participants are informed about this procedure—including the exact number of candidates sampled per party—in language designed to convey scientific credibility (the full text shown to participants is reproduced in Appendix K and summarized in the footnote below).[3] A potential concern is that participants find it implausible that only 11 CDU candidates are sampled while other parties have 58–131. Self-reported trust in the provided information does not differ across treatment conditions (Table A12), suggesting that the small CDU subsample does not undermine perceived credibility. The uniform random sampling of 11 CDU candidates would result in 4 different median stances with high likelihoods: 4, 5, 6, and 7. To maximize statistical power, we assign participants to each of these four treatments with equal probability (rather than with the exact probabilities from uniform random sampling).

5.2 Independent Variable: The Signal

Figure 3 shows the four possible signals on the CDU immigration stance (that is, the four *treatments*), as seen by our participants on their screens. Notice that, in this same screen, we also remind them of their own answer to the same question and give them a short description of each party's position in words (for instance: the CDU/CSU wants to restrict immigration opportunities). See Subsection K.3 for the complete screenshots. Our main endogenous variable is the *CDU posterior belief*: the participant's post-treatment belief about the CDU's immigration

[3]This is the language we used in the survey (translated from German): "Scientists have long been researching how to measure the positions of political parties. As recent studies have shown, one valid method is to evaluate the responses of parties' candidates in an anonymous survey. We used this method to measure the immigration stance of German parties. For this purpose, we analyzed the answers of some Bundestag candidates to the same question we just asked you. The currently available data is for candidates to the 2021 Bundestag election, so we have no data for Sarah Wagenknecht's Alliance yet. We will provide you with information on the responses of 503 candidates. These are broken down by party as follows CDU/CSU: 11, AfD: 58, SPD: 65, Greens: 131, FDP: 117, Left: 121."



(a) Treatment 4

(b) Treatment 5

(c) Treatment 6

(d) Treatment 7

Figure 3: Information Provision Screen by Treatment

stance, measured on the same 0–10 scale. The signal shifts this belief, and we use the random assignment as an instrument.

5.3 Dependent Variables

As pre-registered, we examine 11 main dependent variables, which we categorize into three groups: voting intentions and attitudes, engagement with party materials, and party support.

5.3.1 Voting Intentions and Attitudes

To measure voting intention, we use two standard items. First, participants indicate via an 11-point scale how likely it is that they are turning out at the upcoming federal election. Thereafter, independent of their previous answer, we ask them which party they would vote for if they voted. Based on this item, we calculate indicators for each major party that equal one if the participant states to vote for this party and zero otherwise. We also include a more continuous measure of party attitudes: a standard feeling thermometer item that asks participants how positive or

negative they feel toward each party on an 11-point scale.

5.3.2 Engagement with Party Materials

To measure engagement with party materials, we give participants the opportunity to subscribe to a newsletter from each party. In particular, we provide them with links leading to a page where they can subscribe to party newsletters. We record only whether participants click on each of the links, not whether they actually subscribe. However, we interpret clicking on the link as an intention to subscribe since it does not serve any other purpose. As pre-registered, we construct binary indicators for whether a participant clicked on the subscription link for the CDU and AfD, respectively.

5.3.3 Party Support

We use two incentivized measures for direct party support. First, we follow earlier work and adopt a donation measure (Braghieri and Eichmeyer, 2024; Haaland et al., 2023; Stantcheva, 2023). In particular, we elicit participants' willingness to accept to allow us make a donation of €5 to (i) the CDU and (ii) the AfD on their behalf. This is the minimum amount we need to pay them (in addition to the reward for completing the survey) for them to agree with the donation. We construct two such measures, one for the donation to the CDU and one for the donation to the AfD.[4] A greater amount indicates a lower support for or greater aversion to the party.

Second, we employ a measure that has, to our best knowledge, not been used so far: we (truthfully) tell participants that, just before an upcoming election, we will conduct another study in which we will show official campaign ads to 1,000 voting-age German citizens. A random participant in this study decides what parties' campaign ads we will show to participants in the future study. To make the measure more continuous, we let participants in the present study allocate campaign ads freely to participants in the future study. For instance, a participant could

[4]We focus on these two parties because this measurement is time consuming and, theoretically, our treatment should mostly affect attitudes toward these two parties.

We follow Falk et al. (2018) and use a "staircase method" for elicitation of this willingness to pay. In particular, participants answer a series of 4 or 5 binary questions where the amount we offer them to agree with the donation adapts to their previous answers. This allows us to create a fine-grained measure with a small number of questions and without asking multiple questions in the same screen (as it would be the case with a Multiple Price List.) See Appendix K for details.

assign 400 future participants to the CDU ad, 300 to the AfD ad, and 300 to the SPD ad. We interpret higher allocations to a party's ads as reflecting greater support for that party. One potential concern is that participants may allocate strategically—for example, assigning ads to a party they oppose in the hope of "inoculating" future participants against it. We view this as unlikely given the complexity of such reasoning in a survey context.

5.3.4 Indexes

As pre-registered, to present results concisely, we calculate indexes of support for the AfD and CDU, respectively. To this end, we perform a Principal Component Analysis (PCA). For both indexes, we include all variables discussed above with the exception of likelihood of turnout. We scale all variables to have a standard deviation of one and such that higher values indicate greater support for the party. We then apply PCA on the standardized variables and extract the first principal component—which captures the maximum variance across these variables—and use it as a single index of party support. This index is then also standardized to have a mean of 0 and a standard deviation of 1.

5.4 Ensuring High-Quality Responses

We added several items to increase the internal and external validity of our findings. As pre-registered, participants who either failed to solve a captcha or an attention check at the beginning of the study were routed out of the survey and contributed no data. Moreover, to obtain a broadly representative sample, we elicited socio-demographic characteristics at the beginning and at the end of the survey. Table A11 compares the socio-demographic characteristics of our sample with the adult German population and Table A12 shows balance tests across treatments. To increase the likelihood of true reporting, we followed Alesina et al. (2023) and warned respondents that their responses could be flagged as low-quality to the recruiting platform if they did not read the instructions carefully and did not answer to the best of their knowledge.

In addition, we included a second attention check at the end of the survey, which around 90% of participants passed. To examine the possibility of experimenter demand effects, we asked participants whether they found the survey politically biased in either direction. As Figure A35

in the Appendix shows, nearly 80% perceive no survey bias, and the distribution of perceived political bias is symmetric. To check whether participants trusted the information, we elicited posterior beliefs and asked them directly to what extent they trusted the information at the end of the survey. Participants trust the provided information to a similar degree across all treatment conditions (Table A12). We use these three items for pre-registered robustness checks below.

Finally, following standard practices by the market research company we collaborated with, participants who completed the survey very quickly (that is, in less than one-third of the median completion time in the soft-launch phase) were replaced with new participants. This criterion led to the exclusion of 87 participants (1.7% of all participants who completed the survey). We included these participants in a fourth robustness check below.

5.5 Procedure

We designed the survey using Qualtrics and recruited participants via the established market research company Cint. Our study includes two surveys, a main study and an obfuscated follow-up study (described in the next section), for which we invited only those who completed the main surveys.

The survey was fielded from December 16, 2024 to February 22, 2025. The 2025 German federal election took place on February 23, 2025.

The timing was deliberate: in the weeks before the election attention to political content was high, and the CDU's ideological direction was genuinely uncertain—Friedrich Merz had a conservative history, but recent CDU leaders had oscillated between conservative and liberal positions. This ambiguity, reflected in the high variance of pre-treatment beliefs, made all four signal values ex ante plausible descriptions of the CDU's stance.

As pre-registered, we aimed for a sample of 5,000 observations which is broadly representative of the German adult population in gender, age, and education. We planned to over-sample the Eastern states, aiming for 3,000 participants from Eastern Germany and 2,000 from Western Germany because the AfD has traditionally had a stronger support in Eastern Germany (as shown in Figure A34). Since multiple participants were allowed to begin the survey simultaneously (with some attrition during the survey, e.g., because of the eligibility screeners and the initial

attention check) and socio-demographic quotas were soft, we ended up with a slightly larger than planned sample: 5,040 participants (2,003 from West Germany and 3,037 from East Germany). The median completion time was 10.4 minutes.

Ethics. The study was approved by the Bocconi University Research Ethics Committee (Application RA000845) and pre-registered before data collection. All information provided to participants was computed from actual candidate responses, and every statement shown to participants was accurate: for each treatment, the displayed position is the median immigration stance of a set of 11 CDU candidates in the candidate survey—exactly as the survey text stated—and the positions communicated for the other parties are the medians of all their available candidates. As described above, we assigned participants to the four signal values with equal probability, rather than with the probabilities implied by uniform random sampling of candidate subsamples, to maximize statistical power. Providing participants with truthful information from purposively selected sources or subsamples is standard practice in information-provision experiments in economics, where researchers routinely choose which truthful piece of information (for example, which expert's forecast or which subsample's statistic) each participant receives, in order to generate exogenous variation in beliefs (Haaland et al., 2023).

5.6 Follow-Up Study

To mitigate potential experimenter demand effects and assess the persistence of treatment impacts, we conducted an obfuscated follow-up study approximately one week after the main experiment. Data collection for the follow-up study, like the main study, concluded on February 22, 2025—the day before the federal election. The follow-up was distributed to the same participants via the same survey firm but designed to appear unrelated to the initial study. We altered the visual layout, tone, and wording to obscure any connection, making it difficult for respondents to link the two surveys. The follow-up was intentionally brief, including only two outcome measures: a feeling thermometer rating for parties and vote intentions. These were selected as standard survey questions commonly encountered in political polls, reducing the likelihood of suspicion. The thermometer question was rephrased differently from the main survey to further minimize

associations.[5]

Even though participants who completed the main study were invited repeatedly and the hourly wage for completing the follow-up survey was higher than in the main study (as the median completion time was 2.4 minutes), the recontact rate was low. Out of 5,040 participants to the main study, only 2,182 (43.3%) contributed at least one outcome measure in the follow-up study. This 57% attrition rate is a significant limitation of the follow-up design. Table A11 compares the two samples and it shows that attrition was non-random: the follow-up sample is notably younger than the main sample and has a greater proportion of Western participants. While the consistency of point estimates between the main and follow-up studies is reassuring, the non-random attrition means the follow-up results should be interpreted with caution, as they may not generalize to the full sample. Nonetheless, we present the results from the follow-up study as pre-registered.

6 Empirical Strategy and Identification

This section describes how we identify the causal effects. Our analysis leverages the randomized assignment of information about the CDU's immigration stance to estimate both the reduced-form effect of the signal and the causal effect of perceived CDU positioning.

6.1 Reduced Form

As pre-registered, we estimate the direct effect of information provision on a range of outcome variables using ordinary least squares (OLS). The treatment variable is a four-level variable corresponding to the randomly assigned signal about the CDU's immigration position. We treat it as a continuous variable and estimate:

$$y_i = \alpha + \beta \cdot \text{Signal}_i + \theta \cdot X_i + \varepsilon_i, \tag{4}$$

where y_i is an outcome of interest (e.g., intention to vote for the AfD), Signal_i denotes

[5]While both versions asked participants how they feel about each party (with wording taken from GLES 2023), participants in the follow-up study had to enter a number between 0 and 100 while they were confronted with 11 horizontally arranged answer options in the main study (as in Braghieri and Eichmeyer 2024).

the treatment assignment (4, 5, 6, or 7), and X_i is a vector of covariates including age, gender, education, and region of residence.

The coefficient β captures the average causal effect of receiving a signal that portrays the CDU as one unit more conservative on immigration. This specification answers the question: *How does informing participants that CDU candidates are more conservative on immigration change their political attitudes and behaviors?*

6.2 Estimating the Effect of CDU Positioning

While the reduced form estimates the direct effect of the information, our primary interest lies in the causal effect of *perceived CDU positioning*—specifically, the participant's posterior belief about where the CDU stands on immigration. Our focus on this variable is motivated by its transparency and policy relevance: it directly captures how changes in voters' beliefs about a mainstream party's stance influence their political behavior.

The first stage of our IV strategy is:

$$\text{CDU Posterior}_i = \gamma_0 + \gamma_1 \cdot \text{Signal}_i + \delta \cdot X_i + \eta_i, \tag{5}$$

where CDU Posterior_i is the participant's post-treatment belief about the CDU's immigration stance (0–10 scale). The instrument is the randomly assigned signal, which generates exogenous variation in beliefs. The second stage is:

$$y_i = \alpha + \beta \cdot \widehat{\text{CDU Posterior}}_i + \theta \cdot X_i + \varepsilon_i. \tag{6}$$

The exclusion restriction requires that the signal affects outcomes only through its effect on beliefs about the CDU's immigration stance—a natural assumption given the experimental design, which we verify through cross-learning checks (Subsection 7.2).

This specification offers several advantages over the pre-registered specification, which used the perceived representation gap (the distance between the voter's own attitude and the closest mainstream party) as the endogenous variable. First, the first-stage relationship is substantially stronger: the signal–CDU posterior F-statistic is approximately 375, compared to approximately

82 for the representation gap. Second, the exclusion restriction is simpler: the signal need only affect outcomes through CDU belief updating, which is the explicit premise of the design. The representation gap, by contrast, depends on beliefs about all mainstream parties and on the voter's own position, introducing additional channels through which the exclusion restriction could fail. Third, the CDU posterior belief is directly observable and policy-relevant, whereas the representation gap is a constructed index. We report the pre-registered representation gap specification in Appendix H.

6.3 The LLS Estimator

It is well known that standard 2SLS estimators target weighted averages of individual causal effects (Imbens and Angrist, 1994). In information provision experiments, these weights are proportional to the first-stage effect of information on beliefs. This creates a potential problem: strong dependence between belief updating and treatment effects makes standard 2SLS estimates misrepresent average effects. To address this, we adopt the Local Least Squares (LLS) estimator proposed by Balla-Elliott (2026), which recovers the average population effect. Our experiment is an *active control* design: participants are randomly assigned to different signals (4, 5, 6, or 7), so that identification requires a learning rate updating assumption but does not require elicitation of prior variance. The learning rate is directly identified from observed belief updates, making the LLS estimator straightforward to implement in our setting.

LLS is a control function estimator. It constructs local regressions that condition on each respondent's learning rate—defined as $\alpha_i = (\text{posterior}_i - \text{prior}_i)/(\text{signal}_i - \text{prior}_i)$, measuring how much each respondent updated their CDU belief toward the signal—thereby isolating the purely experimental variation in beliefs that comes from random assignment to different signals.[6] By aggregating these local regressions, LLS weights all individuals equally rather than overweighting strong updaters, and thus recovers the average partial effect (APE).[7]

[6]For the 572 respondents whose prior equals the signal, the learning rate is undefined (0/0); following our main specification we set $\alpha_i = 0$, assigning them the lowest learning-rate rank, and retain them so that all estimates target the average effect over the full sample. Dropping these non-learners instead leaves the headline estimates nearly unchanged (e.g., the LLS effect on AfD voting moves from 4.7 to 4.6 percentage points).

[7]A companion R package implementing the estimator is available at `dballaelliott.github.io/lls/`; the estimates in this paper were produced using code kindly shared by Dylan Balla-Elliott before publication of his paper.

Both estimators in our presentation were specified in the pre-registration, which committed to estimating the local average treatment effect (standard 2SLS) and the adjusted average effect based on Balla-Elliott (2026) for the perceived representation gap as endogenous variable (Appendix H). We apply the same pair of estimators to the CDU posterior specification.

7 Results

7.1 First Stage

We begin by describing where voters and parties sit in the policy space. Figure 4 plots participants' own immigration attitudes alongside their post-treatment beliefs about each party's position, on the same 0–10 scale. Participants' own attitudes skew strongly to the right: the AfD's perceived stance aligns most closely with the sample mean, median, and modal attitude, while all other parties, including the CDU, are perceived as more liberal than the average voter. This is the configuration that gives a spatial voting model sharp predictions about how shifting the CDU's perceived position reallocates votes—predictions our design is built to test.

The signal moves these posteriors as intended: participants receiving a signal of 4 update their CDU belief to approximately 4.7 (from a prior of 5.8), while a signal of 7 raises the posterior to 6.2. The first stage is correspondingly strong: a one-unit increase in the signal moves the CDU posterior by approximately 0.5 units, with a first-stage F-statistic of 375, well above conventional thresholds for strong instruments and far stronger than for the representation gap specification ($F \approx 82$; see Appendix H). Table A1 in the Appendix reports the full first-stage regression, and Figure A1 confirms that the signal affects only beliefs about the CDU's position, with no spillovers to other parties.

7.2 Exclusion Restriction

The exclusion restriction requires that the signal affects outcomes only through its effect on beliefs about the CDU's immigration stance. A key threat is *cross-learning*: respondents may update beliefs other than the one the researcher intends to shift (Haaland et al., 2023). We implemented pre-registered cross-learning checks along three dimensions: (i) whether the signal

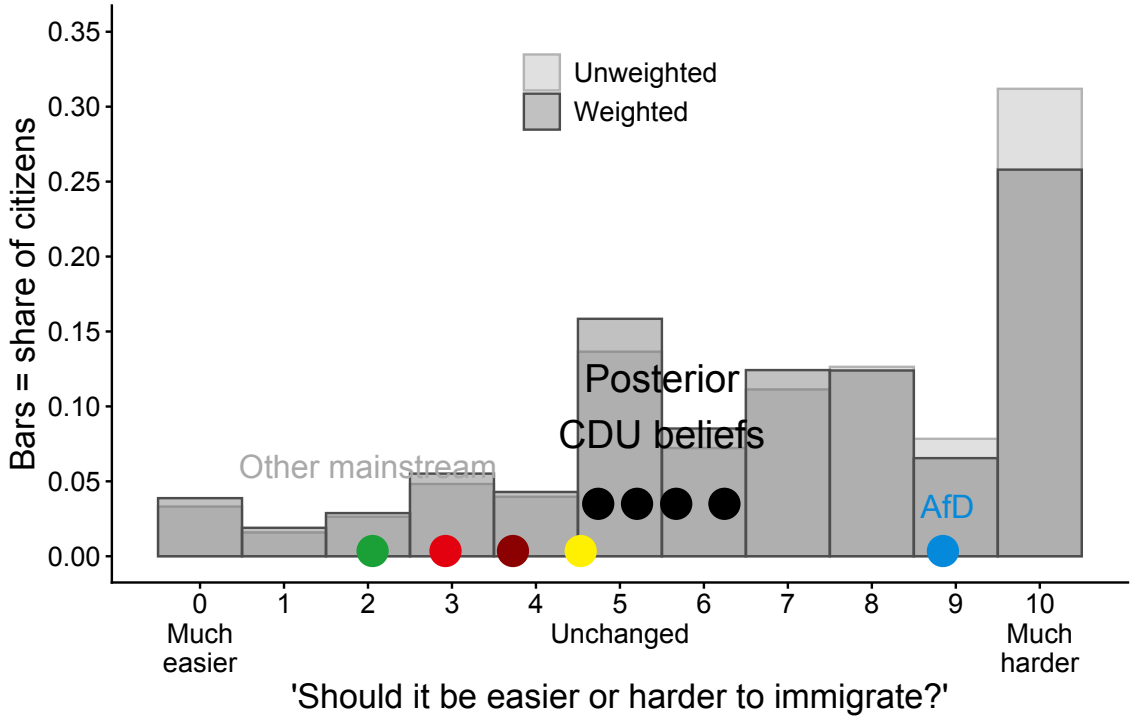


Figure 4: Post-Treatment Beliefs about CDU Immigration Stance by Treatment
Note: Bars show participants' own immigration attitudes. Unweighted bars include the original sample (East Germans over-represented); weighted bars correct for this. Black circles show average post-treatment beliefs about the CDU immigration stance for each treatment. Colored circles show average post-treatment beliefs about other parties, pooling treatments.

changes participants' *own* immigration attitudes, (ii) whether it shifts perceptions of *other parties' positions* (especially the AfD), and (iii) whether it alters beliefs about *post-election governing coalitions*. Figure A2 in the Appendix shows no evidence of statistically significant or economically meaningful effects on any of these channels, supporting the exclusion restriction.[8]

7.3 Main Results

We present three estimators in sequence—reduced form, standard 2SLS, and LLS.

Reduced Form. Figure 5 shows the reduced-form effects of the signal on all outcomes, estimated via equation (4). A signal portraying the CDU as one unit more liberal on immigration significantly increases the AfD thermometer rating and the likelihood of voting for the AfD. Effects on CDU outcomes have the predicted negative sign but are generally not statistically

[8]These short-run null effects do not imply that parties cannot shape voters' attitudes in the long run. Rather, they support the exclusion restriction in our setting, bolstering confidence that the instrument primarily operates through updating beliefs about where the CDU stands.

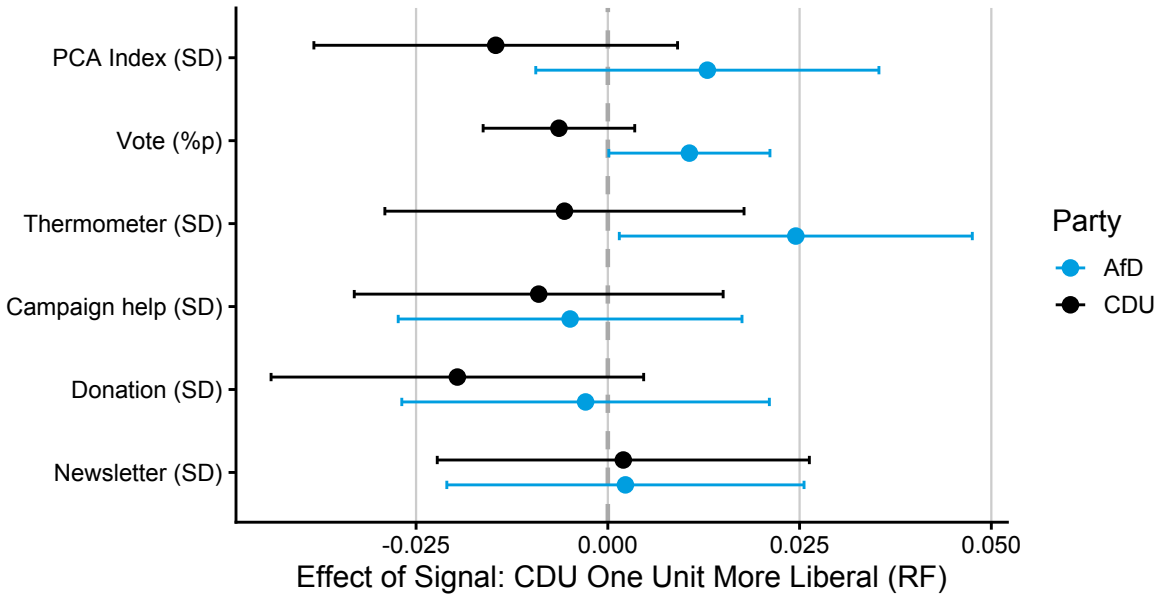


Figure 5: Reduced-Form Effects of the Signal on All Outcomes
Note: OLS estimates. Each coefficient shows the effect of the signal portraying the CDU as one unit more liberal on immigration (i.e., a one-unit decrease in the signal). Bars indicate 95% confidence intervals. Controls: age, gender, immigration background, East Germany indicator, education. N = 5,040.

significant. Incentivized behavioral outcomes (donations, campaign help, newsletter sign-ups) have the expected signs but are individually imprecise. The PCA indexes—which aggregate all outcomes—are not statistically significant in the reduced form for either party, and similar in magnitude. These reduced-form estimates are the cleanest causal effects, requiring no assumptions beyond random assignment.

Standard 2SLS. Figure 6 instruments the CDU posterior belief with the signal and estimates the effect of perceiving the CDU as one unit more liberal on immigration. Two outcomes are statistically significant at the 5% level: AfD voting (2.1 percentage points per unit of perceived positioning) and the AfD feeling thermometer (0.049 SD). The remaining AfD outcomes—including the PCA index and the three incentivized measures—carry the predicted signs but are imprecisely estimated, and CDU outcomes are uniformly insignificant, consistent with the asymmetry predicted by Hypothesis 4.1.[9] Taken at face value, these estimates would suggest that perceived CDU positioning moves votes and feelings toward the AfD but little else. The

[9]In our just-identified setting (one instrument, one endogenous variable), the weak-instrument-robust Anderson–Rubin test is numerically equivalent to the reduced-form t-test (Keane and Neal, 2024). Statistical significance of the 2SLS estimates therefore mirrors the reduced form by construction; what 2SLS adds is the economic scaling of the effect per unit of belief change.

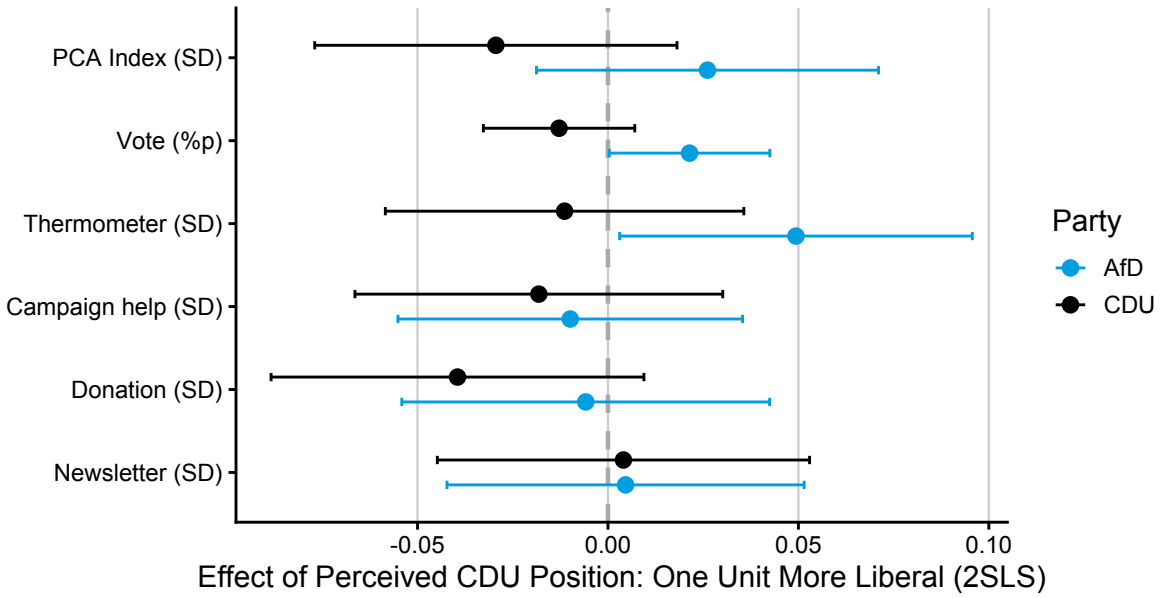


Figure 6: Standard 2SLS Estimates: Effect of Perceived CDU Positioning
Note: 2SLS estimates instrumenting the CDU posterior belief with the randomized signal. Each coefficient shows the effect of perceiving the CDU as one unit more liberal on immigration. Bars indicate 95% confidence intervals. Controls: age, gender, immigration background, East Germany indicator, education. N = 5,040. First-stage F = 375.

next paragraphs show that this conclusion would be premature: standard 2SLS is attenuated in our setting.

CAPE Diagnostic. To assess whether 2SLS is attenuated, we examine the Conditional Average Partial Effect (CAPE) curves following Balla-Elliott (2026). The CAPE plots the marginal effect of the CDU posterior on outcomes as a function of each respondent's rank in the distribution of belief updating (the "learning rate"). If the CAPE is flat, all respondents share the same marginal effect and 2SLS is unbiased for the average effect; if it varies with the learning rate, 2SLS—which weights respondents in proportion to how strongly the instrument moves their beliefs—loads disproportionately on the strong updaters.

Figure 7 plots the CAPE for the AfD PCA index across four bandwidth choices. The curve is far from flat, and its most consequential feature is on the right: marginal effects collapse toward zero among the strongest updaters. Effects are moderate among the weakest updaters and largest in the middle of the learning-rate distribution. Because standard 2SLS places the greatest weight precisely on the strong updaters—the region where the CAPE is smallest—it understates the average effect. The figure overlays the 2SLS estimate and the LLS average: the former tracks

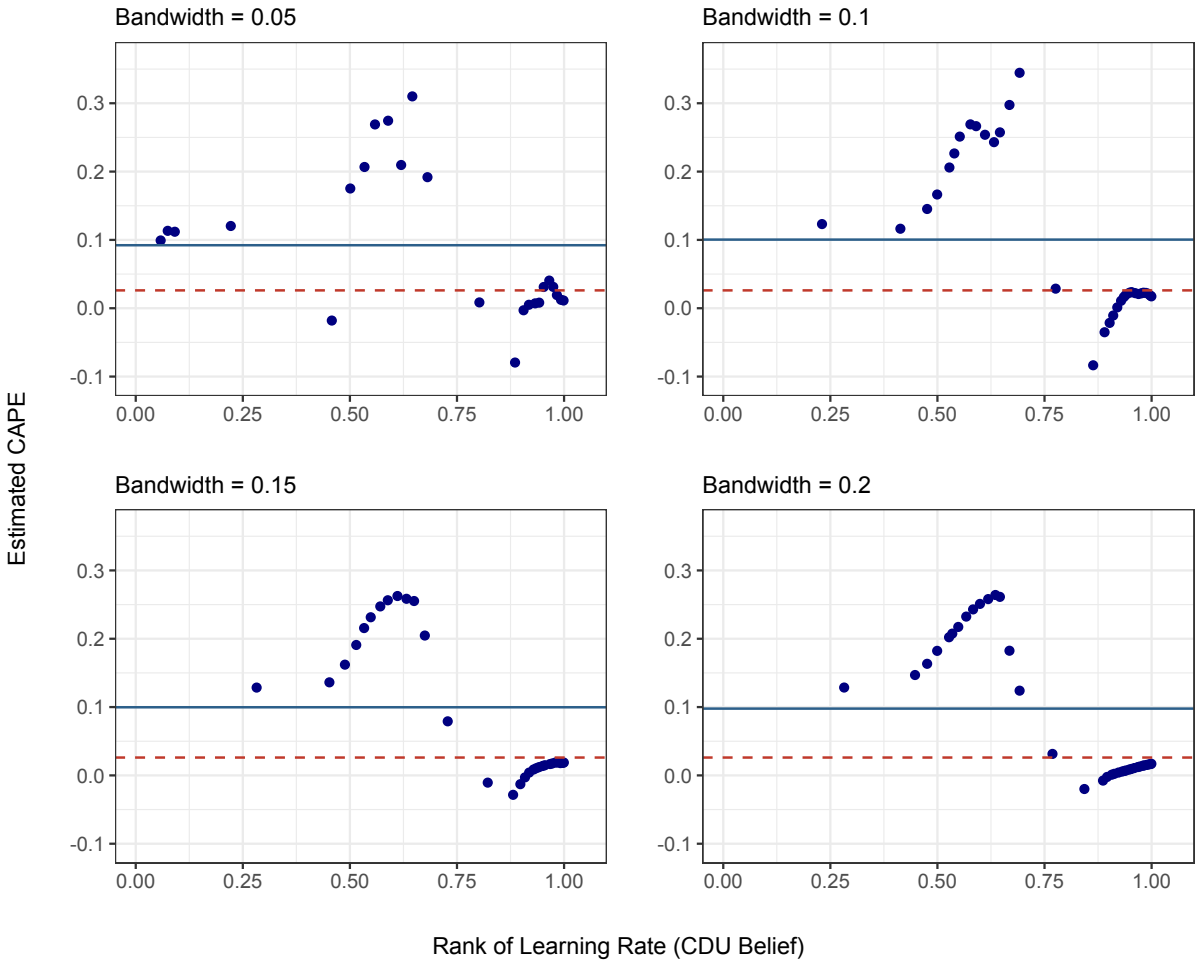


Figure 7: CAPE Estimates for AfD PCA Index

Note: Conditional Average Partial Effects of the CDU posterior belief on the AfD PCA index across four bandwidth choices. The x-axis is the rank of the CDU belief learning rate α_i = (posterior − prior)/(signal − prior), normalized to $[0, 1]$. Non-learners (prior = signal, $N = 572$) are assigned $\alpha_i = 0$, placing them at the bottom of the learning-rate distribution. Estimates are produced using the LLS framework of Balla-Elliott (2026). In each panel, the dashed red line marks the standard 2SLS estimate and the solid blue line the LLS average: 2SLS tracks the near-zero effects among the strongest updaters, while LLS averages over the entire curve. Uneven horizontal spacing of evaluation points reflects ties in the learning-rate distribution (including the mass of non-learners at zero). $N = 5{,}040$.

the near-zero effects at the top of the learning-rate distribution, while the latter averages over the entire curve. This pattern is consistent with what Balla-Elliott (2026) documents across six other information-provision experiments: respondents whose beliefs most strongly affect their behavior tend to have invested in forming precise priors and consequently update little, whereas respondents who adopt the signal wholesale exhibit the weakest downstream responses.

Table 1 reports formal slope tests for all CAPE curves. The AfD PCA index and all five individual AfD outcomes reject flatness at conventional levels ($p < 0.001$ for the index). For CDU outcomes the picture is mixed: the CAPE is statistically flat for the CDU PCA index

Table 1: Formal Slope Tests for CAPE Curves

Outcome	Slope	SE	t-stat	p-value
PCA Indexes				
AfD PCA Index	-0.269***	(0.050)	-5.40	0.000
CDU PCA Index	0.183***	(0.022)	8.36	0.000
Individual Outcomes				
AfD Vote	-0.123***	(0.025)	-4.85	0.000
AfD Thermometer	-0.232***	(0.045)	-5.20	0.000
AfD Donation	-0.150***	(0.033)	-4.48	0.000
AfD Campaign	-0.242***	(0.032)	-7.50	0.000
AfD Newsletter	-0.069***	(0.015)	-4.49	0.000
CDU Vote	0.044***	(0.008)	5.26	0.000
CDU Thermometer	0.225***	(0.029)	7.70	0.000
CDU Donation	0.080***	(0.007)	11.63	0.000
CDU Campaign	0.114***	(0.009)	12.94	0.000
CDU Newsletter	0.065***	(0.006)	11.25	0.000

Note: Each row reports the slope from a weighted OLS regression of the micro-level CAPE estimate $\hat{\tau}(r)$ on the rank r of the learning rate, using LLS kernel weights. The null hypothesis is a flat CAPE (slope = 0), implying 2SLS is unbiased. The endogenous variable is the CDU posterior belief. Non-learners are included with the lowest learning-rate rank. Bandwidth = 0.1. Robust standard errors. *p< 0.1, **p< 0.05, ***p< 0.01.

($p = 0.848$), CDU voting, and CDU donations, while the thermometer, campaign, and newsletter curves have significant slopes. Consistent with the flatter CAPEs, the gap between 2SLS and LLS is smaller for CDU outcomes than for AfD outcomes, though it does not vanish: the LLS aggregates local regressions weighting all respondents equally, so the two estimators need not coincide even when the CAPE is flat.

The asymmetry between AfD and CDU CAPEs has a natural interpretation. Supporting the AfD—a far-right party operating under a cordon sanitaire—is a consequential and salient decision, particularly for voters with strong anti-immigration preferences. These voters tend to hold precise prior beliefs about the CDU (Appendix G documents the correlates of learning rates), so they update little—yet their behavior responds strongly to the beliefs they hold. At the opposite end of the distribution, respondents who adopt the signal wholesale appear to anchor their political behavior only weakly on party positions. CDU support, by contrast, responds more uniformly across the learning-rate distribution, because the CDU is the default mainstream option and supporting it requires less "active" deliberation.

LLS Results. The non-flat CAPE for AfD outcomes motivates the LLS estimator, which weights all respondents equally rather than overweighting high updaters. Figure 8 displays the LLS estimates, and Table 2 reports all three estimators side by side.

Under the LLS estimates, all 12 outcomes—six for the AfD and six for the CDU—are statistically significant at the 5% level, and ten of the twelve at the 1% level. Perceiving the CDU as one unit more liberal on immigration increases the AfD PCA index by 0.100 SD, increases AfD voting by 4.7 percentage points, and increases the AfD thermometer by 0.088 SD. For the CDU, the same leftward shift decreases the CDU PCA index by 0.066 SD and CDU voting by 2.3 percentage points. Incentivized behavioral outcomes respond significantly: perceiving the CDU as more liberal increases AfD donations by 0.061 SD, AfD campaign ad allocations by 0.078 SD, and AfD newsletter clicks by 0.033 SD. The LLS estimates are roughly twice as large as the corresponding 2SLS estimates across all outcomes, consistent with the CAPE diagnostic.

The existence of an effect on AfD voting and AfD feelings is established by the reduced form and standard 2SLS alone, and does not depend on the LLS. What the LLS adds is twofold: the average population effect is roughly twice the complier-weighted estimate, and it is precisely estimated also for the incentivized and CDU outcomes, for which the reduced form and 2SLS are too noisy to be informative.

To put these magnitudes in perspective: the AfD received 20.8% of the vote in the 2025 election, and the CDU received 28.5%. In our sample, the LLS estimate implies that a one-unit leftward shift in perceived CDU positioning changes AfD voting by an amount equal to nearly a quarter of that vote share; reweighting the sample to population East/West shares, the average effect of 3.6 percentage points corresponds to roughly a sixth (Subsection 7.4). For reference, by the height of the 2015–16 refugee crisis (mid-2016), the perceived position of the CDU had shifted approximately 1.4 units to the left on the same scale. Applying our population-reweighted estimate of 3.6 percentage points per unit, this shift alone could have raised AfD voting by roughly 5 percentage points—of the same order as the AfD's actual rise over the crisis, from about 6% in early 2015 to 12% by late 2016. The relevance of our vote intention measure is supported by the close correspondence between reweighted vote intentions from our sample and the official election results (Figure A37).

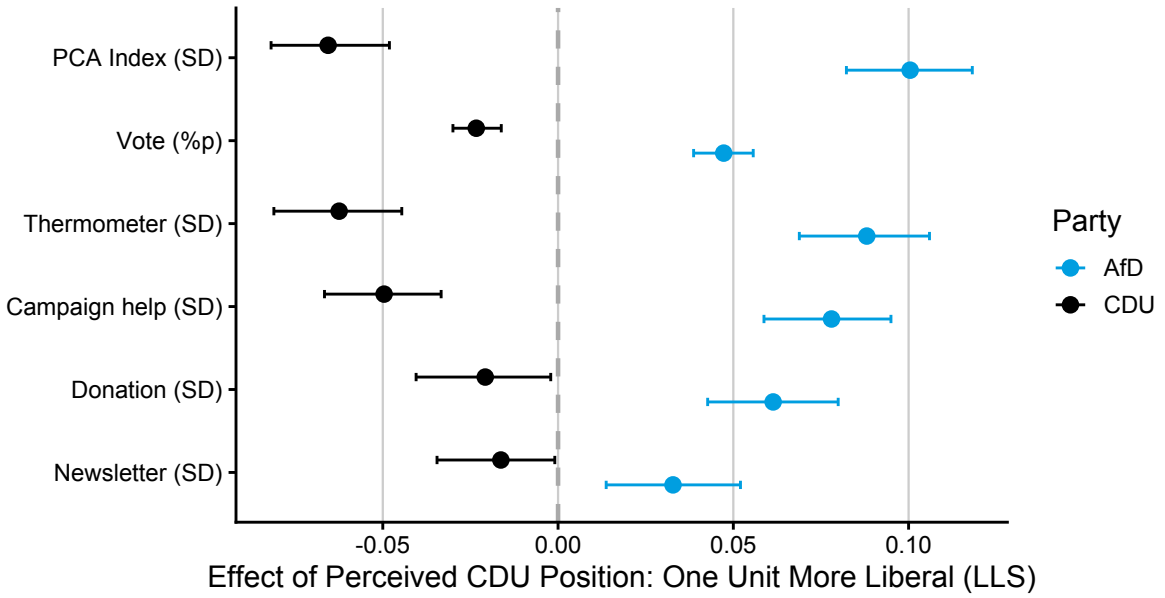


Figure 8: LLS Estimates: Effect of Perceived CDU Positioning
Note: LLS estimates of the effect of the CDU posterior belief on all outcomes. Each coefficient shows the effect of perceiving the CDU as one unit more liberal on immigration. Bars indicate 95% confidence intervals. Controls: age, gender, immigration background, East Germany indicator, education. N = 5,040. Bandwidth = 0.1.

The results strongly support the spatial voting predictions of Hypothesis 1: perceiving the CDU as more liberal increases AfD support and decreases CDU support. Consistent with Hypothesis 4.1, the effects are asymmetric: AfD gains substantially exceed CDU losses. In our setting, these findings rule out a legitimation channel (which would predict AfD gains alongside CDU gains from a rightward shift) and the protest voting perspective (which predicts null effects). Table A14 in the Appendix confirms no effect on turnout, indicating that shifts in CDU positioning reallocate votes between parties rather than affecting participation.

7.4 Heterogeneous Effects

Figure 9 and Figure 10 examine how the effects differ across subgroups. We consider five dimensions of heterogeneity: four were pre-registered (the perceived importance of immigration, the representation ideal, issue voting, and East vs. West residence), and one—participants' own immigration attitudes—is motivated directly by the spatial voting model (Hypothesis 1). Regarding the perceived importance of immigration we distinguish between those who find immigration "Important" or "Very Important" (top 2 answer options on a 5-point scale;

Table 2: Main Results: Effect of Perceived CDU Positioning on Political Outcomes

	CDU Outcomes			AfD Outcomes		
	RF	2SLS	LLS	RF	2SLS	LLS
PCA Index (SD)	-0.015	-0.029	-0.066***	0.013	0.026	0.100***
	(0.012)	(0.024)	[-0.082, -0.048]	(0.011)	(0.023)	[0.082, 0.118]
Vote (%p)	-0.006	-0.013	-0.023***	0.011**	0.021**	0.047***
	(0.005)	(0.010)	[-0.030, -0.016]	(0.005)	(0.011)	[0.039, 0.056]
Thermometer (SD)	-0.006	-0.011	-0.062***	0.025**	0.049**	0.088***
	(0.012)	(0.024)	[-0.081, -0.045]	(0.012)	(0.024)	[0.069, 0.106]
Campaign help (SD)	-0.009	-0.018	-0.050***	-0.005	-0.010	0.078***
	(0.012)	(0.025)	[-0.067, -0.033]	(0.011)	(0.023)	[0.059, 0.095]
Donation (SD)	-0.020	-0.040	-0.021**	-0.003	-0.006	0.061***
	(0.012)	(0.025)	[-0.040, -0.002]	(0.012)	(0.025)	[0.043, 0.080]
Newsletter (SD)	0.002	0.004	-0.016**	0.002	0.005	0.033***
	(0.012)	(0.025)	[-0.035, -0.001]	(0.012)	(0.024)	[0.014, 0.052]
Observations	5,040	5,040	5,040	5,040	5,040	5,040
First-stage F	—	375.3	—	—	375.3	—
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Note: RF: reduced-form OLS of outcome on signal. 2SLS: CDU posterior instrumented by signal. LLS: Local Least Squares estimator of Balla-Elliott (2026). All coefficients show the effect of perceiving the CDU as one unit more liberal on immigration. RF and 2SLS report heteroskedasticity-robust standard errors in parentheses; LLS reports 95% Bayesian-bootstrap percentile confidence intervals in brackets, with significance stars based on normal-approximation z-tests using trimmed bootstrap standard errors. Controls: age, gender, immigration background, East Germany indicator, education. N = 5,040. *p< 0.1, **p< 0.05, ***p< 0.01.

≈ 72%) and all other subjects. Concerning participants' own immigration attitudes, we split the sample into three groups: Liberal (0–4), Moderate (5–6), and Conservative (7–10) on the 0–10 immigration scale. Moreover, we distinguish between participants who state that parliamentarians should vote per their own opinion (≈ 41%) vs. follow voters' opinion (≈ 59%). We also differentiate between issue voters (≈ 54%) and those who give any other main reason for their vote choice. Finally, we distinguish between West and East Germany.

Across all subgroups, the effects have the predicted signs: perceiving the CDU as more liberal decreases CDU support and increases AfD support. We perform formal interaction tests (z-tests on coefficient differences across independent subsamples) for each dimension of heterogeneity and report the results below. Figure A9 in the Appendix reports the corresponding estimates for all individual outcomes.

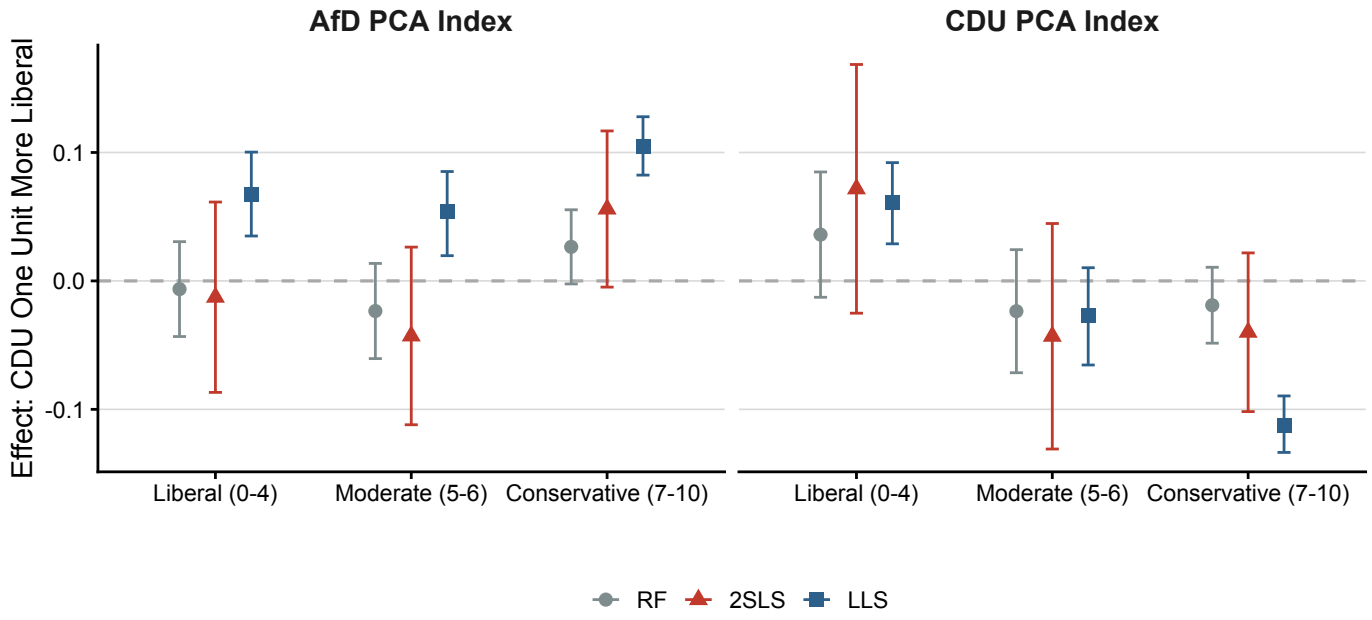


Figure 9: Effects on PCA Indexes by Immigration Attitude, Across Estimators
Note: RF, 2SLS, and LLS estimates of the effect of perceiving the CDU as one unit more liberal on immigration, separately for the three pre-treatment immigration-attitude groups (Liberal 0–4, Moderate 5–6, Conservative 7–10). RF and 2SLS: 95% robust confidence intervals; LLS: 95% bootstrap confidence intervals. Controls: age, gender, immigration background, East Germany indicator, education (RF and 2SLS additionally include prior-belief fixed effects).

Immigration attitudes. Figure 9 shows a clear gradient across immigration-attitude subgroups that holds up across estimators. For the CDU PCA index, the three estimators agree in sign within every group: a more liberal CDU gains support among liberal voters (LLS: 0.061 SD) and loses support among conservatives (LLS: −0.113 SD), with moderates in between (−0.027 SD). This is the signature of spatial voting, and it does not rely on any particular estimator: the Liberal–Conservative difference is marginally significant already in the reduced form and 2SLS ($p \approx 0.06$) and strongly significant under LLS (all three pairwise comparisons $p < 0.001$).

For the AfD PCA index, the estimators divide. Among conservatives—the group for which spatial voting predicts a response—all three agree: the reduced form and 2SLS are positive and marginally significant ($p = 0.07$), and the LLS average effect is 0.104 SD. Among liberals and moderates, by contrast, the reduced form and 2SLS are small, wrong-signed, and far from significance ($p > 0.2$), exactly as a pure spatial voting model predicts for voters whose distance to the AfD margin is unaffected; only the LLS average effect is positive and significant for these groups, at the 1% level (0.067 and 0.054 SD). The Moderate–Conservative difference, by contrast, is significant under all three estimators (RF: $p = 0.037$; 2SLS: $p = 0.036$; LLS:

$p = 0.011$), so the conclusion that conservatives respond most does not depend on the estimator.

The positive LLS estimate for liberals deserves scrutiny: a liberal voter who learns that the CDU is more liberal on immigration should, if anything, find the CDU closer to their ideal point and have less reason to turn to the far right. This pattern is specific to the LLS average effect—the reduced form and 2SLS for liberals are null—and the individual-outcome estimates for this subgroup have wide confidence intervals, so it warrants caution. If taken at face value, one mechanism could produce it: learning that the CDU is more liberal than expected could signal to some voters that mainstream parties are converging on immigration, increasing openness to non-mainstream alternatives through a disillusionment logic.

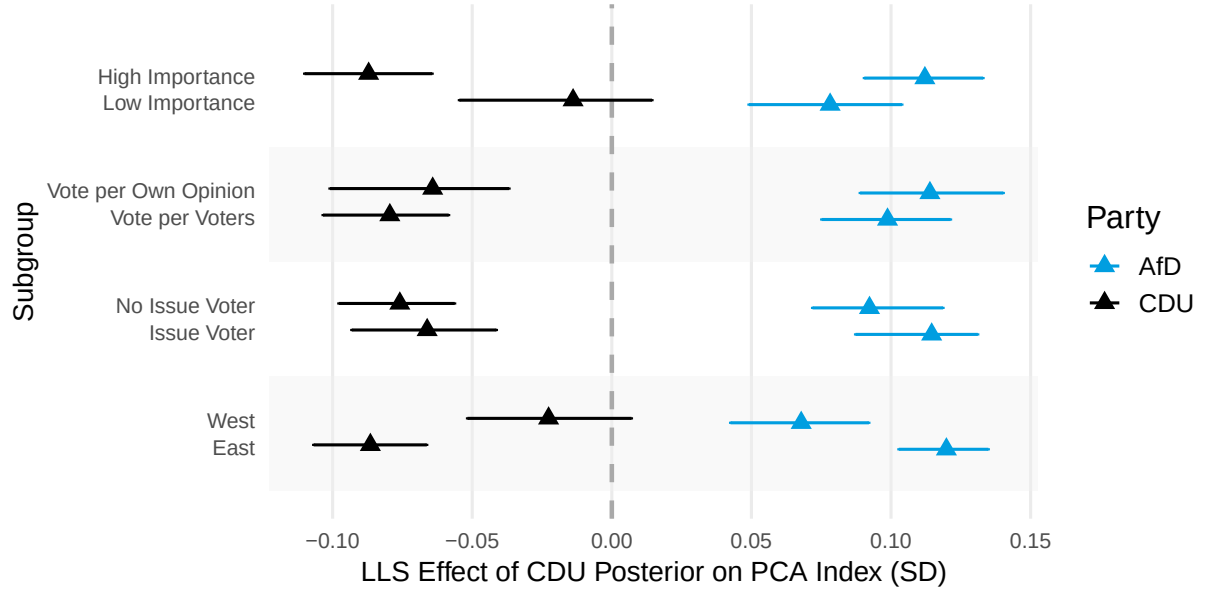


Figure 10: Heterogeneous Effects on PCA Indexes: Pre-Registered Subgroup Dimensions
Note: LLS estimates of the effect of perceiving the CDU as one unit more liberal on the AfD and CDU PCA indexes, for the four pre-registered heterogeneity dimensions (immigration importance, representation ideal, issue voting, East vs. West). Bars indicate 95% bootstrap confidence intervals. Heterogeneity by immigration attitude is shown in Figure 9; individual outcomes are in Figure A17 in the Appendix.

Immigration importance. Effects are stronger for participants who rate immigration as important. For the CDU index, the estimate is −0.087 SD for high-importance participants vs. −0.014 SD for low-importance participants ($p < 0.001$). For the AfD index, the corresponding estimates are 0.112 SD vs. 0.078 SD, a difference that is marginally significant ($p = 0.055$).

East vs. West Germany. Effects are significantly stronger in East Germany for both parties. The CDU index estimate is −0.086 SD in the East vs. −0.023 SD in the West ($p < 0.001$); the AfD index estimate is 0.120 SD in the East vs. 0.068 SD in the West ($p < 0.001$). Because our sample deliberately oversamples the East (60% of observations versus 19% of the German adult population), the pooled estimates weight this high-response region heavily. Reweighting the sample to population East/West shares, the LLS average effect on AfD voting is 3.6 percentage points ($p < 0.001$; versus 4.7 unweighted), so the average effect remains substantial and precisely estimated in a nationally representative calibration.

Representation ideal and issue voting. We find no significant differences between participants who think parliamentarians should vote per voters' opinion vs. their own opinion (CDU: $p = 0.443$; AfD: $p = 0.389$), nor between issue voters and non-issue voters (CDU: $p = 0.563$; AfD: $p = 0.173$). While the point estimates go in the expected direction for both dimensions, the differences are modest and imprecisely estimated.

Figure A7 and Figure A8 in the Appendix show that the effects are symmetric (similar magnitudes for signals portraying the CDU as more liberal and more conservative) and robust to dropping any single treatment arm.

7.4.1 Heterogeneity by Prior Beliefs

Hypothesis 2 predicts that effects are strongest for voters who initially perceived the CDU as most liberal, for whom a further leftward signal reinforces an already large perceived distance from their conservative preferences. Splitting the sample into terciles of prior beliefs about the CDU's position confirms this gradient: the LLS estimate for the AfD PCA index is 0.093 SD in the "Low (liberal)" tercile, compared to 0.039 SD in the "High (conservative)" tercile, consistent with the spatial voting interpretation. As with the incentivized and follow-up outcomes, the gradient is recovered by the LLS average effect; within terciles the reduced form and 2SLS are too imprecise to detect it (Figure A10 in the Appendix reports all three estimators by tercile).

Appendix E complements these experimental results with descriptive binscatters of all outcomes against both the posterior belief about the CDU's position and respondents' own

immigration attitudes. The patterns are monotone and consistent with the spatial voting framework: AfD support falls and CDU support rises as the CDU is perceived as more conservative, and AfD support rises monotonically with respondents' own anti-immigration attitudes.

8 Robustness

8.1 Pre-Registered Robustness Checks

To assess the robustness of our main findings, we re-estimate the LLS specification on four subsamples: (a) participants who pass the second attention check (Figure 11(a)), (b) participants who find the signal credible (Figure 11(b)), (c) participants whose posterior beliefs update toward the signal (Figure 11(c)),[10] and (d) including participants classified as speeders (Figure 11(d)). Across all checks, results are highly consistent with the main findings. Figure A11 in the Appendix reports the corresponding reduced-form estimates.

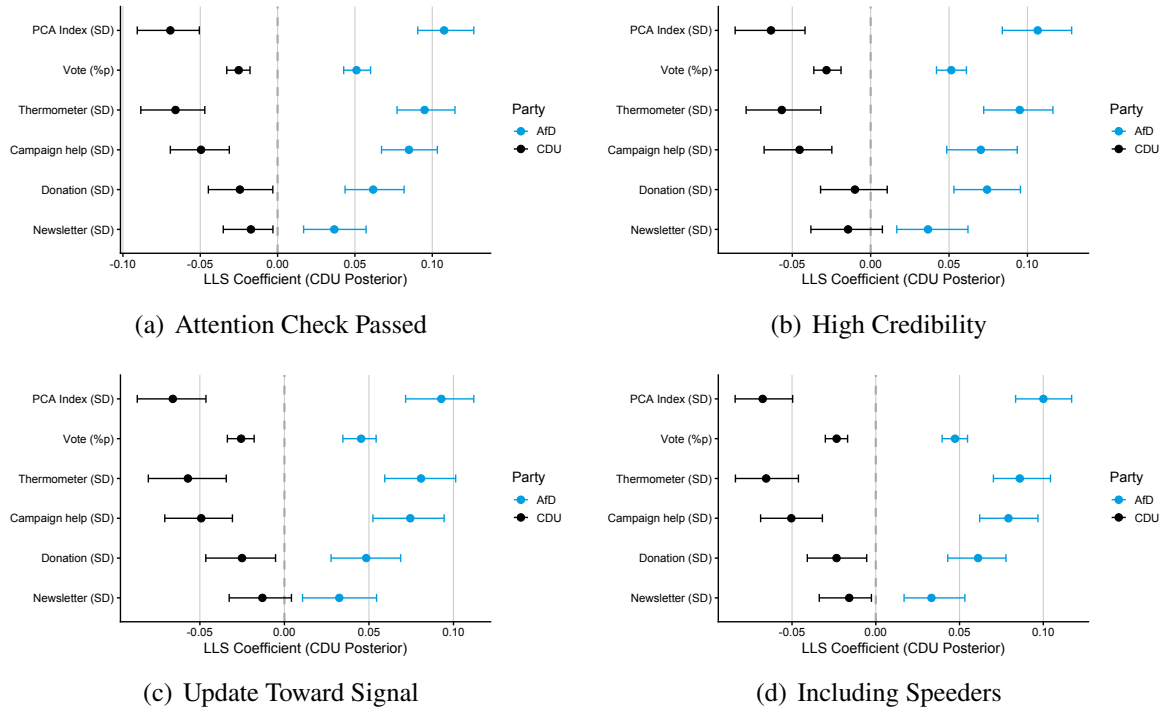
8.2 Bandwidth Sensitivity

The bandwidth parameter in the LLS estimation controls the degree of smoothing. Our main estimates use a bandwidth of 0.1, meaning approximately 10% of observations contribute to each local regression. Figure A25 in the Appendix reports estimates across four bandwidth choices (0.05, 0.1, 0.15, 0.2). The estimates are highly stable, confirming that our results are not driven by the choice of bandwidth.

8.3 Follow-Up Survey

Figure A13 and Table A6 in the Appendix present results from the obfuscated follow-up survey, conducted approximately one week after the main study and concluded the day before the 2025 federal election. Despite the smaller sample (N = 2,182) and the passage of time, the LLS

[10] Table A13 in the Appendix compares consistent and inconsistent updaters. The two groups are demographically similar, but inconsistent updaters are substantially more likely to hold objectively incorrect beliefs about party positions—for example, that the AfD is not the most conservative party on immigration—and more likely to fail the second attention check, suggesting lower attentiveness.



(a) Attention Check Passed

(b) High Credibility

(c) Update Toward Signal

(d) Including Speeders

Figure 11: Robustness Checks: LLS Estimates
Note: Each panel shows LLS estimates for all AfD and CDU outcomes on a restricted sample. Bars indicate 95% bootstrap confidence intervals.

estimates remain significant for all outcomes: perceiving the CDU as one unit more liberal increases AfD voting by 3.7 percentage points and the AfD thermometer by 0.062 SD. The reduced-form and 2SLS estimates are insignificant in the smaller follow-up sample, so the persistence results—like the incentivized outcomes in the main study—rest on the LLS average effects. The persistence of effects in an obfuscated follow-up—where participants were unlikely to connect the two surveys—strengthens our confidence that the results reflect genuine belief updating rather than experimenter demand effects.

9 Conclusion

Across Western democracies, mainstream parties have adopted positions on cultural issues—particularly immigration—that are substantially more liberal than those of the median voter. This paper provides causal evidence that this divergence drives support for the far right. In an information-provision experiment conducted in the weeks before the 2025 German federal election, we exogenously shift voters' beliefs about the immigration stance of the CDU, Germany's

main center-right party, and estimate the effect on a rich set of political outcomes.

Our estimates reveal large and significant effects. The core result—that perceiving the CDU as more liberal on immigration increases AfD voting intention—holds under every specification we employ: the reduced form, standard 2SLS, the LLS estimator of Balla-Elliott (2026), and an obfuscated follow-up survey conducted approximately one week later. Standard 2SLS implies that a one-unit leftward shift in perceived CDU immigration stance increases AfD voting by 2.1 percentage points. Because standard IV places the most weight on the strongest updaters, who respond least, this understates the average effect: the LLS estimator places the average population effect at 4.7 percentage points—equivalent in magnitude to nearly a quarter of the AfD's actual vote share—and extends statistical significance to incentivized behavioral measures—donations, campaign ad allocations, newsletter sign-ups. The effects are asymmetric: perceiving the CDU as more liberal increases AfD support substantially more than it decreases CDU support, a pattern explained by the conservative skew of immigration preferences in the German electorate.

These findings have three implications. First, mainstream party positioning on salient issues is a first-order determinant of far-right support: the electoral space available to far-right challengers depends critically on where voters believe mainstream parties stand. Second, the effects operate through a spatial voting channel: voters respond to the perceived distance between themselves and the CDU, and they do so in a manner consistent with standard spatial models. Third, from a methodological perspective, our estimates recover the average population effect of beliefs using the debiased LLS estimator of Balla-Elliott (2026); standard IV in information-provision designs identifies only a complier-weighted local effect and, as in our setting, understates it. This is relevant to the growing literature using such experiments to study political behavior.

Several limitations point to avenues for future research. Our analysis does not address why so many voters hold restrictive views on immigration, nor why this issue is such a powerful driver of vote choice; our contribution is to show that, when mainstream parties and the electorate diverge on a salient issue, these views have first-order electoral consequences. Moreover, our results are identified on a single policy dimension—immigration—in a single country. Whether similar effects arise for other issues or in other national contexts remains an open question. We study

perceived positions, but actual policy change involves credibility and commitment problems that our experiment does not capture. A CDU that merely signals conservatism without following through may face voter backlash, and the long-run electoral equilibrium could differ from the short-run effects we estimate. Finally, our analysis abstracts from normative considerations: whether mainstream parties *should* accommodate voter preferences on immigration—particularly when doing so may conflict with liberal democratic values or international obligations—is a question our framework does not address, but one that policymakers must confront.

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Appendix

Contents

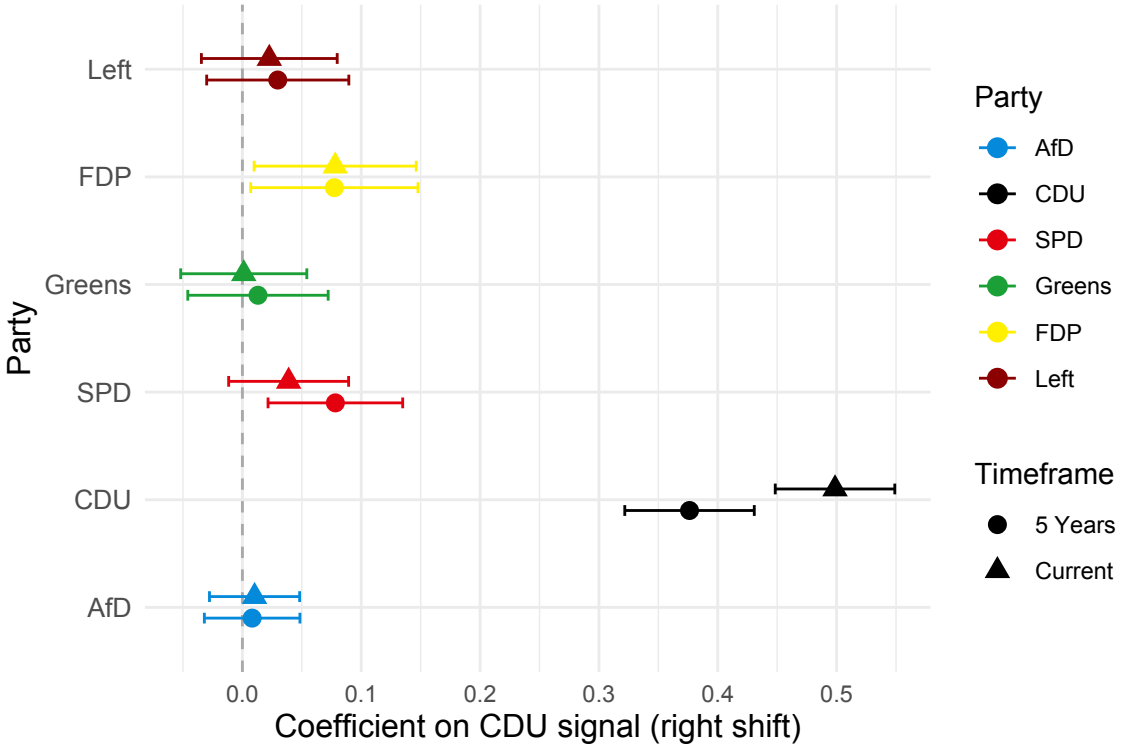


Figure A1: Treatment Effects on Beliefs about Parties' Immigration Stances

A Manipulation Checks

A.1 Posterior Beliefs

Table A1: First Stage: Effect of Signal on CDU Posterior Belief

	CDU Posterior Belief
Signal (CDU position)	0.497***
	(0.026)
F-statistic	375.3
Observations	5,040
Controls	Yes

Note: OLS regression of the CDU posterior belief on the randomly assigned signal, both coded so that higher values mean a more *liberal* immigration stance (the uniform sign convention used throughout the paper). Controls: age, gender, immigration background, East Germany indicator, education. Robust standard errors in parentheses. *p<0.1; **p<0.05; ***p<0.01.

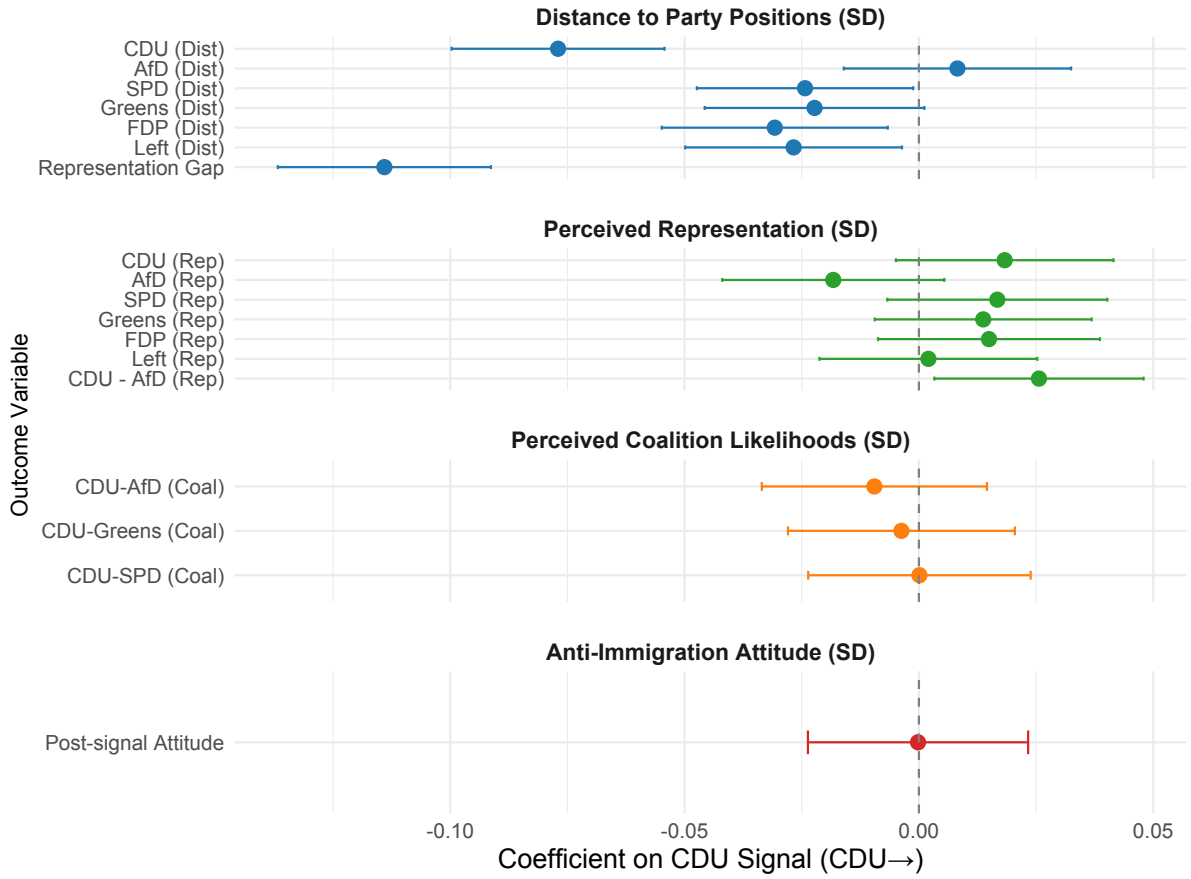


Figure A2: Effects of Treatment (RF) on Channel Variables
Note: Bars indicate 95% confidence intervals. Signal takes values 4, 5, 6, 7. Based on equation (4). N = 5,040.

A.2 Cross-Learning

A.3 Instrument Relevance and First Stage Heterogeneity

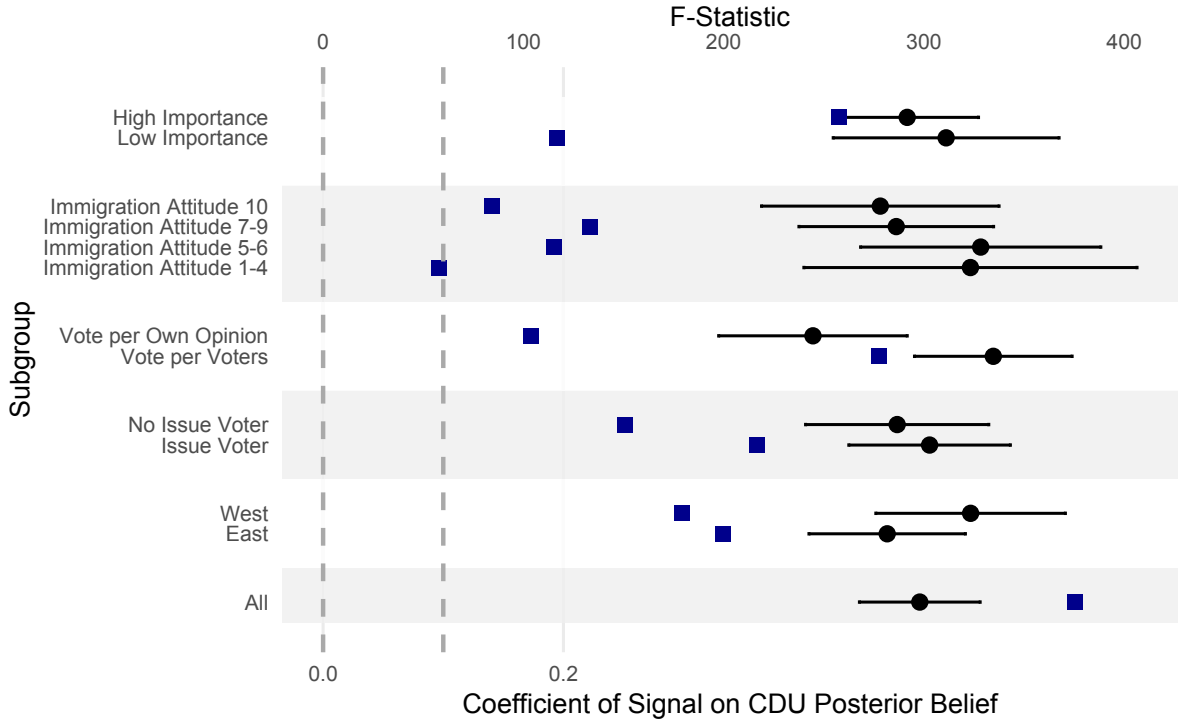


Figure A3: Effect of the Signal on the CDU Posterior Belief and F-Statistics by Subgroup
Note: Black dots: OLS coefficients of the signal on the CDU posterior belief (0–10 scale), with 95% confidence intervals. Blue squares: F-statistics (right axis). All regressions include demographic controls (age, gender, immigration background, East Germany, education).

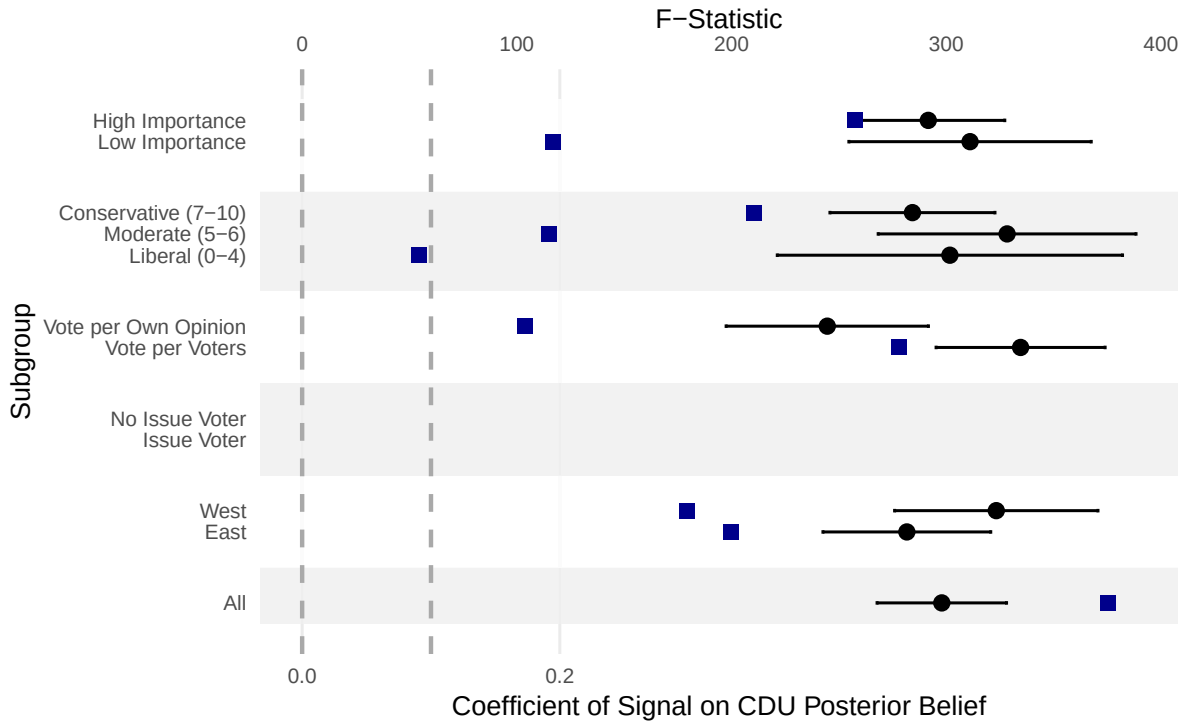


Figure A4: Effect of the Signal on the CDU Posterior Belief and F-Statistics by Subgroup (3-Bin Immigration Attitudes)

Note: Same as the previous figure, but with immigration attitudes grouped into three bins (Liberal: 0–4, Moderate: 5–6, Conservative: 7–10) matching the categorization used in the main text heterogeneity analysis.

B Descriptive Evidence on the Rise of the AfD

This appendix complements the background discussion in Section 3 by examining the German policy space through the lens of a simple spatial voting model. Using data from the German Longitudinal Election Study (GLES, 2023)—which contains responses from 52,341 German citizens across 48 representative surveys between 2009 and 2023—we track the two-dimensional policy space over four political periods and ask whether spatial voting alone can account for the rise of the AfD.

Data and Measurement. Prior research has found that the policy space in Germany and many other European countries is well-characterized by a two-dimensional structure with one economic and one non-economic "cultural" dimension (Bakker et al., 2012; Bonomi et al., 2021; Danieli et al., 2024; Guenther, 2026; Hooghe and Marks, 2018; Olbrich and Banisch, 2021). Regarding the cultural dimension, the most important issue is immigration, which voters in Germany usually consider to be the most important issue in general (Guenther, 2026; Otjes and Green-Pedersen, 2024; Schaub and Morisi, 2022). We use one survey item to measure the position on each dimension. For the economic dimension, we use an item that asks subjects whether they prefer lower taxes and social security contributions, even if this means fewer welfare benefits, or vice versa. We label this dimension "redistribution" for short. For the cultural dimension, we use an item that asks participants whether immigration opportunities should be made easier or restricted. For both items, subjects rated their own opinion on a balanced 11-point scale. They also rated all major parties on the same scale, which enables comparisons between where voters are and where they **think** parties are. We also use an item that asks participants how important they find each of these issues, elicited on a five-point scale, ranging from "Very important" to "Completely unimportant." In addition, we use "scalometer" items that ask subjects on an 11-point scale how positive or negative their views of each party are in general. Finally, we use subjects' responses on their intention to vote or abstain, and which party they would vote for.

Spatial Voting Model. We reconstruct four political periods: (a) the period before the AfD was founded (2009–2013), (b) the years after its foundation but before the refugee crisis (2013–

2015), (c) the years of the refugee crisis (2015–2016), and (d) the time after the refugee crisis (2017–2023). Our guiding question is: assuming Germans voted for the party closest to them in policy space, would that have led to the rise of the AfD? For simplicity, we assume that everyone votes for the party closest to them in weighted political space, where the weights refer to the relative importance the individual places on the two political issues.

Figure A5: German Policy Space over Time: Predicted Voting
Note: Distribution of citizens and perceived party positions in 2D policy space. Colors indicate predicted party support based on spatial voting. Points show average perceived party positions. Rectangle area is proportional to voter share. The number of observations for panels a, b, c, and d is 2,410, 680, 415, and 8,886, respectively.

Figure A6: German Policy Space over Time: Actual Voting and Turnout
Note: Same as Figure A5 but colors indicate actual voting behavior rather than model predictions.

Results. Figure A5 shows the German 2D policy space and visualizes the attitudes of citizens, the perceived positions of parties, and the predictions of our spatial voting model. Figure A6 shows the same policy space with actual voting behavior. Three conclusions emerge. First, a simple spatial voting model correctly predicts the rise of the AfD and which voters support it. Second, immigration attitudes are the key driver of AfD support. Third, the CDU is the AfD's main competitor. These observations support the spatial voting framework but cannot establish causality due to confounding factors—our experiment addresses this limitation.

C Regression Tables

Table A2: Effects of the Signal on AfD Outcome Variables (RF)

	Dependent variable:								
	Main Study						Follow-Up Study		
	Index	Voting	Thermometer	Campaign	Donation	Newsletter	Index	Voting	Thermometer
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
-Signal (4–7)	0.013	0.011**	0.099**	−0.005	−0.003	0.002	−0.004	0.001	−0.009
	(0.011)	(0.005)	(0.047)	(0.011)	(0.012)	(0.012)	(0.018)	(0.008)	(0.018)
Age	−0.003***	−0.001**	−0.011***	−0.002**	−0.006***	0.006***	−0.002	−0.001*	−0.002
	(0.001)	(0.0004)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Male	0.178***	0.063***	0.423***	0.134***	0.216***	0.105***	0.115***	0.048***	0.112***
	(0.026)	(0.012)	(0.106)	(0.026)	(0.028)	(0.028)	(0.040)	(0.018)	(0.040)
Immigrant	−0.113***	−0.082***	−0.325**	−0.111***	−0.007	0.009	−0.163***	−0.085***	−0.122**
	(0.038)	(0.018)	(0.159)	(0.040)	(0.043)	(0.038)	(0.054)	(0.026)	(0.056)
East	0.300***	0.144***	1.226***	0.243***	0.156***	0.006	0.262***	0.115***	0.243***
	(0.026)	(0.012)	(0.108)	(0.026)	(0.028)	(0.029)	(0.040)	(0.018)	(0.041)
Education	0.171***	0.077***	0.700***	0.161***	0.023	0.095***	0.195***	0.082***	0.189***
	(0.028)	(0.013)	(0.119)	(0.028)	(0.031)	(0.029)	(0.043)	(0.020)	(0.045)
Constant	0.683***	0.625***	1.603***	0.667***	0.478***	−0.133	0.551***	0.587***	0.430***
	(0.093)	(0.043)	(0.379)	(0.101)	(0.097)	(0.100)	(0.147)	(0.067)	(0.150)
Prior beliefs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	5,040	5,040	5,040	5,040	5,040	5,040	2,182	2,182	2,182
R^2	0.180	0.175	0.141	0.159	0.069	0.022	0.171	0.169	0.136

Note: For the Signal, we estimate the effect of a unit decrease, i.e., displaying the CDU as more liberal on immigration. Index is the PCA Index of all AfD variables. Age is measured in years. Male, University Degree, and East (Germany) are indicators. Robust standard errors in parentheses. *p<0.1; **p<0.05; ***p<0.01.

Table A3: Effects of the Signal on CDU Outcome Variables (RF)

	Dependent variable:								
	Main Study						Follow-Up Study		
	Index	Voting	Thermometer	Campaign	Donation	Newsletter	Index	Voting	Thermometer
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
-Signal (4–7)	−0.015	−0.006	−0.018	−0.009	−0.020	0.002	−0.009	−0.011	0.009
	(0.012)	(0.005)	(0.038)	(0.012)	(0.012)	(0.012)	(0.019)	(0.008)	(0.018)
Age	0.003***	0.001	0.003	0.006***	−0.005***	0.006***	0.005***	0.002***	0.003**
	(0.001)	(0.0004)	(0.003)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Male	0.043	0.025**	0.002	0.018	0.068**	−0.001	0.124***	0.045***	0.113***
	(0.027)	(0.011)	(0.085)	(0.027)	(0.028)	(0.029)	(0.042)	(0.017)	(0.042)
Immigrant	0.109**	0.024	0.369***	0.071	0.047	0.089*	0.101	0.044	0.074
	(0.042)	(0.018)	(0.133)	(0.045)	(0.043)	(0.048)	(0.065)	(0.028)	(0.062)
East	−0.186***	−0.068***	−0.483***	−0.088***	−0.162***	−0.055*	−0.166***	−0.078***	−0.108**
	(0.029)	(0.012)	(0.088)	(0.029)	(0.029)	(0.030)	(0.043)	(0.018)	(0.042)
Education	−0.0001	0.026*	−0.047	0.040	−0.117***	−0.022	−0.016	−0.011	−0.003
	(0.032)	(0.013)	(0.097)	(0.032)	(0.031)	(0.035)	(0.049)	(0.021)	(0.048)
Constant	−0.827***	0.0003	−3.526***	−0.805***	−0.119	−0.370***	−0.847***	−0.064	−0.827***
	(0.094)	(0.037)	(0.298)	(0.098)	(0.099)	(0.093)	(0.142)	(0.058)	(0.149)
Prior beliefs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	5,040	5,040	5,040	5,040	5,040	5,040	2,182	2,182	2,182
R^2	0.099	0.049	0.127	0.052	0.048	0.018	0.081	0.053	0.086

Note: For the Signal, we estimate the effect of a unit decrease, i.e., displaying the CDU as more liberal on immigration. Index is the PCA Index of all CDU variables. Age is measured in years. Male, University Degree, and East (Germany) are indicators. Robust standard errors in parentheses. *p<0.1; **p<0.05; ***p<0.01.

Table A4: Effects on AfD Outcomes: Reduced Form and Standard 2SLS

	Dependent variable:					
	Index	Voting	Thermometer	Campaign	Donation	Newsletter
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Reduced Form (OLS)						
Signal (CDU ←)	0.013	0.011**	0.025**	−0.005	−0.003	0.002
	(0.011)	(0.005)	(0.012)	(0.011)	(0.012)	(0.012)
Panel B: Standard 2SLS						
CDU Posterior (→)	0.026	0.021**	0.049**	−0.010	−0.006	0.005
	(0.023)	(0.011)	(0.024)	(0.023)	(0.025)	(0.024)
Controls	✓	✓	✓	✓	✓	✓
Prior beliefs FE	✓	✓	✓	✓	✓	✓
First-stage F			375.3			
Observations			5,040			

Note: Panel A reports the reduced-form effect of the CDU signal (more liberal direction). Panel B reports 2SLS estimates where the endogenous variable is the posterior belief about CDU immigration stance (more conservative direction), instrumented by the randomized signal. Controls include age, gender, immigration background, East Germany indicator, and education. Prior beliefs are absorbed via fixed effects. Robust standard errors in parentheses. *p<0.1; **p<0.05; ***p<0.01.

Table A5: Effects on CDU Outcomes: Reduced Form and Standard 2SLS

	Dependent variable:					
	Index	Voting	Thermometer	Campaign	Donation	Newsletter
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Reduced Form (OLS)						
Signal (CDU ←)	−0.015	−0.006	−0.006	−0.009	−0.020	0.002
	(0.012)	(0.005)	(0.012)	(0.012)	(0.012)	(0.012)
Panel B: Standard 2SLS						
CDU Posterior (→)	−0.029	−0.013	−0.011	−0.018	−0.040	0.004
	(0.024)	(0.010)	(0.024)	(0.025)	(0.025)	(0.025)
Controls	✓	✓	✓	✓	✓	✓
Prior beliefs FE	✓	✓	✓	✓	✓	✓
First-stage F				375.3		
Observations				5,040		

Note: Panel A reports the reduced-form effect of the CDU signal (more liberal direction). Panel B reports 2SLS estimates where the endogenous variable is the posterior belief about CDU immigration stance (more conservative direction), instrumented by the randomized signal. Controls include age, gender, immigration background, East Germany indicator, and education. Prior beliefs are absorbed via fixed effects. Robust standard errors in parentheses. *p<0.1; **p<0.05; ***p<0.01.

D Heterogeneity

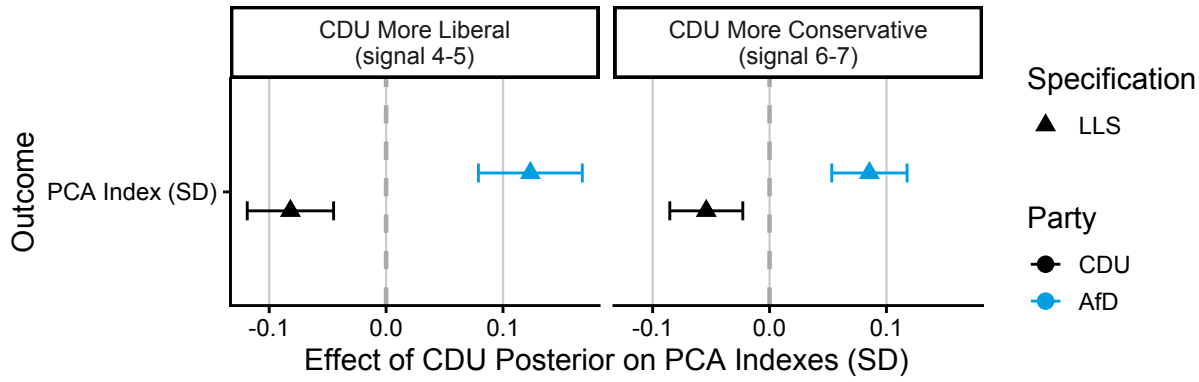


Figure A7: Testing for Asymmetric Effects
Note: LLS effects of CDU posterior belief on PCA indexes. The left panel uses only signals that portray the CDU as more liberal (4–5); the right panel uses signals that portray the CDU as more conservative (6–7). Bars indicate 95% confidence intervals.

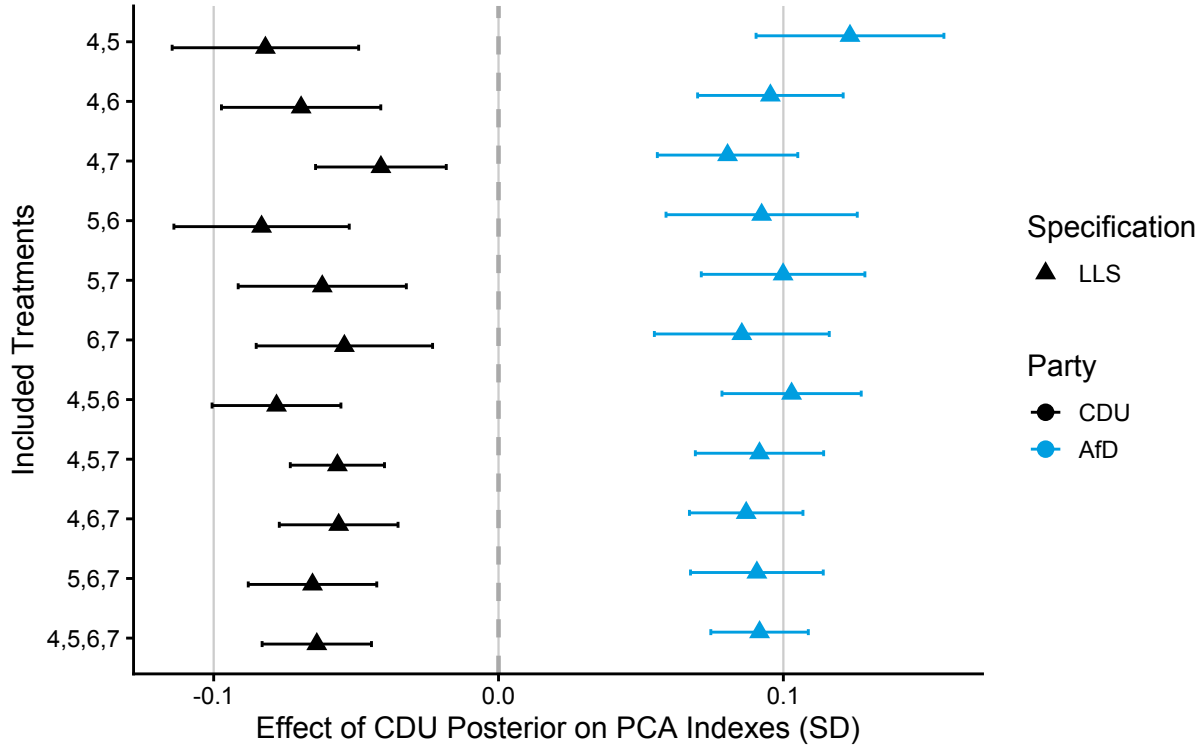


Figure A8: Effects on PCA Indexes Using Different Treatment Subsets
Note: Each estimate uses a different subset of treatment arms. Bars indicate 95% confidence intervals.

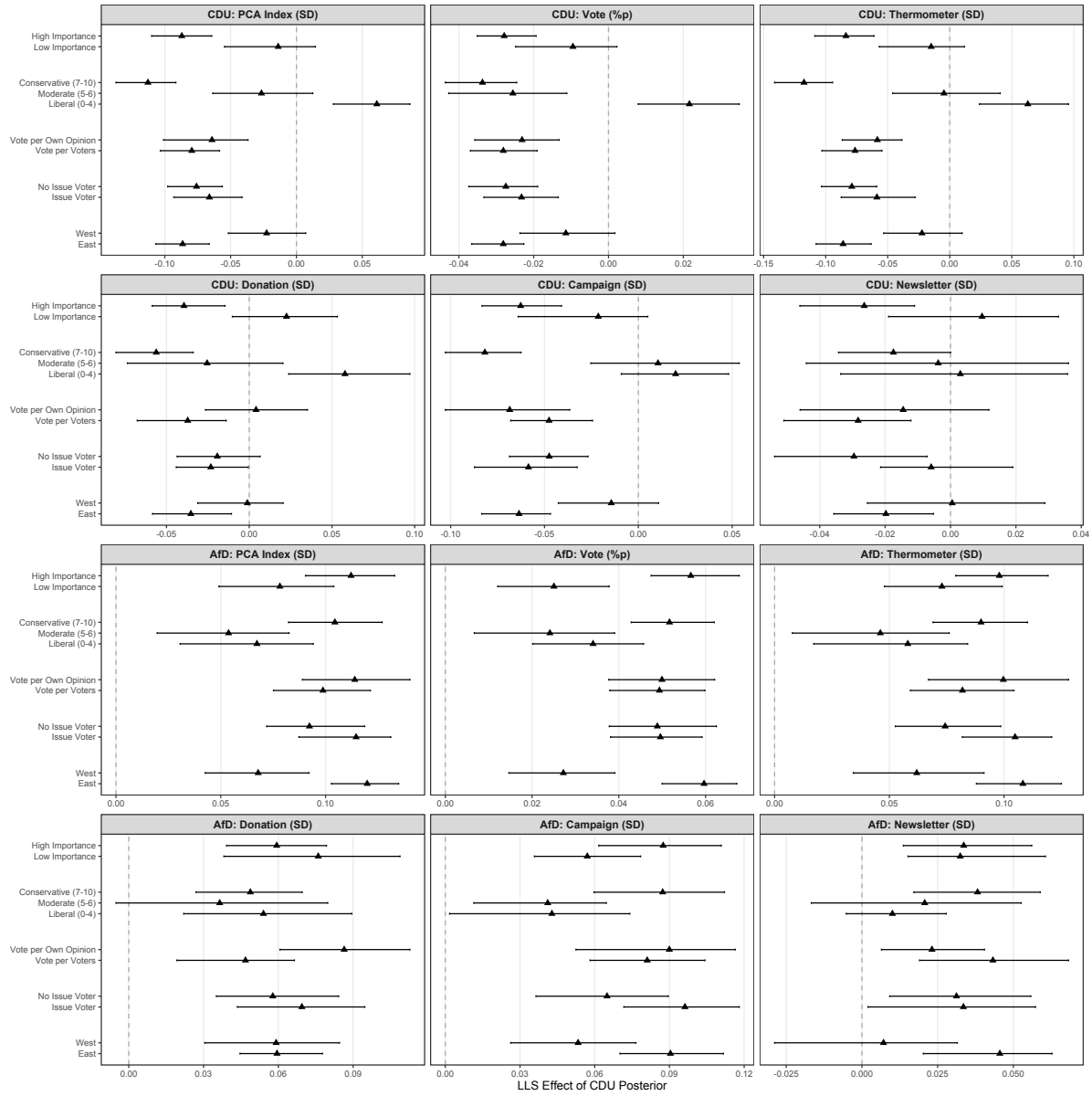


Figure A9: Heterogeneous LLS Effects by Subgroup: All Individual Outcomes
Note: LLS estimates of the effect of perceived CDU positioning on each individual outcome, separately by subgroup. Bars indicate 95% bootstrap confidence intervals.

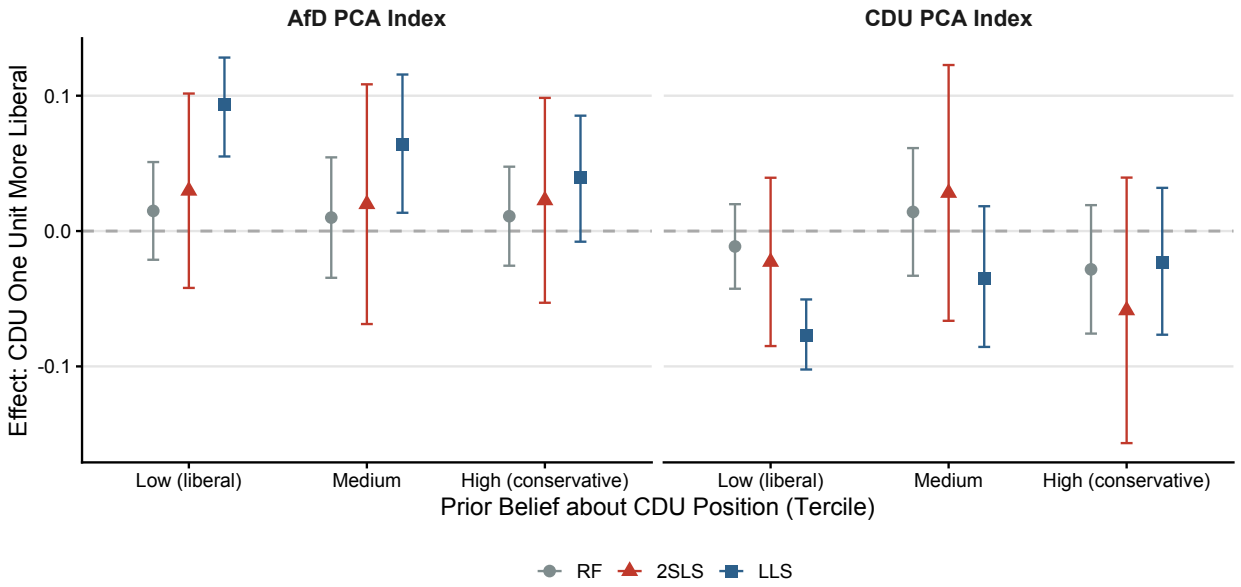
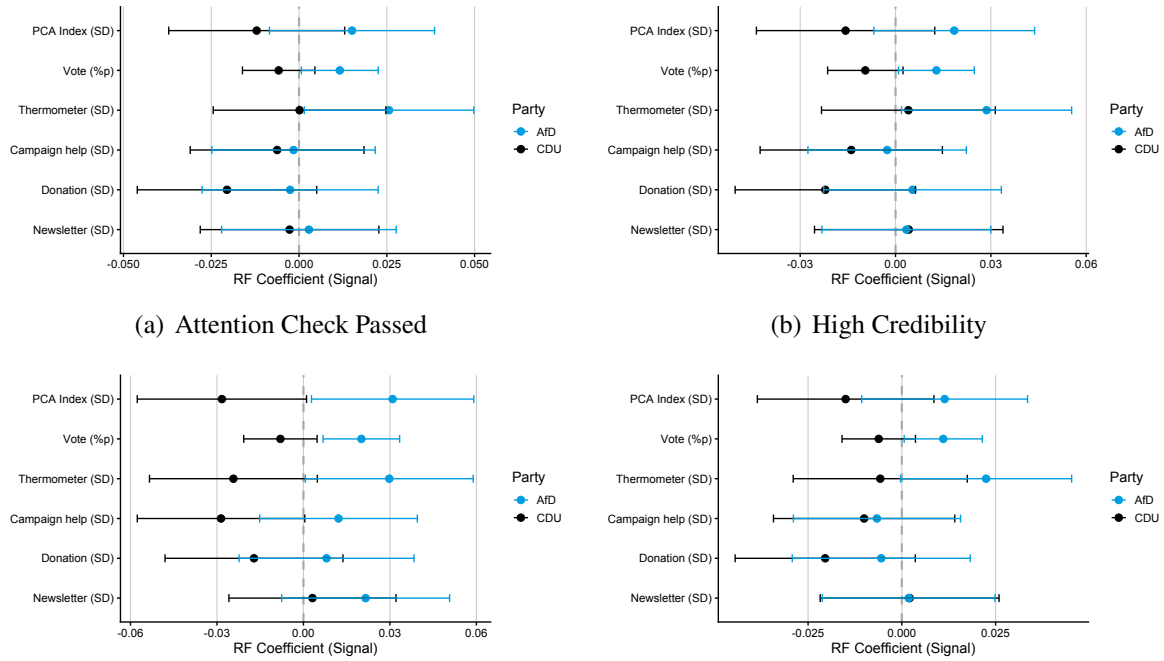


Figure A10: Heterogeneous Effects by Prior Beliefs about the CDU's Immigration Stance
Note: The sample is split into terciles of prior beliefs about the CDU's immigration position. "Low (liberal)" tercile: participants who initially perceived the CDU as most liberal on immigration. RF, 2SLS, and LLS estimates for the AfD and CDU PCA indexes within each subgroup. RF and 2SLS: 95% robust confidence intervals; LLS: 95% bootstrap confidence intervals.



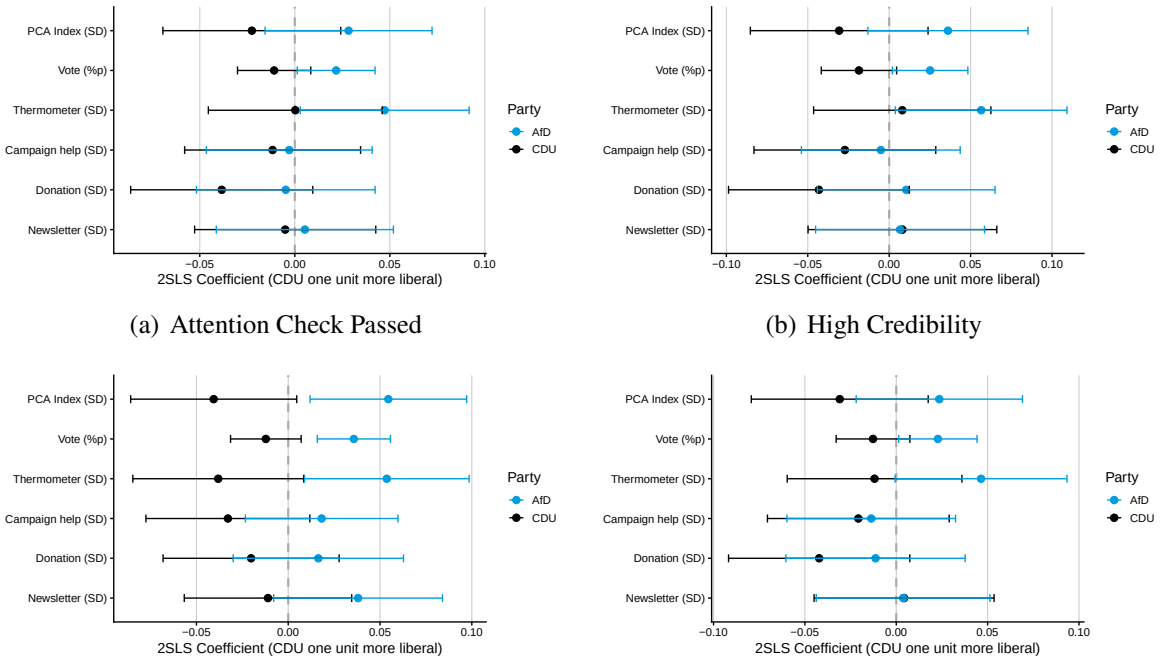
(a) Attention Check Passed

(b) High Credibility

(c) Update Toward Signal

(d) Including Speeders

Figure A11: Robustness Checks: Reduced-Form Estimates
Note: Each panel shows OLS reduced-form estimates (effect of signal) for all AfD and CDU outcomes on a restricted sample. Bars indicate 95% confidence intervals.



(a) Attention Check Passed

(b) High Credibility

(c) Update Toward Signal

(d) Including Speeders

Figure A12: Robustness Checks: 2SLS Estimates
Note: Each panel shows 2SLS estimates (CDU posterior instrumented by signal) for all AfD and CDU outcomes on a restricted sample. Bars indicate 95% confidence intervals.

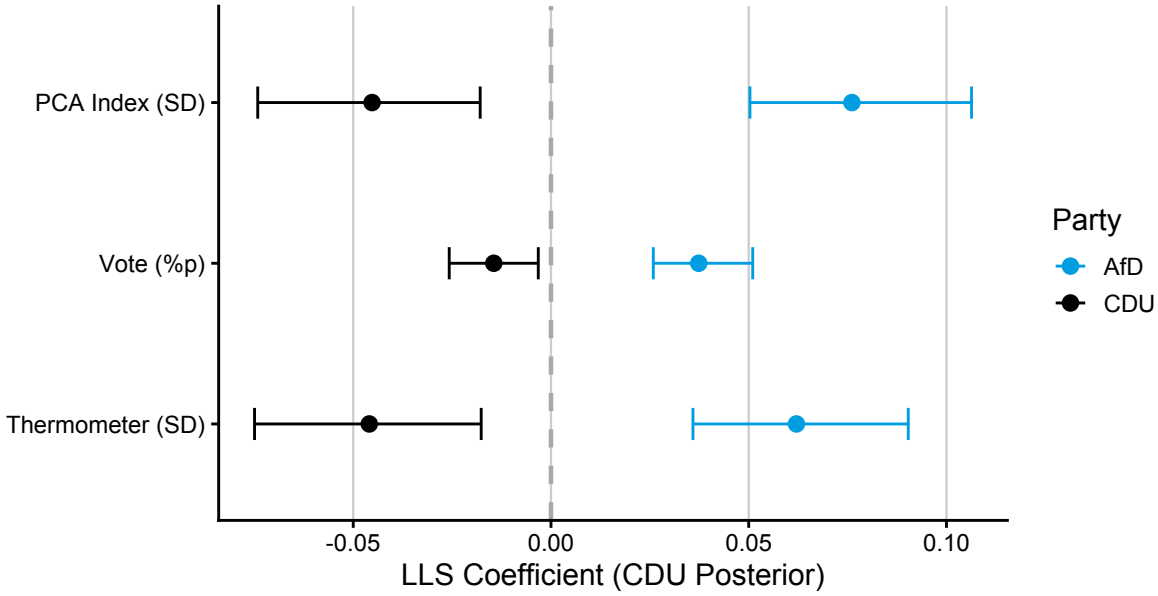


Figure A13: Follow-Up Survey: LLS Estimates
Note: LLS estimates from the obfuscated follow-up survey, conducted approximately one week after the main study. Each coefficient shows the effect of perceiving the CDU as one unit more liberal on immigration. Bars indicate 95% bootstrap confidence intervals. N = 2,182. Figure A14 reports the corresponding RF and 2SLS estimates.

Table A6: Follow-Up Survey: Effect of Perceived CDU Positioning on Political Outcomes

	CDU Outcomes			AfD Outcomes		
	RF	2SLS	LLS	RF	2SLS	LLS
PCA Index (SD)	-0.009	-0.017	-0.045***	-0.004	-0.007	0.076***
	(0.019)	(0.034)	[-0.074, -0.018]	(0.018)	(0.033)	[0.050, 0.106]
Vote (%p)	-0.011	-0.020	-0.014**	0.001	0.001	0.037***
	(0.008)	(0.014)	[-0.026, -0.003]	(0.008)	(0.015)	[0.026, 0.051]
Thermometer (SD)	0.009	0.017	-0.046***	-0.009	-0.016	0.062***
	(0.018)	(0.034)	[-0.075, -0.018]	(0.018)	(0.034)	[0.036, 0.090]
Observations	2,182	2,182	2,182	2,182	2,182	2,182
First-stage F	—	194.6	—	—	194.6	—
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Note: RF: reduced-form OLS of outcome on signal. 2SLS: CDU posterior instrumented by signal. LLS: Local Least Squares estimator of Balla-Elliott (2026). All coefficients show the effect of perceiving the CDU as one unit more liberal on immigration. RF and 2SLS report heteroskedasticity-robust standard errors in parentheses; LLS reports 95% Bayesian-bootstrap percentile confidence intervals in brackets, with significance stars based on normal-approximation z-tests using trimmed bootstrap standard errors. Controls: age, gender, immigration background, East Germany indicator, education. N = 2,182. *p< 0.1, **p< 0.05, ***p< 0.01.

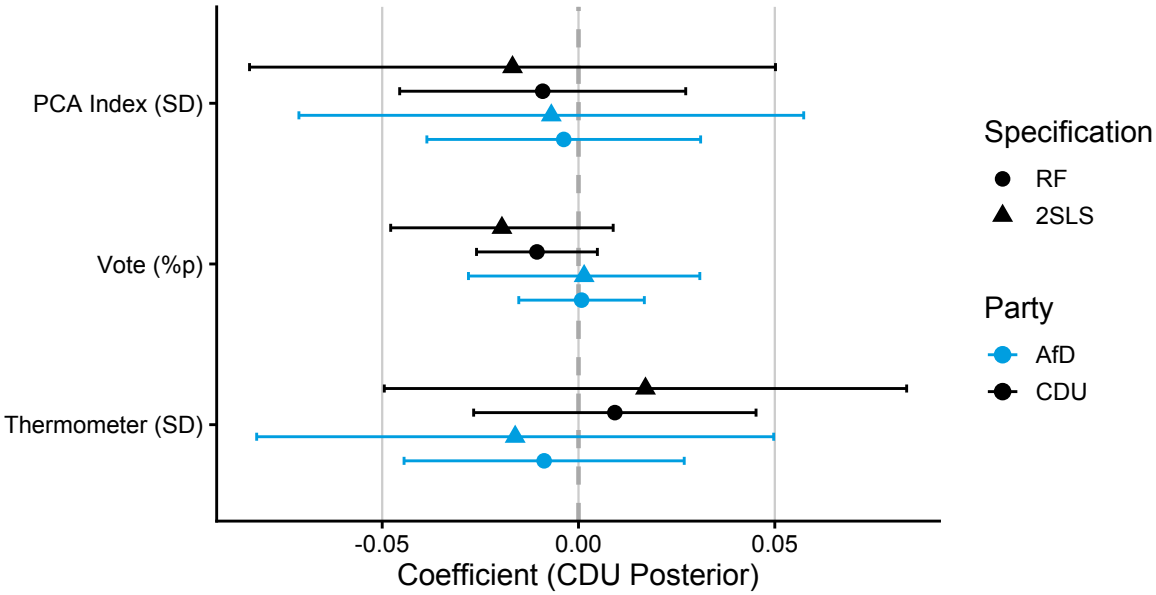
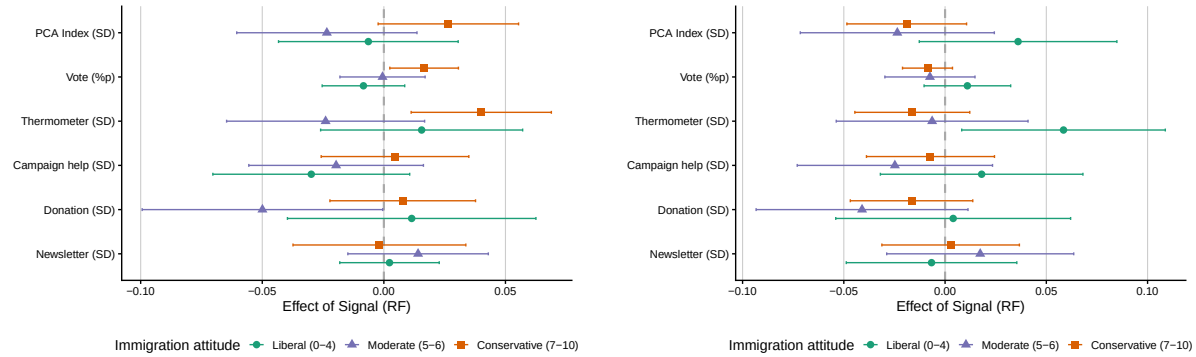


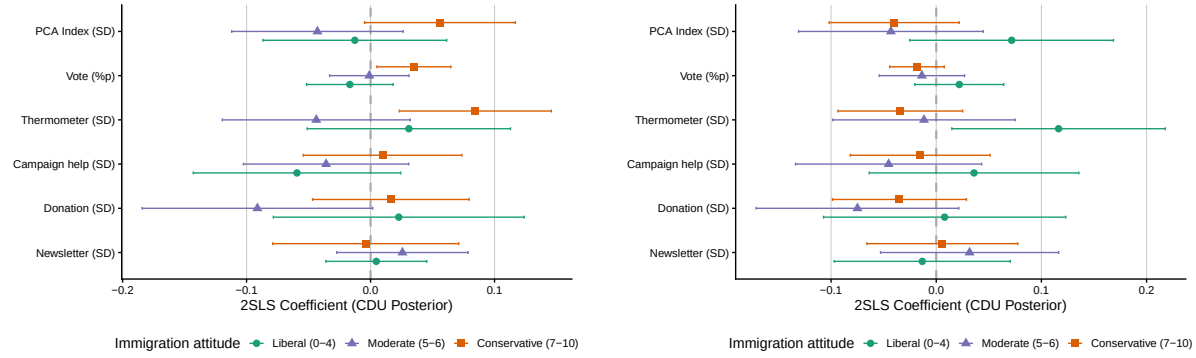
Figure A14: Follow-Up Survey: Reduced-Form and 2SLS Estimates
Note: RF (circles) and 2SLS (triangles) estimates from the obfuscated follow-up survey. RF coefficients show the effect of the signal; 2SLS coefficients show the effect of the CDU posterior instrumented by the signal. Bars indicate 95% confidence intervals. N = 2,182.



(a) AfD outcomes (b) CDU outcomes

Figure A15: Reduced-Form Effects of the Signal by Pre-Treatment Immigration Attitudes

Note: OLS estimates, shown separately for AfD outcomes (left) and CDU outcomes (right). For each dependent variable, the figure reports three estimates, one per pre-treatment immigration-attitude subsample (Liberal: 0–4, Moderate: 5–6, Conservative: 7–10 on the 0–10 scale), matching the subgroups used in Figure 9. Bars indicate 95% confidence intervals. Controls: age, gender, immigration background, East Germany indicator, education, prior-belief fixed effects.



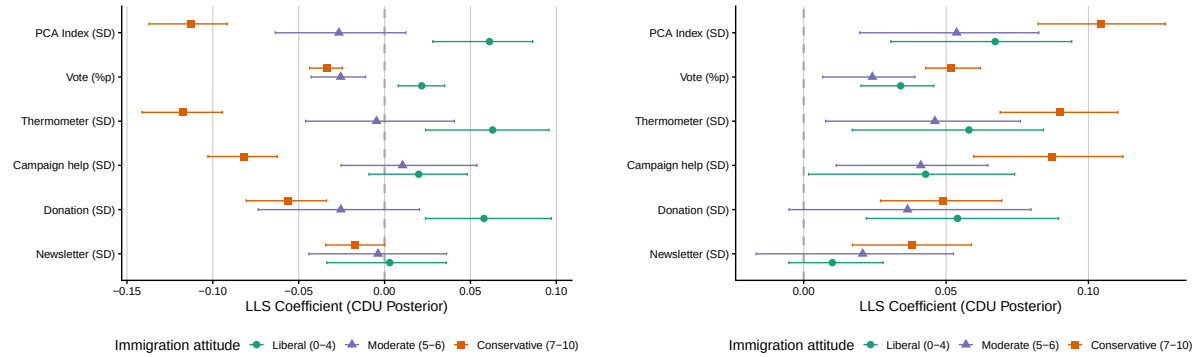
(a) AfD outcomes (b) CDU outcomes

Figure A16: Standard 2SLS Estimates by Pre-Treatment Immigration Attitudes

Note: 2SLS estimates instrumenting the CDU posterior belief with the randomized signal, shown separately for AfD outcomes (left) and CDU outcomes (right). For each dependent variable, the figure reports three estimates, one per pre-treatment immigration-attitude subsample (Liberal: 0–4, Moderate: 5–6, Conservative: 7–10 on the 0–10 scale), matching the subgroups used in Figure 9. Bars indicate 95% confidence intervals. Controls: age, gender, immigration background, East Germany indicator, education, prior-belief fixed effects.

D.1 Individual Outcomes by Immigration Attitude, Across Estimators

Figure A15, Figure A16, and Figure A17 report, for each individual outcome, the reduced-form, 2SLS, and LLS estimates separately by pre-treatment immigration-attitude subsample (Liberal 0–4, Moderate 5–6, Conservative 7–10). They complement the PCA-index results in Subsection 7.4.



(a) CDU outcomes (b) AfD outcomes

Figure A17: LLS Estimates by Pre-Treatment Immigration Attitude

Note: LLS estimates of the effect of perceiving the CDU as one unit more liberal on immigration, separately for the three pre-treatment immigration-attitude subsamples: Liberal (0–4), Moderate (5–6), and Conservative (7–10). Bars indicate 95% bootstrap confidence intervals.

E Descriptive Binscatters

This appendix presents descriptive, nonparametric evidence on the relationship between perceived CDU positioning, respondents' own immigration attitudes, and political outcomes. Unlike the experimental estimates in the main text, these binscatters exploit both experimental and non-experimental variation in beliefs; we present them as complementary descriptive evidence.

Figure A18 and Figure A19 present conditional binscatters of political outcomes against the CDU posterior belief, controlling for demographic characteristics. For AfD outcomes, all five measures decline monotonically as the perceived CDU position moves rightward. For CDU outcomes, the mirror image holds: all measures increase as the perceived CDU position moves rightward. These monotonic relationships are consistent with a proximity model where voters respond to the distance between their preferences and the CDU's perceived stance, and inconsistent with protest voting (which predicts no relationship) or legitimation (which predicts the opposite pattern for AfD outcomes).

Figure A20 and Figure A21 present analogous binscatters where the x-axis is the respondent's own immigration attitude (pre-treatment). AfD support increases monotonically with anti-immigration attitudes, while CDU support peaks among moderate conservatives—consistent with the spatial voting framework where voters sort to their closest party.

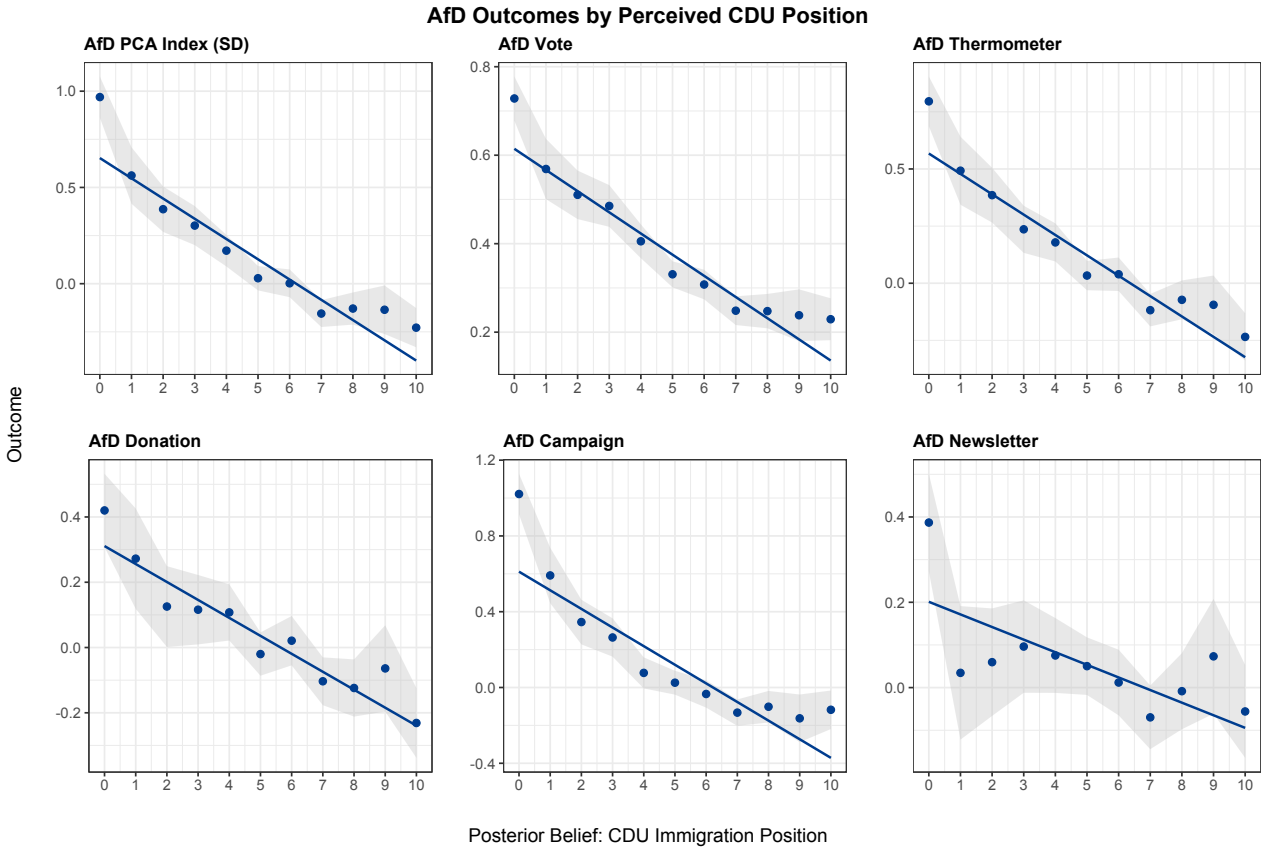


Figure A18: AfD Outcomes by Perceived CDU Immigration Position: Conditional Binscatter
Note: Binscatter of AfD outcomes against the posterior belief about the CDU's immigration position, conditional on demographic controls (age, gender, immigration background, East Germany, education). Higher values on the x-axis indicate a more conservative perceived CDU stance. Markers show covariate-adjusted mean outcomes at each value of the 0–10 scale (demographic controls partialled out); shaded bands are 95% confidence intervals and the solid line is a covariate-adjusted linear fit. N = 5,040.

F CAPE Analysis: Individual Outcomes

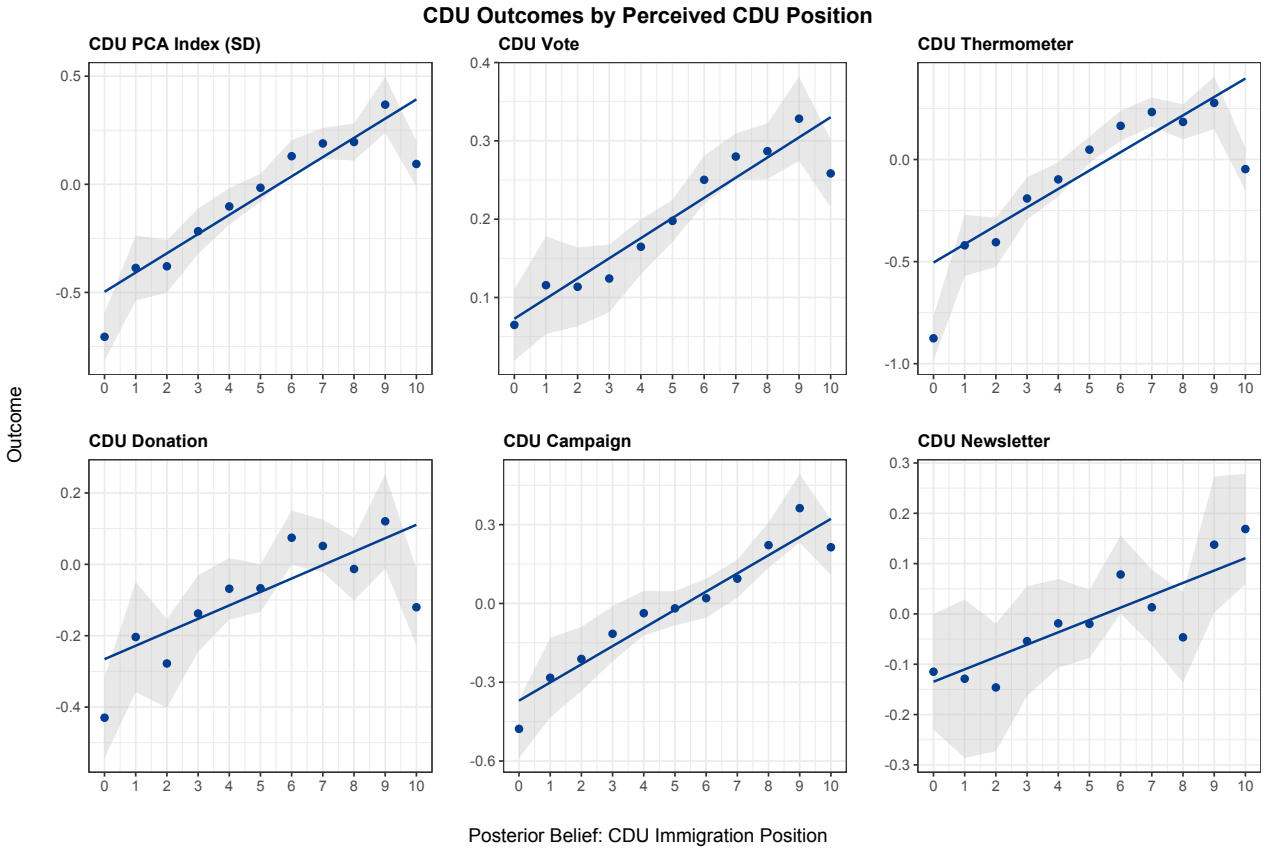


Figure A19: CDU Outcomes by Perceived CDU Immigration Position: Conditional Binscatter

Note: Binscatter of CDU outcomes against the posterior belief about the CDU's immigration position, conditional on demographic controls. See Figure A18 for details. N = 5,040.

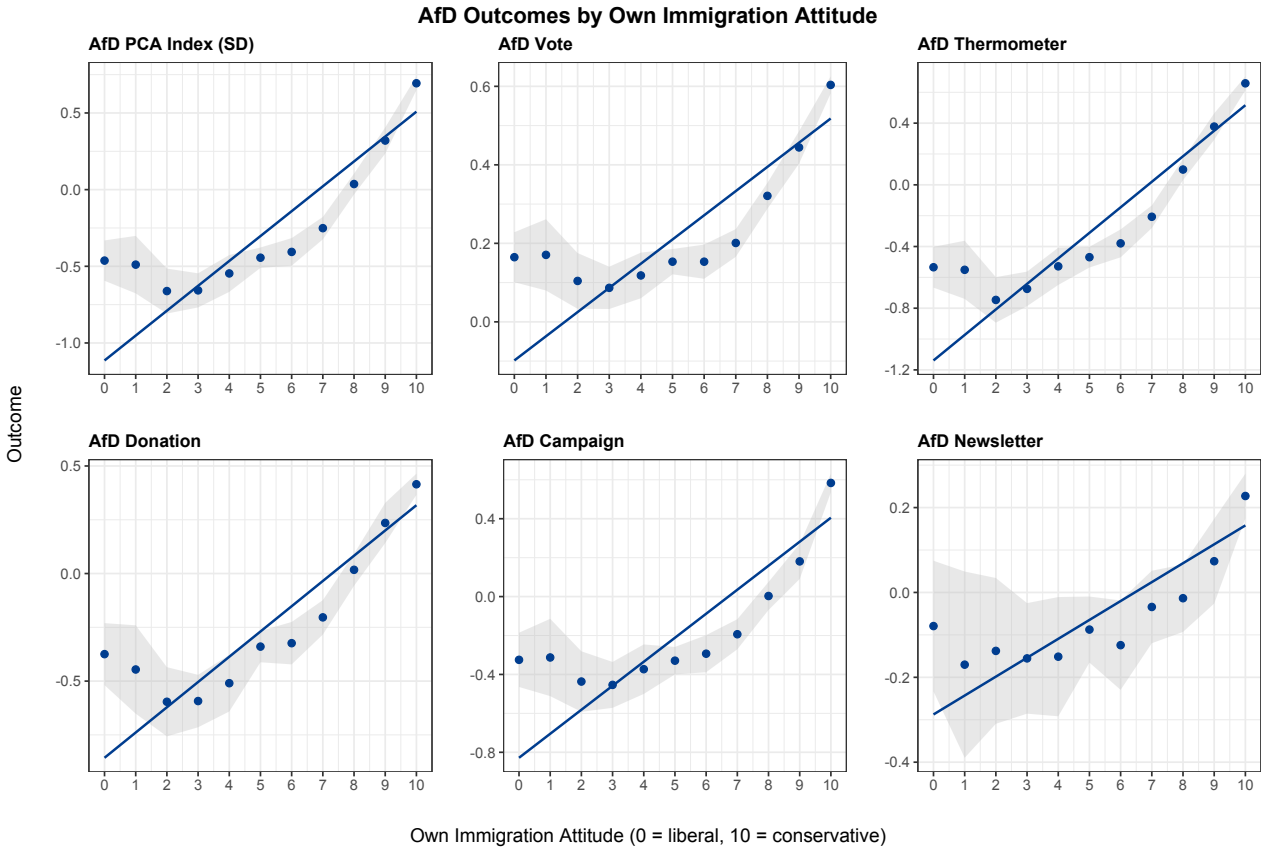


Figure A20: AfD Outcomes by Own Immigration Attitude: Conditional Binscatter

Note: Binscatter of AfD outcomes against the respondent's own pre-treatment immigration attitude (0 = liberal, 10 = conservative), conditional on demographic controls (age, gender, immigration background, East Germany, education). Markers show covariate-adjusted mean outcomes at each value of the 0–10 scale (demographic controls partialled out); shaded bands are 95% confidence intervals and the solid line is a covariate-adjusted linear fit. N = 5,040.

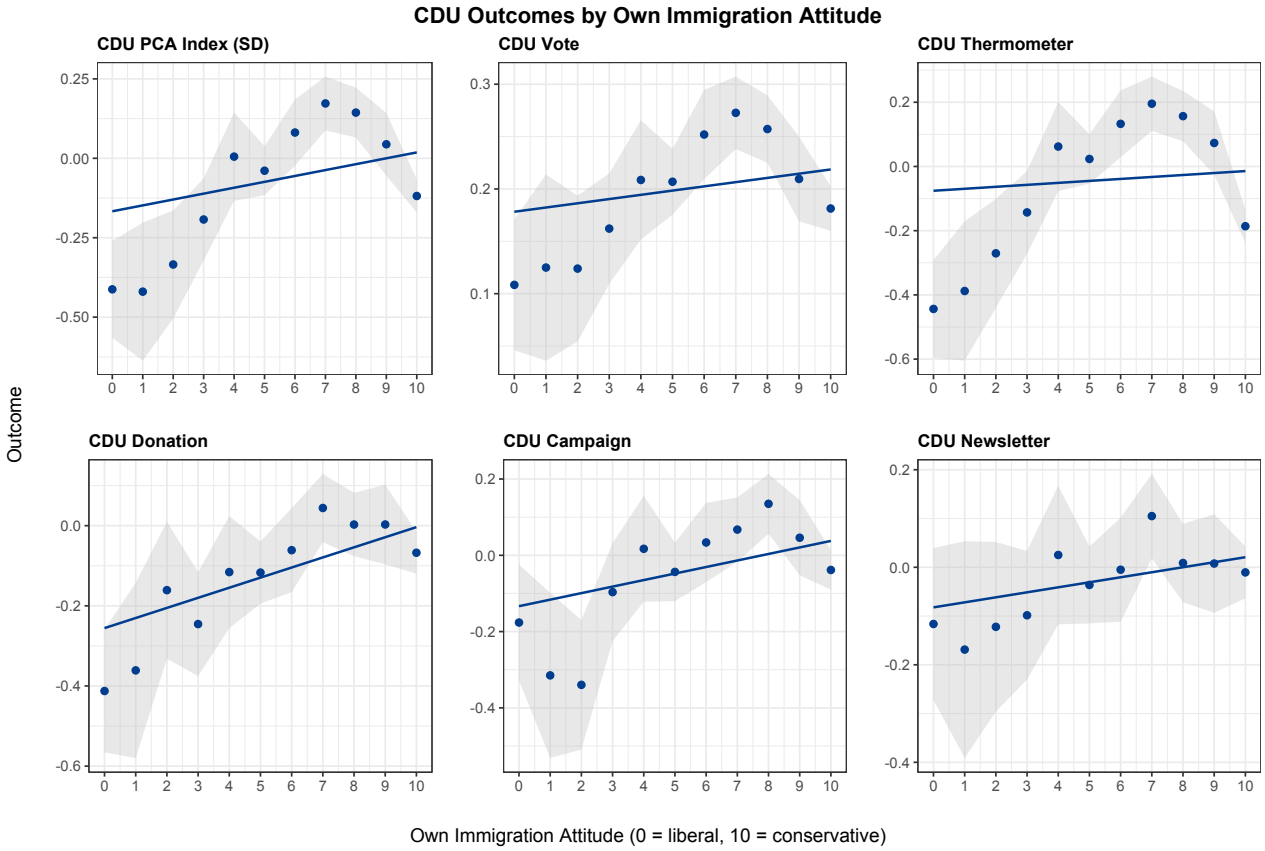


Figure A21: CDU Outcomes by Own Immigration Attitude: Conditional Binscatter

Note: Binscatter of CDU outcomes against the respondent's own pre-treatment immigration attitude. See Figure A20 for details. N = 5,040.

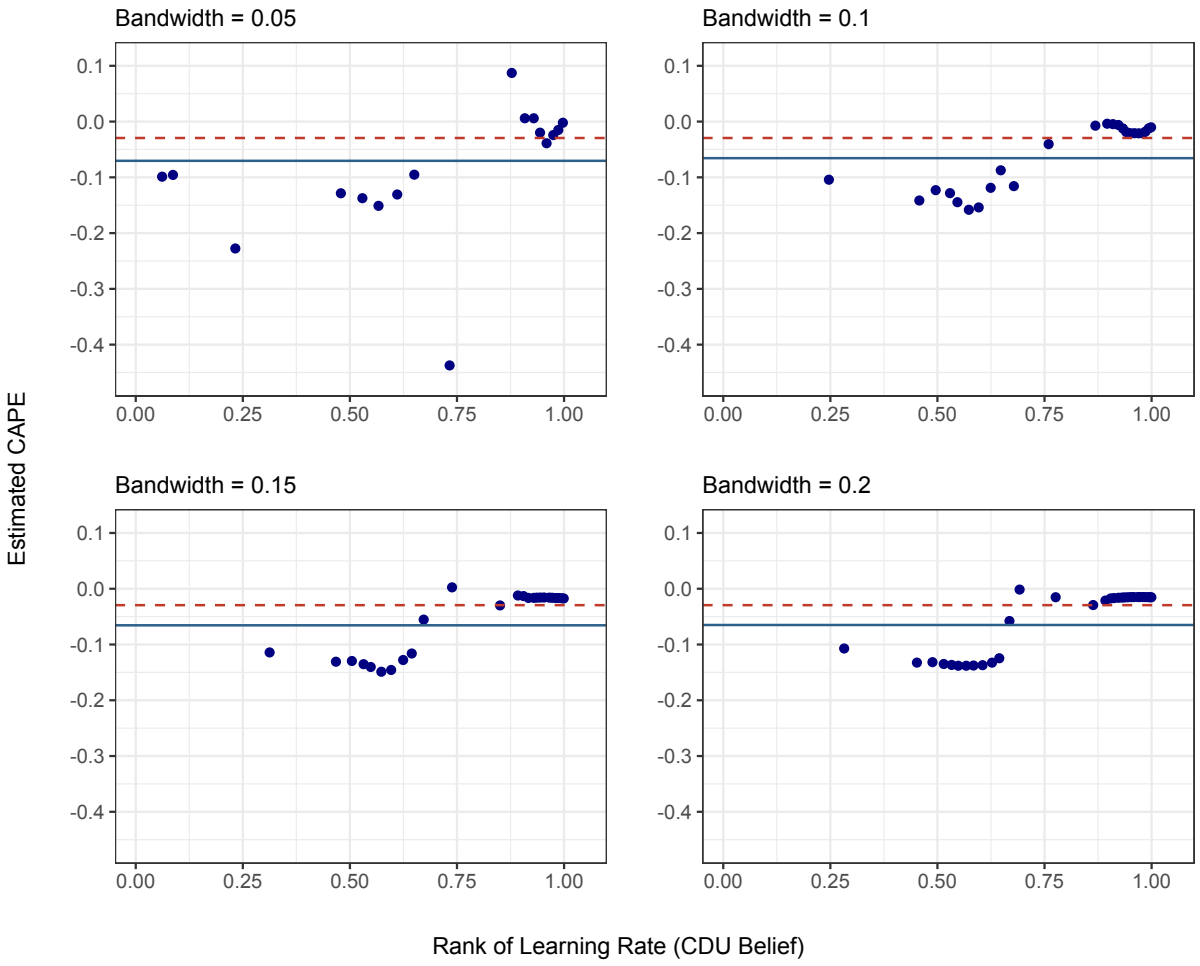


Figure A22: CAPE Estimates for CDU PCA Index

Note: Conditional Average Partial Effects of the CDU posterior belief on the CDU PCA index across four bandwidth choices. See Figure 7 for details.

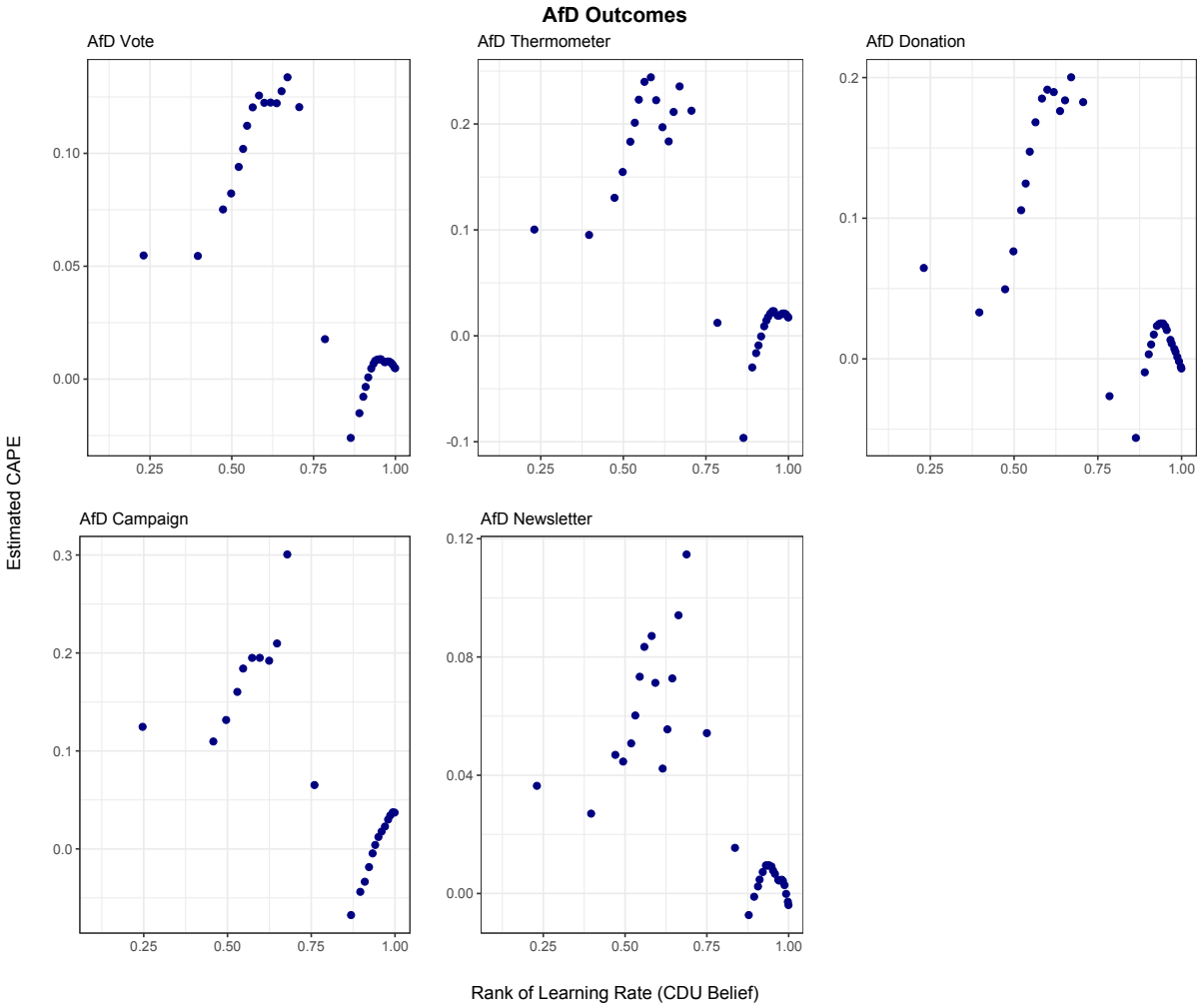


Figure A23: CAPE for Individual AfD Outcomes

Note: CAPE at bandwidth 0.1 for each individual AfD outcome. Non-learners included at the lowest learning-rate rank (N = 5,040).

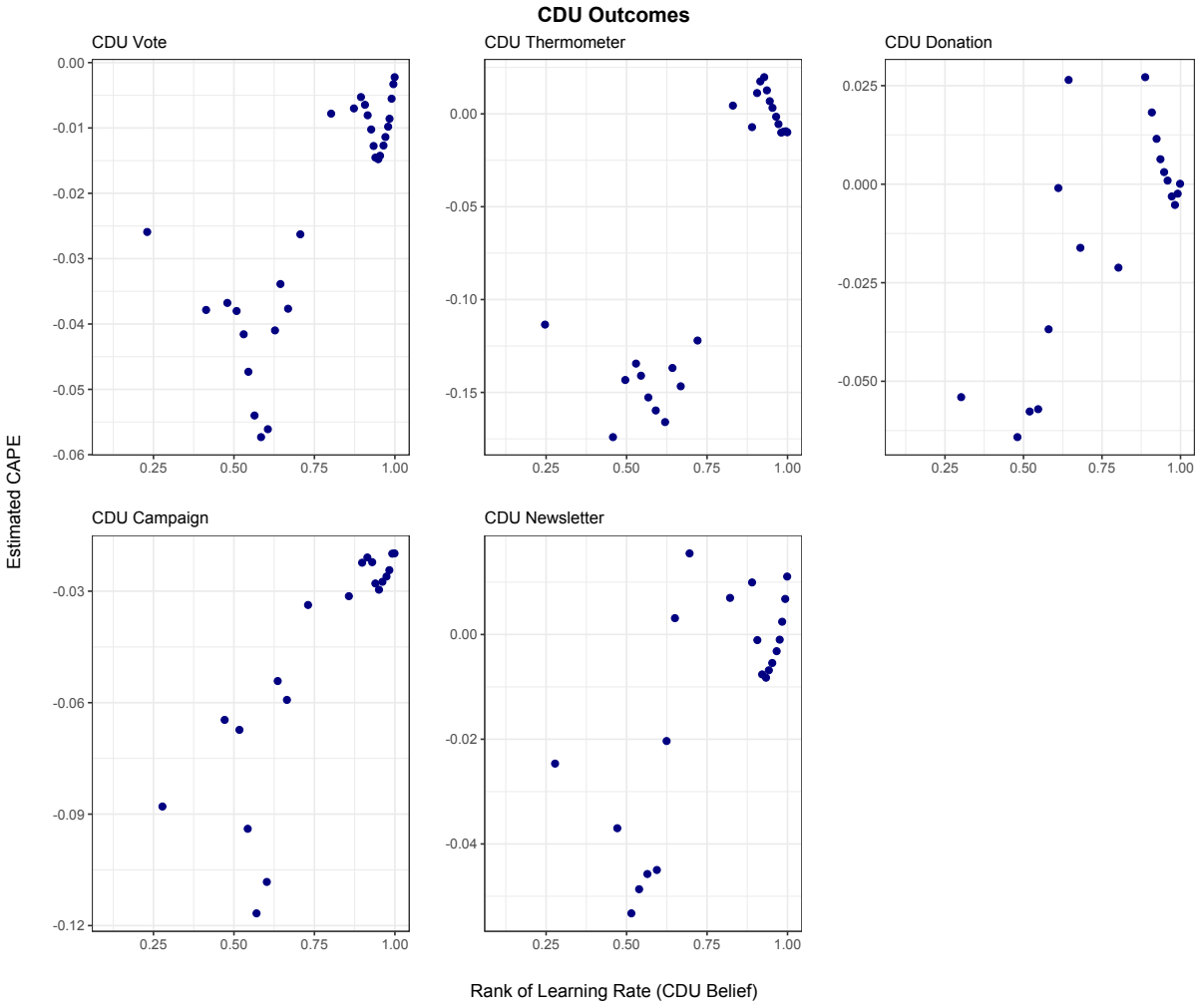


Figure A24: CAPE for Individual CDU Outcomes

Note: Same as Figure A23 but for CDU outcomes.

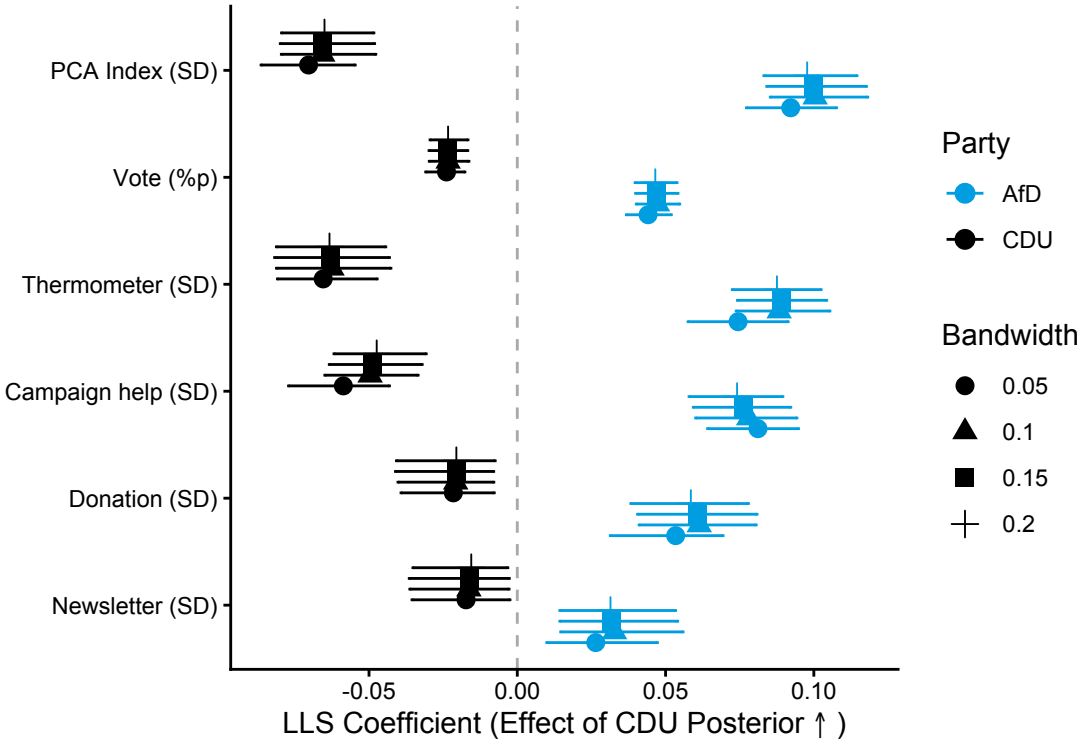


Figure A25: Bandwidth Sensitivity of LLS Estimates
Note: LLS estimates of the effect of perceived CDU positioning across four bandwidth choices. Bars indicate 95% bootstrap confidence intervals. Non-learners included at the lowest learning-rate rank. N = 5,040.

G Learning Rate Correlates

The LLS estimator relies on variation in the Bayesian learning rate $\alpha_i = (\text{Posterior}_i - \text{Prior}_i)/(\text{Signal}_i - \text{Prior}_i)$, which captures how much each participant updates their CDU belief in response to the signal. To validate the estimator and understand what drives heterogeneous updating, we regress the learning rate on individual characteristics (Table A7 and Figure A26). Non-learners (participants for whom the signal equals the prior, so α is undefined) are excluded ($N = 572$).

The strongest predictors of lower learning rates are residing in East Germany and being male—groups with arguably stronger pre-existing political views. Participants with more conservative prior beliefs about the CDU update more, consistent with the Bayesian interpretation: those whose priors are further from the signal have more to learn. Participants who rate immigration as more important and those with more conservative immigration attitudes update less, consistent with motivated reasoning or more entrenched priors. Self-reported credibility of the information, perceived survey bias, attention check performance, and completion time are not significant predictors, suggesting that the variation in learning rates reflects genuine heterogeneity in belief updating rather than differences in engagement or trust.

Table A7: Correlates of the Learning Rate (α)
Note: OLS regressions with the learning rate as dependent variable. Bivariate: separate regressions for each correlate. Multivariate: all correlates included jointly. Continuous variables are standardized (mean zero, unit SD) in the multivariate regression. Robust standard errors in parentheses. *p<0.1; **p<0.05; ***p<0.01.

	Bivariate		Multivariate	
	Coefficient	(SE)	Coefficient	(SE)
Age	-0.0000	(0.0010)	0.0081	(0.0163)
Male	-0.0770***	(0.0285)	-0.0848***	(0.0286)
University Degree	-0.0227	(0.0291)	-0.0490	(0.0303)
Residing in East Germany	-0.0992***	(0.0289)	-0.0889***	(0.0295)
Immigration Importance	-0.0507***	(0.0143)	-0.0330**	(0.0161)
Own Immigration Attitude	-0.0198***	(0.0053)	-0.0407**	(0.0173)
Prior CDU Belief	0.0163***	(0.0032)	0.0452***	(0.0112)
Prior Inaccuracy (|Prior - Signal|)	-0.0166*	(0.0089)	-0.0174	(0.0151)
Prior AfD Belief	-0.0082	(0.0079)	–	
Prior SPD Belief	0.0122**	(0.0056)	–	
Prior Greens Belief	0.0143**	(0.0061)	–	
Prior FDP Belief	0.0081*	(0.0045)	–	
Prior Left Belief	0.0083*	(0.0047)	–	
Found Information Trustworthy	0.0055	(0.0142)	0.0034	(0.0147)
Found Survey Biased	0.0085	(0.0338)	0.0162	(0.0351)
Completion Time (Minutes)	0.0004	(0.0004)	0.0122	(0.0134)
Failed 2nd Attention Check	-0.0330	(0.0605)	-0.0550	(0.0628)
Observations	4,546		4,546	
R^2			0.0121	

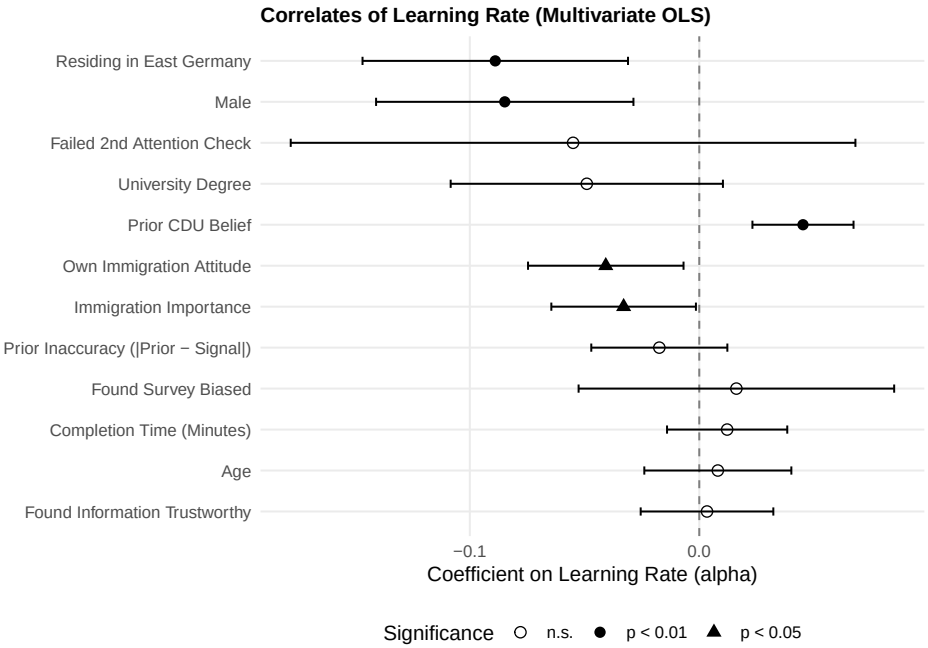


Figure A26: Correlates of the Learning Rate: Multivariate OLS
Note: Coefficients from a multivariate OLS regression of the learning rate (α) on individual characteristics. Continuous variables are standardized. Bars indicate 95% confidence intervals. N = 4,546.

H Pre-Registered Specification: Perceived Representation Gap

As pre-registered, our original specification used the perceived representation gap—the distance between a participant's own immigration attitude and the perceived stance of the closest mainstream party—as the endogenous variable. The representation gap is defined as:

$$\text{Perceived Gap}_i = \min_{p \in \mathcal{P} \setminus \{\text{AfD}\}} \left| \text{Own Attitude}_i - \text{Perceived Party Position}_{ip} \right|, \tag{7}$$

where $\mathcal{P}$ denotes the set of parties represented in parliament, so that the minimum is taken over all *mainstream* (non-AfD) parties. We present these results here for transparency and to demonstrate that our conclusions are robust to the choice of endogenous variable.

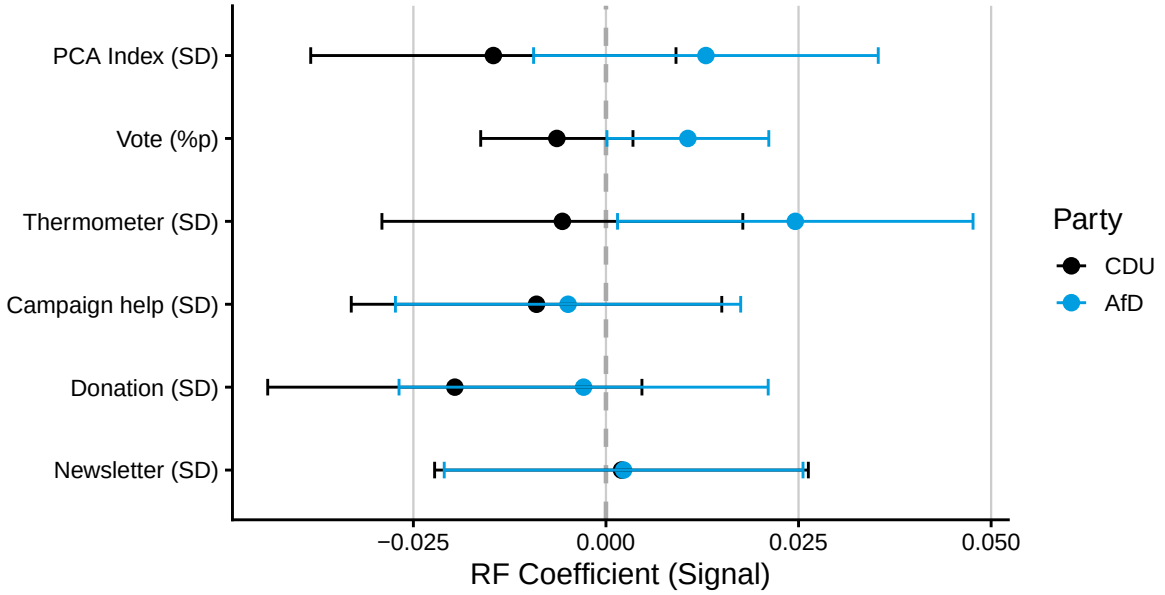


Figure A27: Pre-Registered Specification: Reduced-Form Estimates
Note: OLS reduced-form estimates (effect of signal on outcomes). The PCA index includes all outcome variables. Bars indicate 95% confidence intervals. N = 5,040.

The results are qualitatively identical to the main specification. A one-unit increase in the perceived representation gap increases AfD voting by approximately 7 percentage points and decreases CDU voting by approximately 3 percentage points. The larger magnitudes relative to the CDU posterior specification reflect the weaker first stage ($F \approx 82$), which mechanically scales up the IV coefficient. The first-stage F-statistic, while well above 10, is substantially

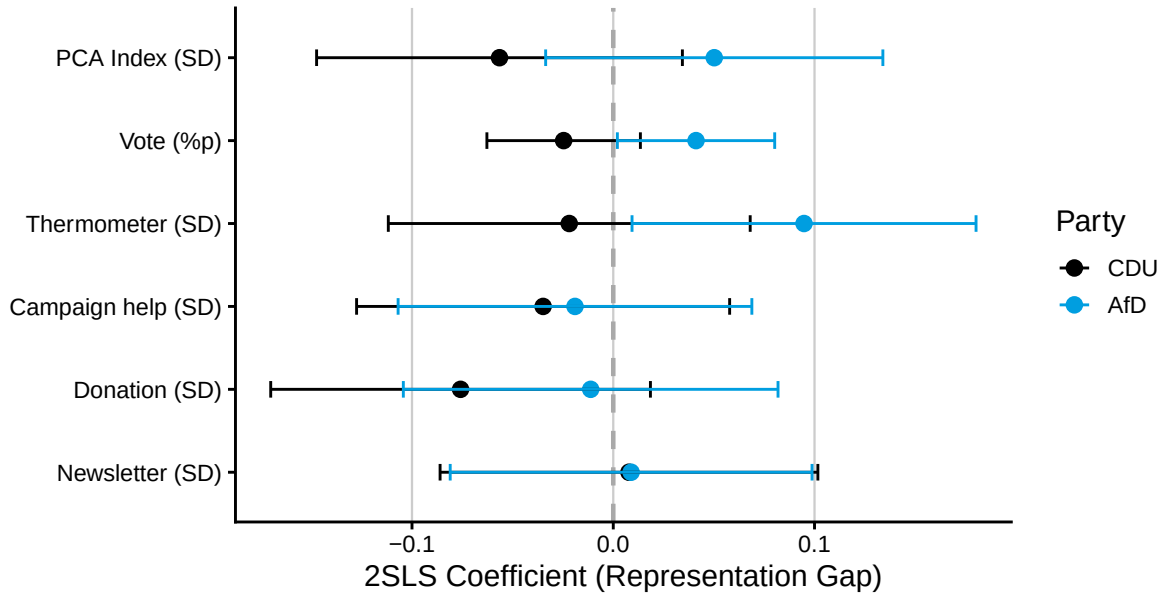


Figure A28: Pre-Registered Specification: 2SLS Estimates
Note: 2SLS estimates using the perceived representation gap as endogenous variable, instrumented by the randomized signal. Bars indicate 95% confidence intervals. N = 5,040.

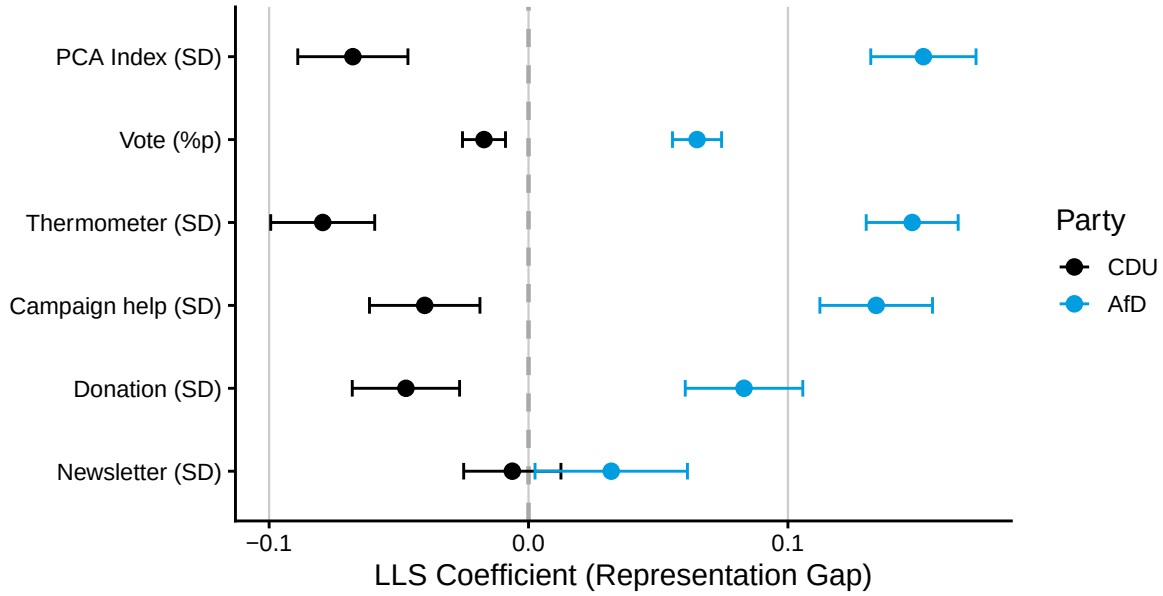


Figure A29: Pre-Registered Specification: LLS Estimates
Note: LLS estimates using the perceived representation gap as endogenous variable. Bars indicate 95% bootstrap confidence intervals. N = 5,040.

weaker than the $F = 375$ obtained with the CDU posterior, supporting our decision to use the CDU posterior as the main specification.

Table A8: Effects of the Perceived Representation Gap on AfD Outcomes (Pre-Registered IV)

	Dependent variable:					
	Main Study					
	Index	Voting	Thermometer	Campaign	Donation	Newsletter
	(1)	(2)	(3)	(4)	(5)	(6)
Perceived RG (SD)	0.152***	0.065***	0.148***	0.134***	0.083***	0.032**
	(0.010)	(0.004)	(0.011)	(0.011)	(0.010)	(0.015)
Constant	✓	✓	✓	✓	✓	✓
Dem. Controls	✓	✓	✓	✓	✓	✓
Prior beliefs	✓	✓	✓	✓	✓	✓
Observations	5,040	5,040	5,040	5,040	5,040	5,040

Note: LLS estimates using the perceived representation gap as endogenous variable, instrumented by the r
in parentheses. *p<0.1; **p<0.05; ***p<0.01.

Table A9: Effects of the Perceived Representation Gap on CDU Outcomes (Pre-Registered IV)

	Dependent variable:					
	Main Study					
	Index	Voting	Thermometer	Campaign	Donation	Newslette
	(1)	(2)	(3)	(4)	(5)	(6)
Perceived RG (SD)	−0.068***	−0.017***	−0.079***	−0.040***	−0.047***	−0.006
	(0.011)	(0.004)	(0.011)	(0.010)	(0.011)	(0.009)
Constant	✓	✓	✓	✓	✓	✓
Dem. Controls	✓	✓	✓	✓	✓	✓
Prior beliefs	✓	✓	✓	✓	✓	✓
Observations	5,040	5,040	5,040	5,040	5,040	5,040

Note: LLS estimates using the perceived representation gap as endogenous variable, instrumented by the
parentheses. *p<0.1; **p<0.05; ***p<0.01.

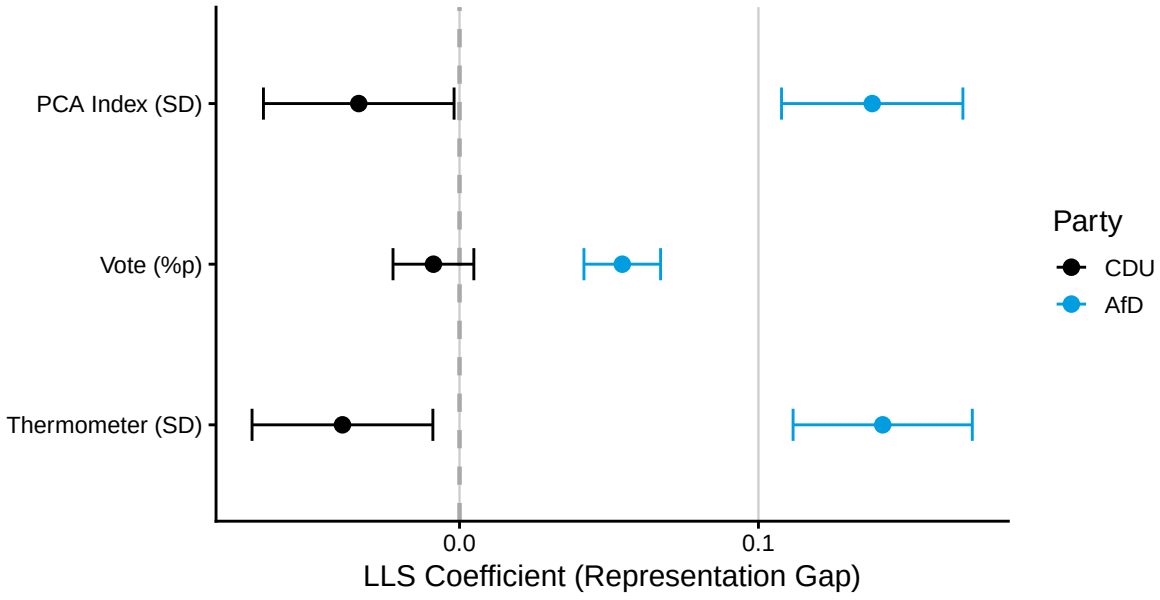


Figure A30: Follow-Up Pre-Registered Specification: LLS Estimates
Note: LLS estimates using the perceived representation gap as endogenous variable in the follow-up survey. Bars indicate 95% bootstrap confidence intervals.

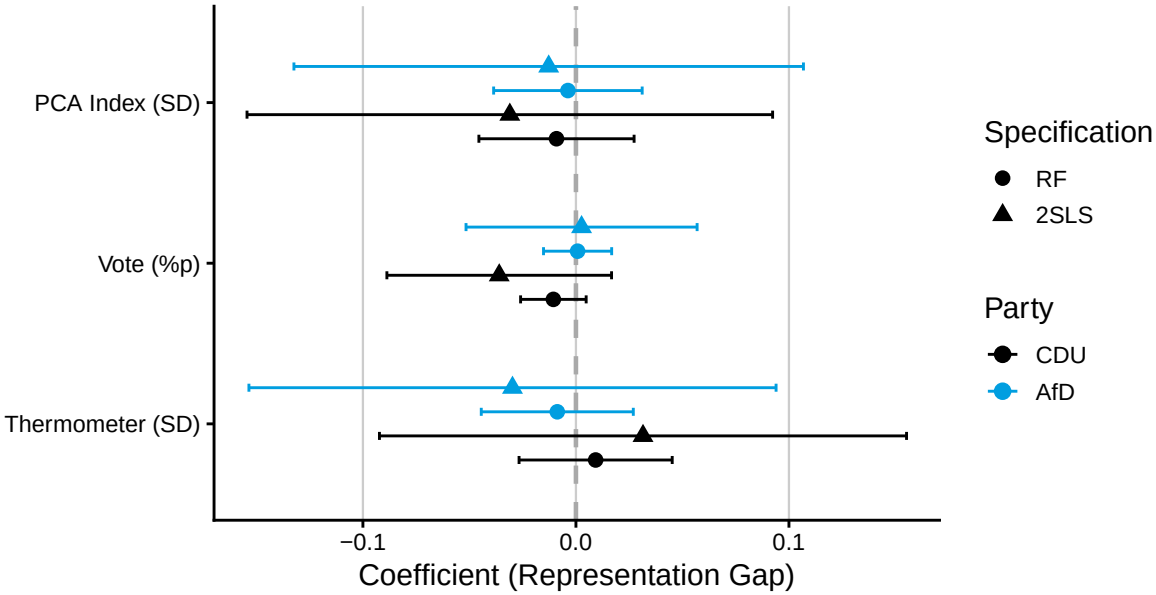


Figure A31: Follow-Up Pre-Registered Specification: RF and 2SLS Estimates
Note: RF (circles) and 2SLS (triangles) estimates from the follow-up survey using the perceived representation gap as endogenous variable. Bars indicate 95% confidence intervals.

Table A10: Effect of Signal and Perceived Representation Gap on Turnout (Pre-Registered IV)

	Dependent variable: Vote Abstention (SD)			
	Main Study		Follow-Up Study	
	RF	IV	RF	IV
	(1)	(2)	(3)	(4)
Treatment (CDU Signal)	0.001		0.009	
	(0.012)		(0.018)	
Perceived Representation Gap		0.017		0.003
		(0.012)		(0.017)
Demographic controls	✓	✓	✓	✓
Observations	5,040	5,040	2,182	2,182

Note: Dependent variable: standardized self-reported likelihood to vote. Pre-registered specification using the perceived representation gap as endogenous variable. Robust standard errors in parentheses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

I Alternative Outcome Indexes

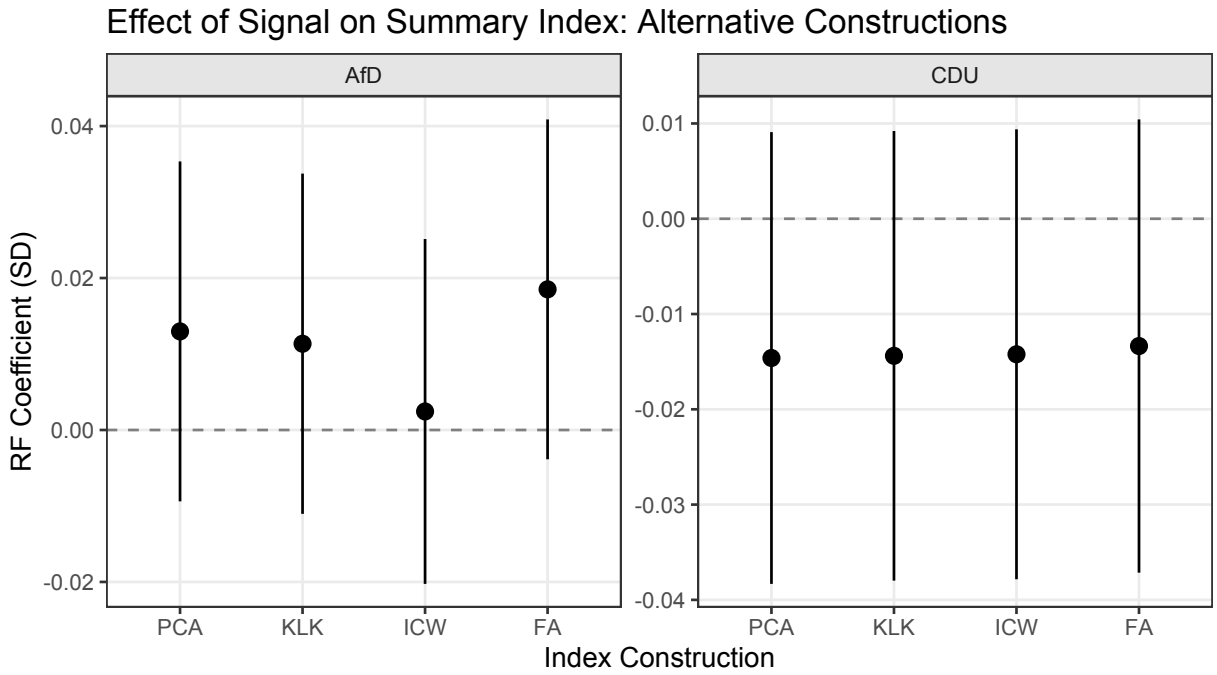


Figure A32: Reduced-Form Effects Using Alternative Index Constructions
Note: KLK mean-effects index, Anderson ICW index, and factor analysis index alongside PCA. Bars indicate 95% confidence intervals.

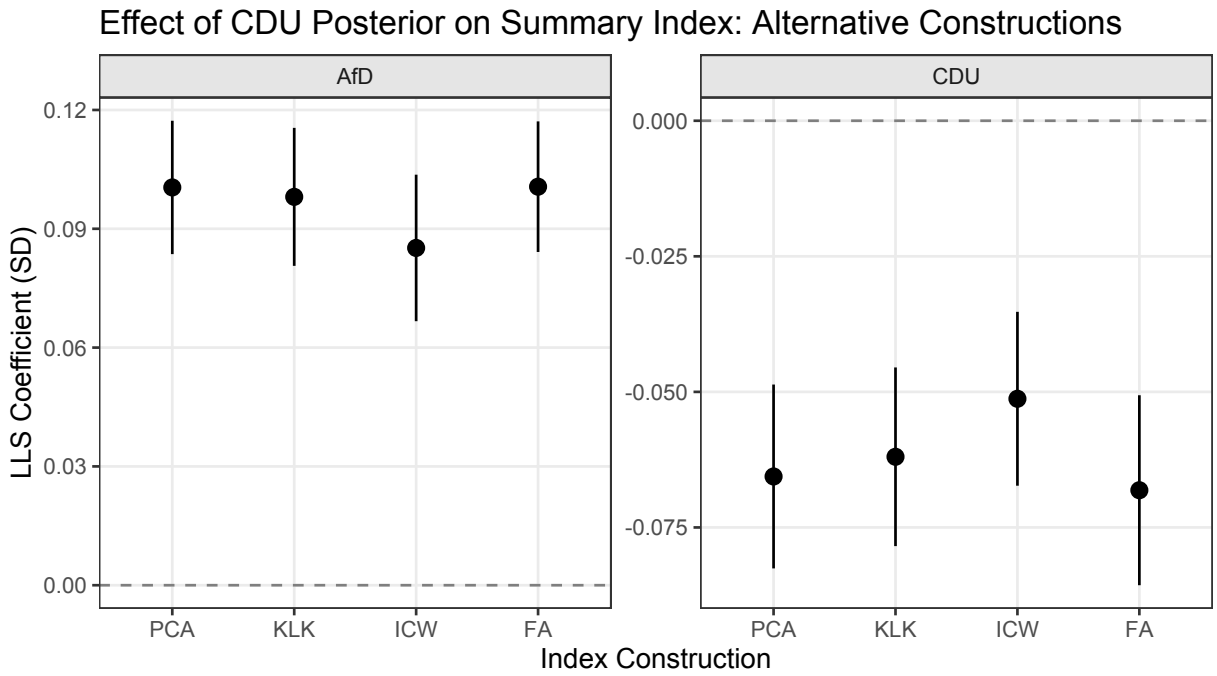


Figure A33: LLS Effects Using Alternative Index Constructions
Note: Same as Figure A32 but for LLS estimates. The endogenous variable is the CDU posterior belief.

J Supplementary Tables and Figures

Table A11: Descriptives and Representativeness

	Our Sample (%)		German Population (%)
	Main Study	Follow-Up Study	
Male	53.5	55.2	49.5
Immigration Background	13	14	30
University Degree	29.8	29.5	33.3
Residing in East Germany	60.3	53	14.9
Age Groups			
18–39	33.5	36.7	31.2
40–59	40.2	40.9	32.2
60+	26.3	22.4	36.6
Observations	5,040	2,182	

Note: Data on age for the German adult (18+) population refer to 2023 and are from the 2022 census available here. Percentages for age brackets are calculated using as denominator the adult (18+) population.

Table A12: Balance Tests

	Treatment				
	Signal = 4	**Signal = 5**	**Signal = 6**	**Signal = 7**	**p-value**
Age	47.685	46.828	48.173	47.387	0.158
Male	0.529	0.550	0.526	0.536	0.622
University Degree	0.311	0.312	0.273	0.297	0.114
Residing in East Germany	0.602	0.604	0.612	0.593	0.807
Pre-Treatment Own Immigration Stance	7.090	7.118	7.223	6.976	0.169
Pre-Treatment Belief about Parties					
CDU Immigration Stance	5.905	5.676	5.808	5.871	0.220
AfD Immigration Stance	8.823	8.880	8.855	8.794	0.809
SPD Immigration Stance	3.600	3.536	3.600	3.593	0.891
Greens Immigration Stance	2.595	2.543	2.586	2.582	0.959
FDP Immigration Stance	5.336	5.209	5.442	5.365	0.229
Left Immigration Stance	4.810	4.711	4.793	4.891	0.412
Found Information Trustworthy	2.990	2.937	2.974	2.979	0.589
Observations	1,249	1,232	1,295	1,264	

Note: The last column reports the p-value for the test of no difference in means across the four treatment groups. For continuous variables, from an ANOVA F-test; for binary variables, from a chi-squared test. Male, University Degree, Residing in East Germany are indicators. Immigration stances vary between 0 and 10. Immigration Importance varies between 1 and 5. Found Information Trustworthy varies between 0 and 5.

Table A13: Participants Who Update Beliefs Consistently vs. Inconsistently

	Consistent Updating	**Inconsistent Updating**	**p-value**
Age	48.084	44.823	0.000
Male	0.540	0.513	0.149
University Degree	0.302	0.278	0.156
Residing in East Germany	0.604	0.597	0.736
Immigration Importance	4.006	4.021	0.687
Pre-Treatment Own Immigration Stance	7.099	7.121	0.833
Pre-Treatment Belief about Parties			
CDU Immigration Stance	5.889	5.459	0.000
AfD Immigration Stance	8.927	8.403	0.000
SPD Immigration Stance	3.526	3.860	0.000
Greens Immigration Stance	2.507	2.913	0.000
FDP Immigration Stance	5.368	5.201	0.095
Left Immigration Stance	4.820	4.711	0.223
Most Conservative ≠ AfD	0.084	0.153	0.000
AfD Liberal	0.059	0.104	0.000
Post-Treatment Belief about Parties			
Most Conservative ≠ AfD	0.076	0.157	0.000
AfD Liberal	0.048	0.094	0.000
Found Information Trustworthy	2.961	3.015	0.148
Found Survey Biased	0.224	0.237	0.417
Completion Time (Minutes)	15.261	24.920	0.238
Failed 2nd Attention Check	0.073	0.110	0.001
Observations	4,178	862	

Note: Consistent Updating: participants whose post-treatment CDU beliefs are weakly closer to the signal than their pre-treatment beliefs. Inconsistent Updating: participants whose post-treatment beliefs are strictly further from the signal.

Table A14: Effect of Signal and Perceived CDU Positioning on Turnout

	Main Study			*Follow-Up Study*		
	RF	2SLS	LLS	RF	2SLS	LLS
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment (CDU Signal)	0.001			0.009		
	(0.012)			(0.018)		
CDU Posterior Belief		0.003	-0.007		0.016	0.006
		(0.024)	[-0.026, 0.010]		(0.034)	[-0.020, 0.031]
Demographic controls	✓	✓	✓	✓	✓	✓
Observations	5,040	5,040	5,040	2,182	2,182	2,182

Note: Dependent variable: standardized self-reported likelihood to vote. Columns (1) and (4): OLS reduced form (effect of signal). Columns (2) and (5): 2SLS using CDU posterior belief as endogenous variable. Columns (3) and (6): LLS estimates. Robust standard errors in parentheses for RF and 2SLS; 95% bootstrap confidence intervals in brackets for LLS. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

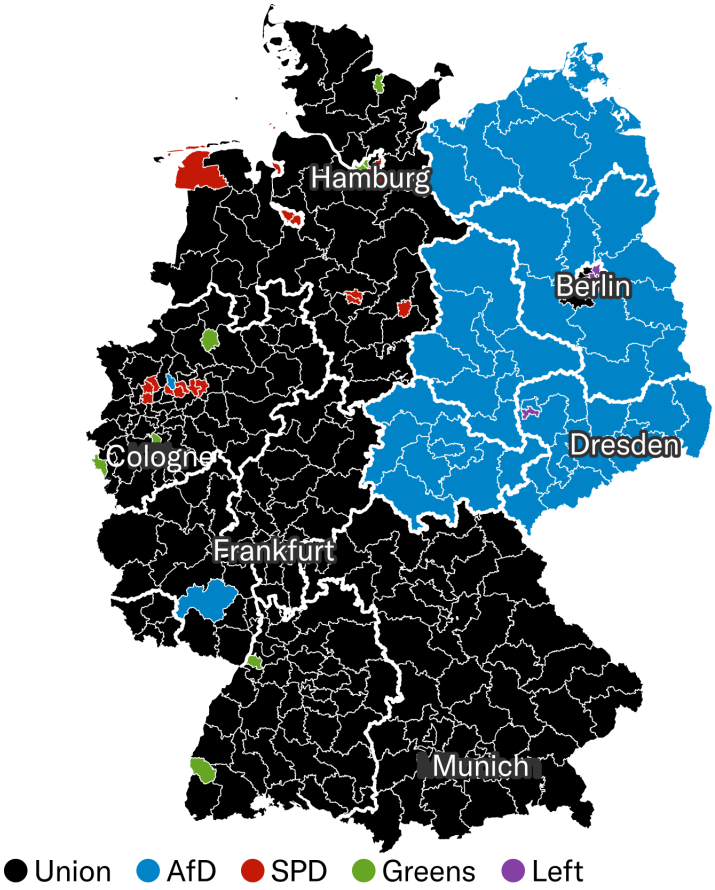


Figure A34: Party with Greatest Vote Share by Region in 2025
Note: Source is Hoppmann et al. (2025). "Union" = CDU/CSU.

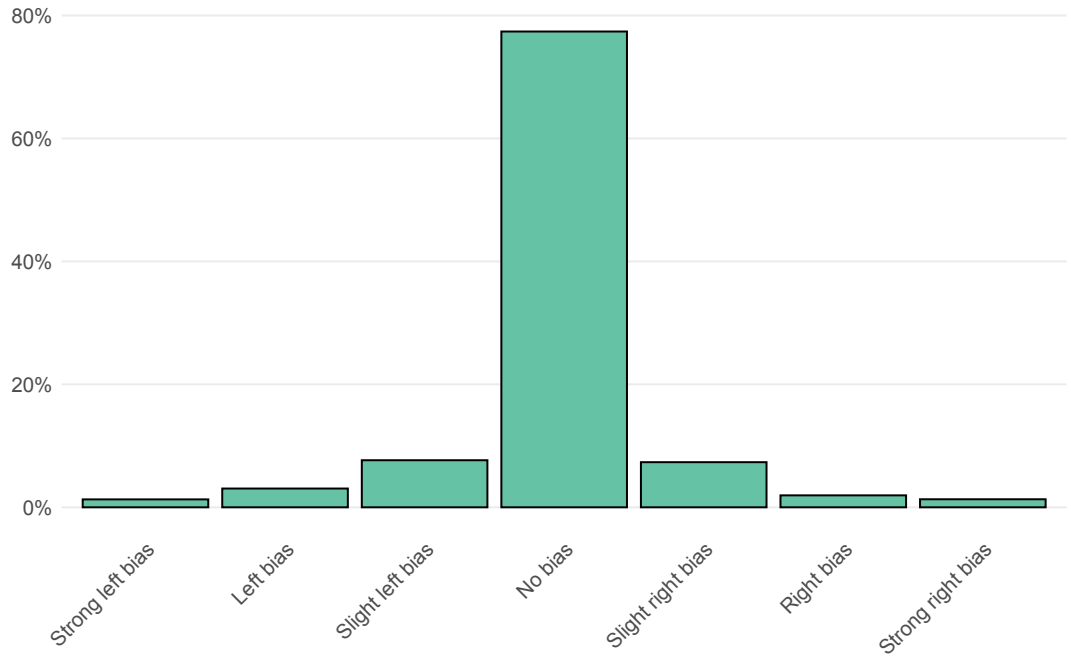


Figure A35: Distribution of Survey's Perceived Political Bias

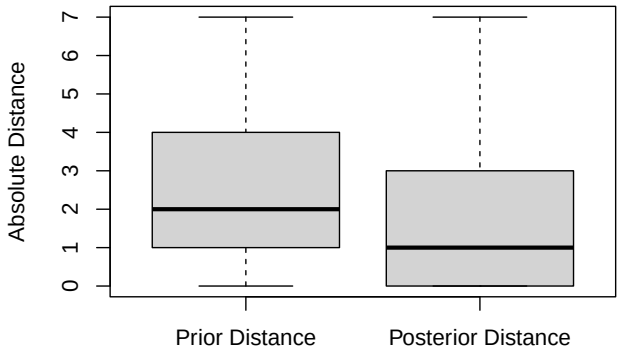


Figure A36: Difference (in Absolute Amount) Between CDU Signal and (a) Pre-Treatment Belief about CDU Immigration Stance (Left) or (b) Post-Treatment Belief about CDU Immigration Stance (Right)

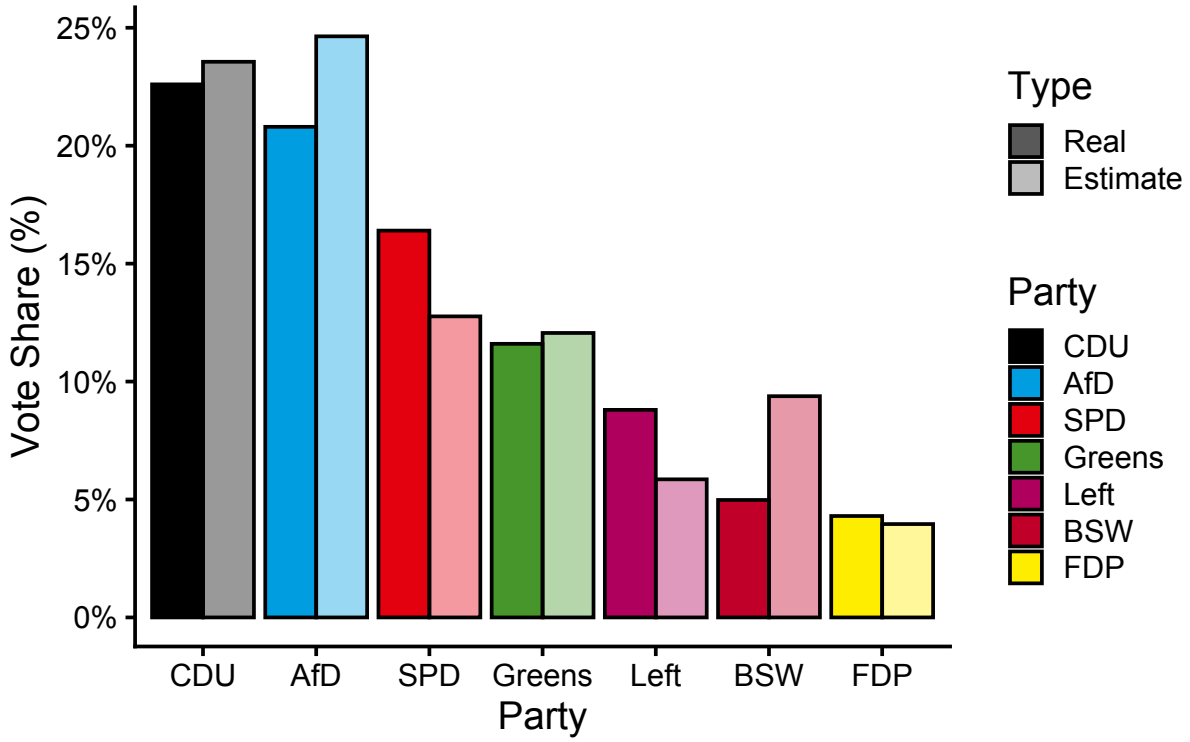


Figure A37: Reweighted Sample Vote Shares vs. Actual 2025 Election Results
Note: The figure compares vote intentions from our reweighted experimental sample to the official results of the 2025 German federal election. Reweighting accounts for oversampling of East Germany.

K Questionnaire (Translated from German)

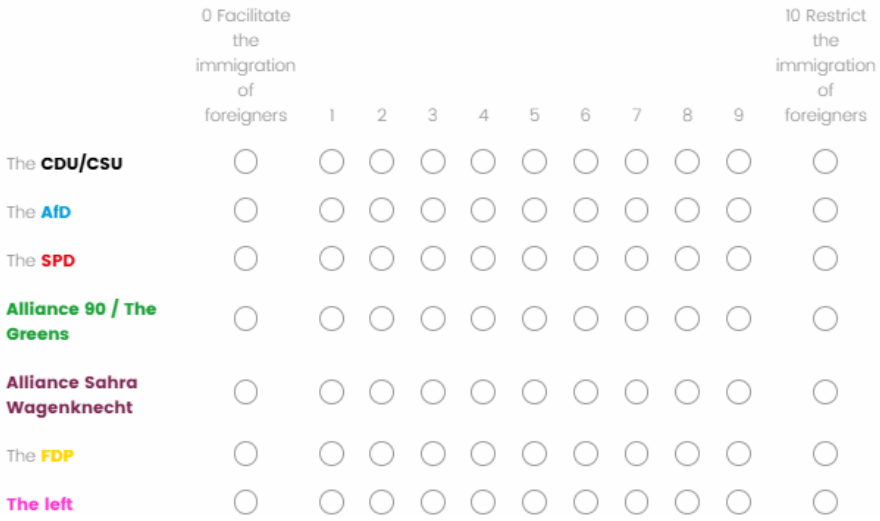
K.1 Pre-Treatment Block (Fixed Order & Constant Across Treatments)

The survey started with a screen obtaining participants' informed consent and a CAPTCHA. It continued with an attention check and demographic questions on gender, age, educational attainment, and German federal state of residency. In the fourth screen, we measured participants' immigration attitudes and beliefs about parties' stances on immigration as shown below.

Some want to facilitate immigration opportunities for foreigners, while others want to restrict them.

What is your personal opinion *on the topic of immigration opportunities? Please use the following scale from 0 to 10. 0 on the scale means that, in your opinion, immigration opportunities should be strongly facilitated. A value of 10 means that, in your opinion, immigration opportunities should be strongly restricted. You can use the values between 0 and 10 to grade your opinion.*

What do you think, ***which policy represents****...?*



The fifth screen introduced the information provision as follows.

Scientific studies show that most Germans misjudge the positions of political parties. This is partly due to the fact that politicians often do not reveal their positions in public. Thus, scientists have long been researching how to measure the positions of political parties. As recent studies have shown, one valid method is to evaluate the responses of parties' candidates in an anonymous survey.

We used this method to measure the immigration stance of German parties. For this purpose, we analyzed the answers of some Bundestag candidates to the same question we just asked you. The currently available data is for candidates to the 2021 Bundestag election, so we have no data for Sarah Wagenknecht's Alliance yet. We will provide you with information on the responses of 503 candidates. These are broken down by party as follows CDU/CSU: 11, AfD: 58, SPD: 65, Greens: 131, FDP: 117, Left: 121.

The next page shows the results.

K.2 Treatment Block (Fixed Order & Randomized Across Treatments)

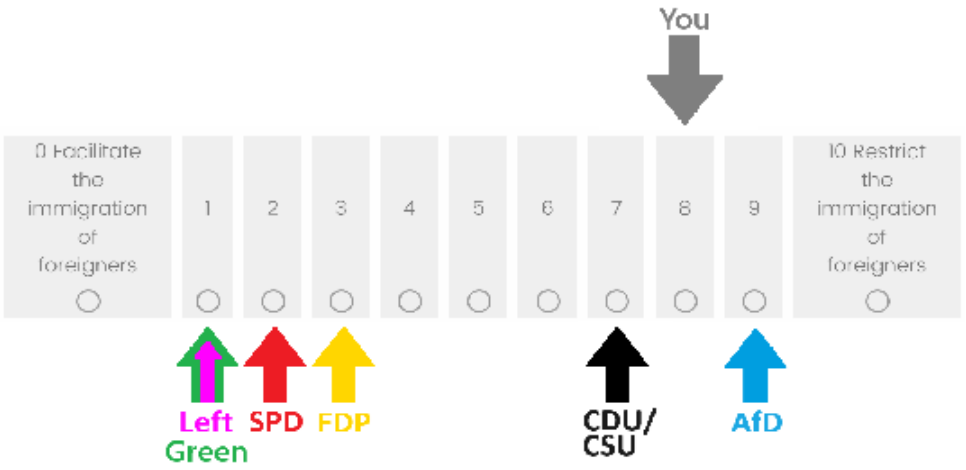
The sixth screen provided the randomized information. The following text was displayed at the top of the screen for all treatments:

The following figure illustrates the positions of German parties. The colored arrows show the middle position (median) of some Bundestag candidates of the respective party. The gray arrow shows your own position, which you indicated earlier.

Click here for details. [The middle position (also called median) is defined as follows: if you rank all positions in order of size, it lies exactly in the middle. Example: 5 CDU candidates have positions 5, 6, 7, 8, 8. Then, the middle position is 7, because two positions are smaller and two are larger than 7.]

The remainder of the screen was treatment-specific. Figure A38 shows the second half of the screen for participants assigned to the treatment where the CDU position is 7. Treatments differed by (i) the position of the "CDU/CSU" arrow and (ii) the message below the figure.

Some want to facilitate immigration opportunities. Others want to restrict immigration opportunities. What is your opinion?



As can be seen, the middle Bundestag candidate of the ...

- CDU/CSU wants to restrict immigration opportunities
- AfD wants to severely restrict immigration opportunities
- SPD wants to facilitate immigration opportunities
- Greens wants to strongly facilitate immigration opportunities
- FDP wants to facilitate immigration opportunities
- Left Party wants to strongly facilitate immigration opportunities

Figure A38: Information Provision, Treatment CDU = 7

K.3 Post-Treatment Block (Fixed Order & Constant Across Treatments)

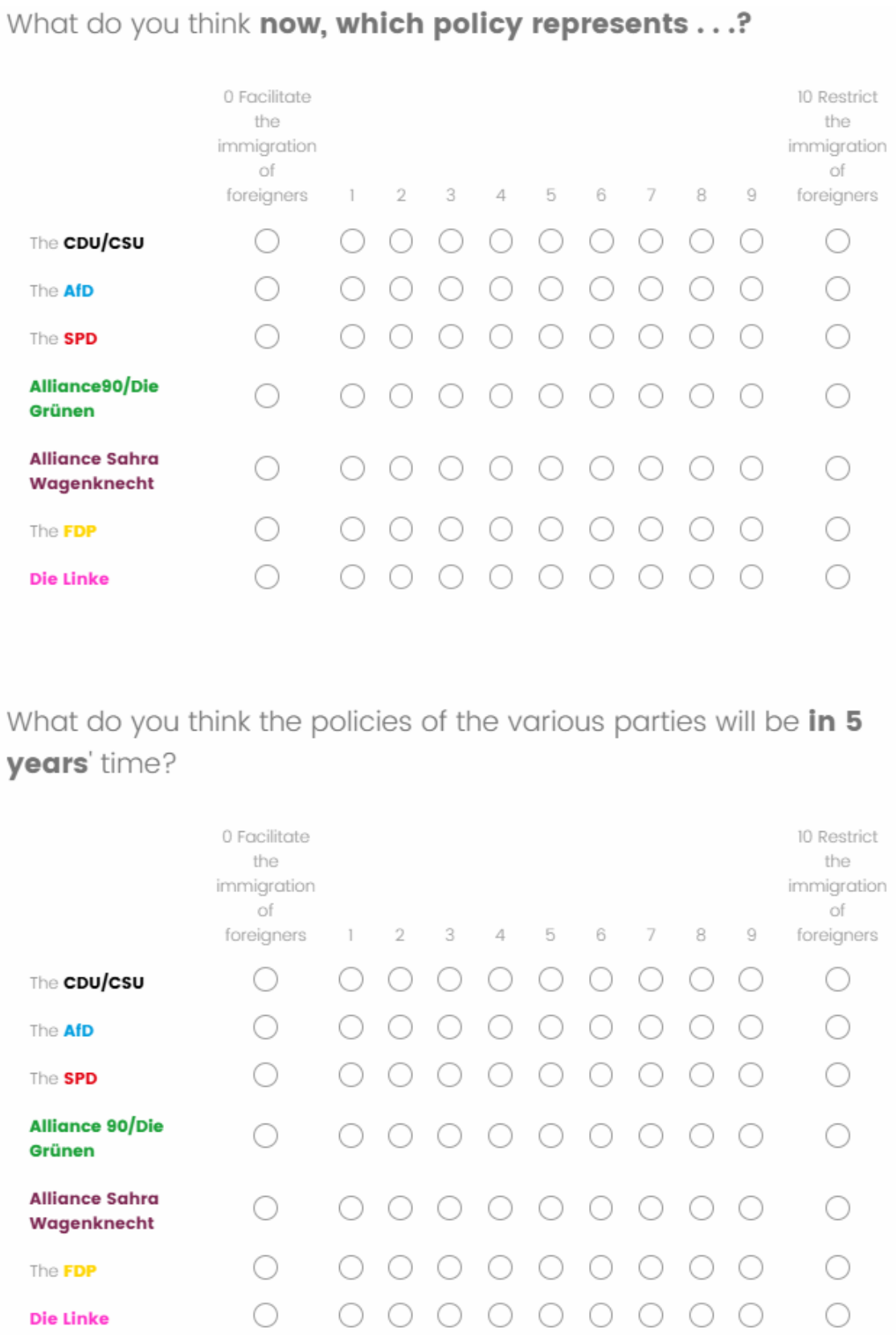


Figure A39: Post-Treatment Beliefs about Parties' Immigration Stance

K.4 Main Outcomes (Randomized Order & Constant Across Treatments)

The order of the following four blocks (Voting, Campaign Support, Newsletter Subscription, Feeling Thermometer) was randomized. The order within each of these blocks was held constant. The final main outcome (Donation) was always shown after these four main outcomes.

K.4.1 Voting

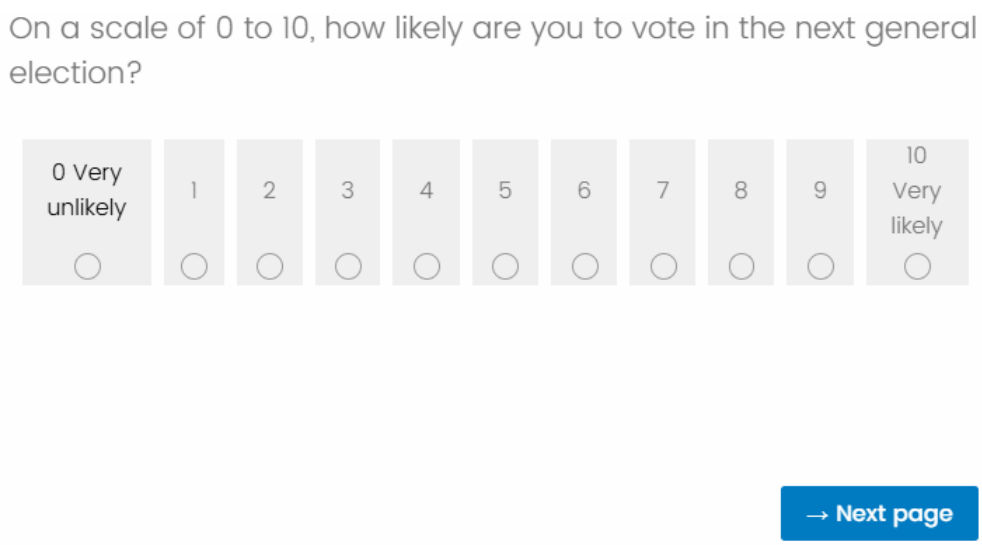


Figure A40: Turnout

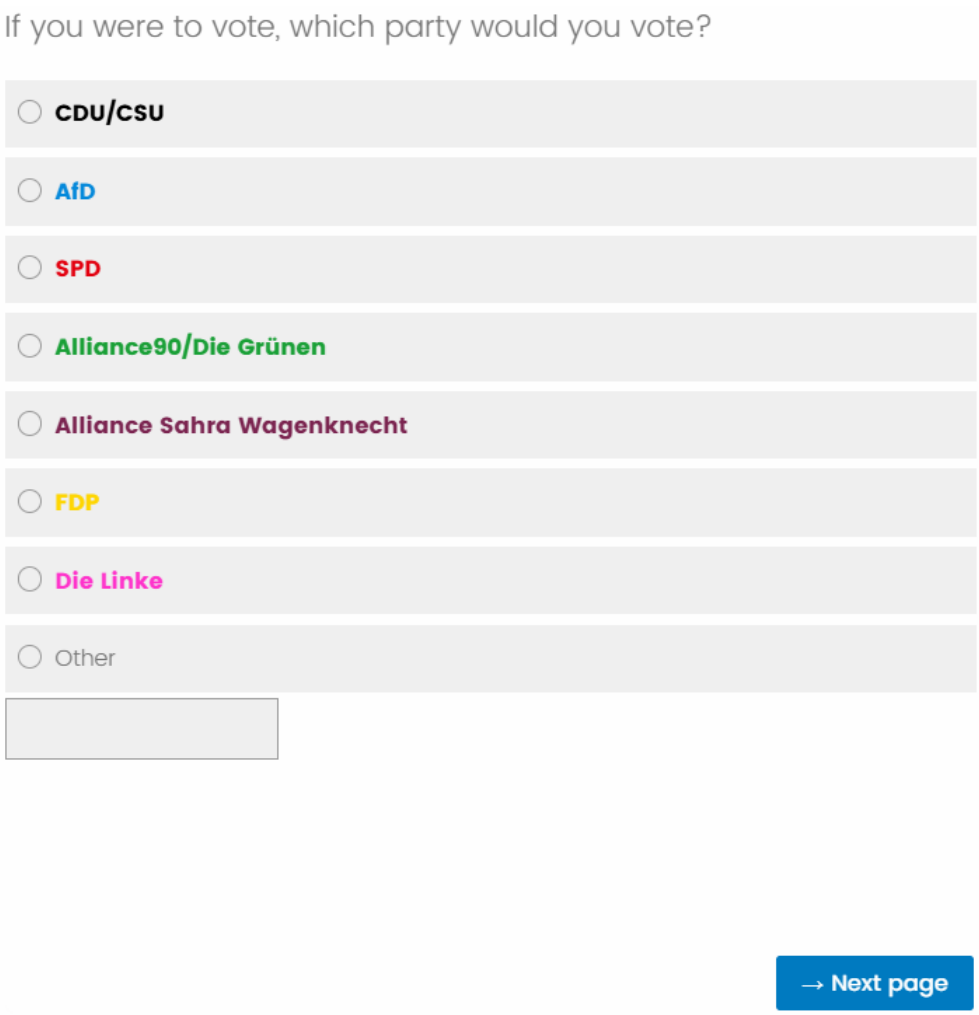


Figure A41: Voting Intention

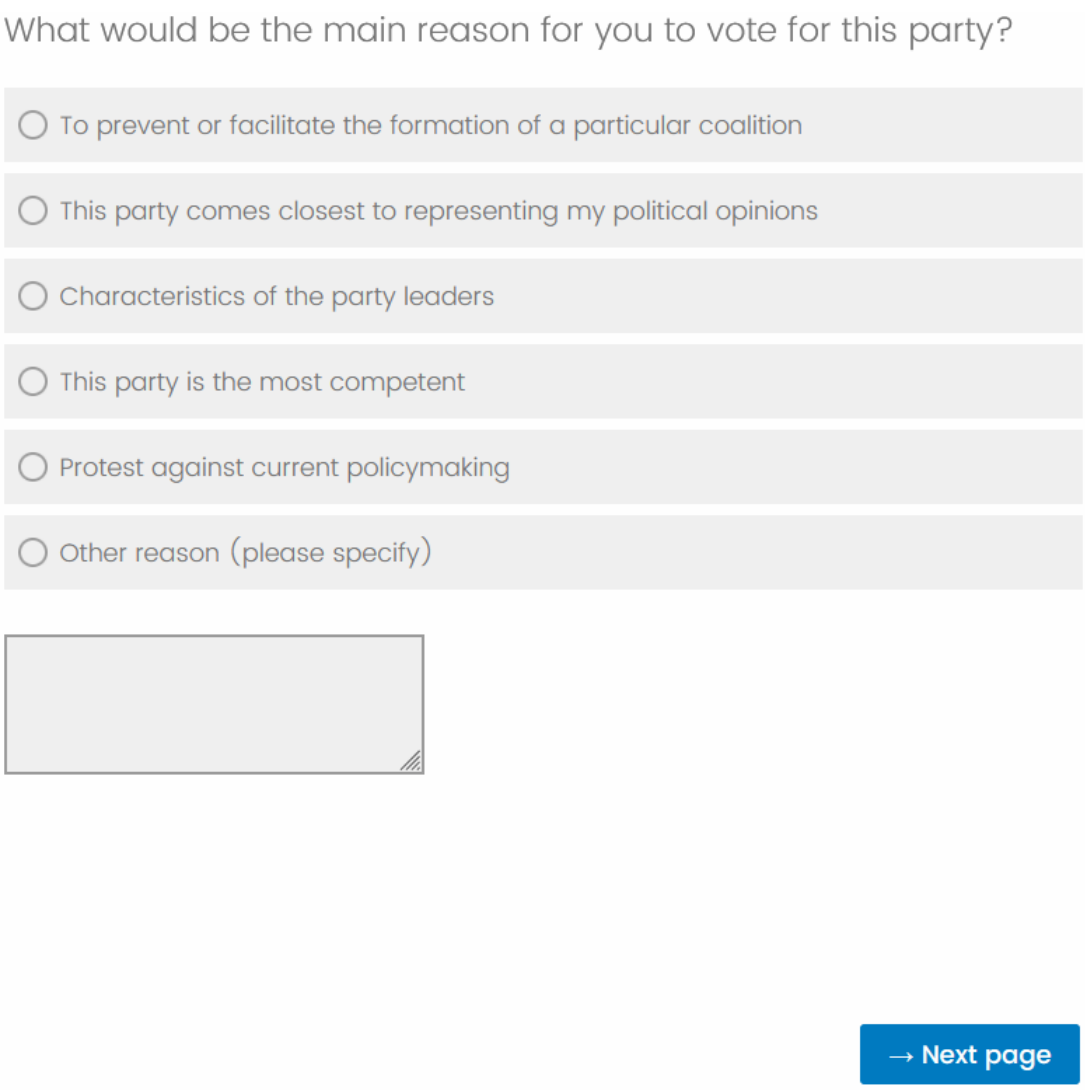


Figure A42: Voting Reason

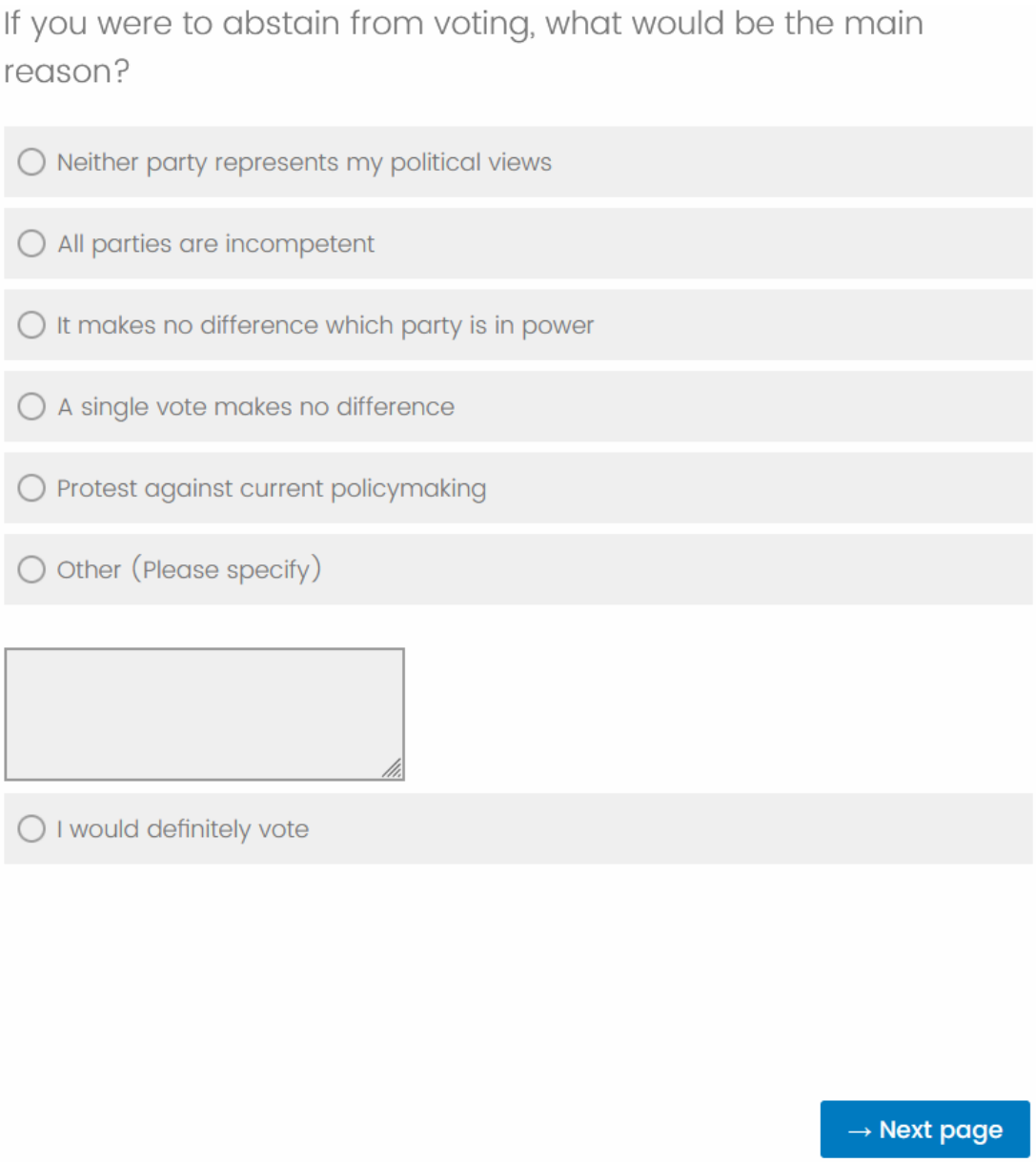


Figure A43: Turnout Reason

K.4.2 Campaign Support

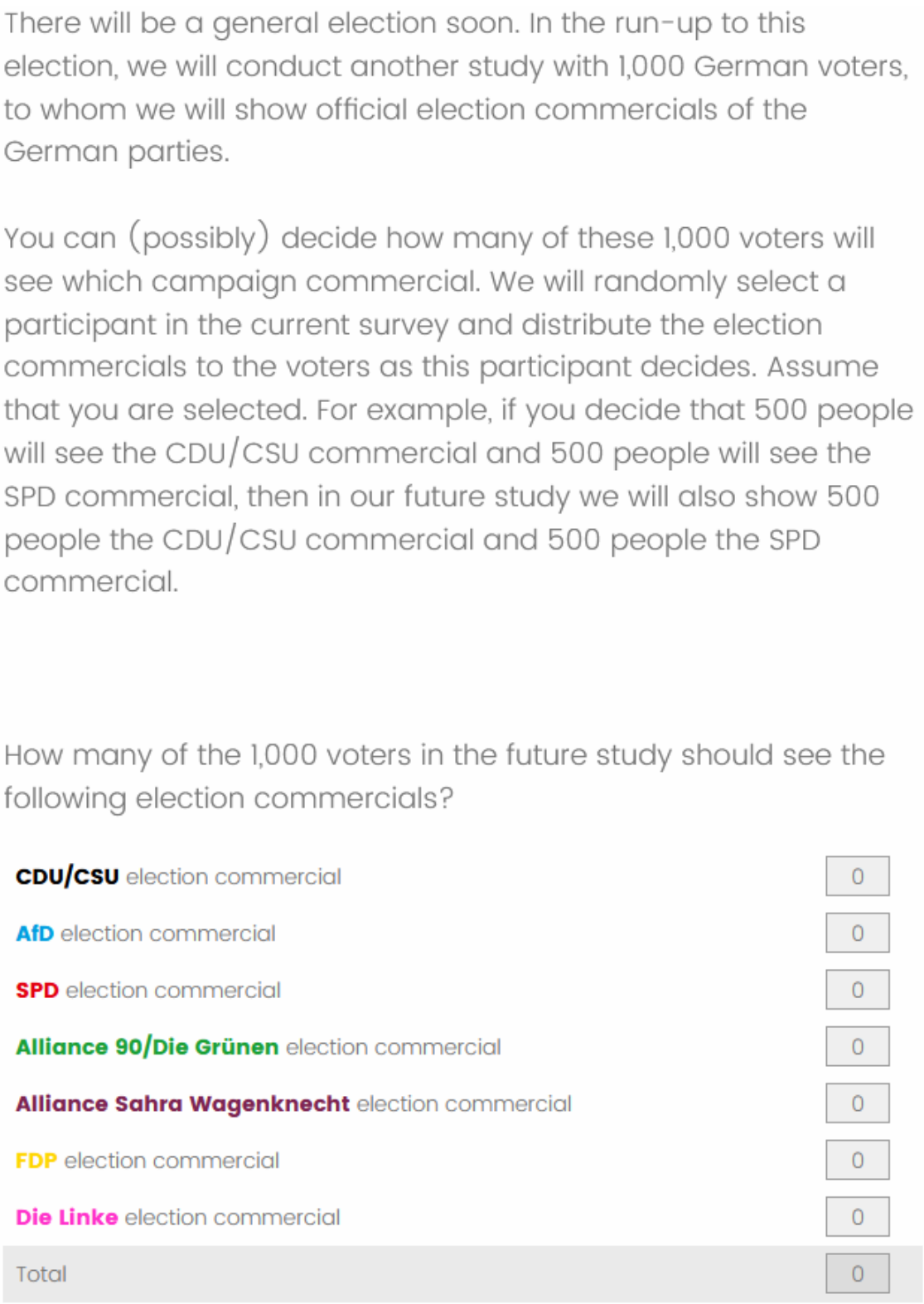


Figure A44: Campaign Support

K.4.3 Newsletter Subscription

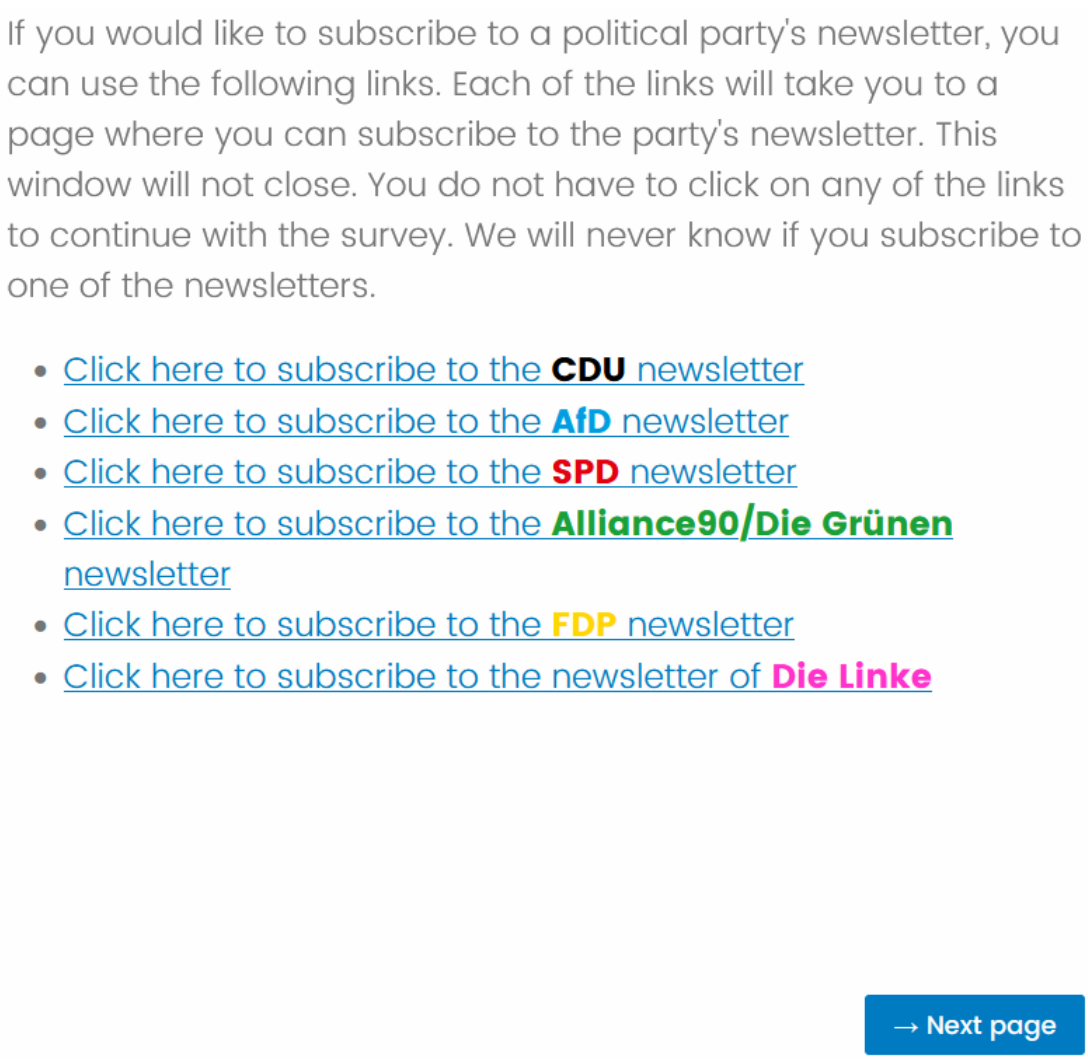


Figure A45: Newsletter Subscription

K.4.4 Feeling Thermometer

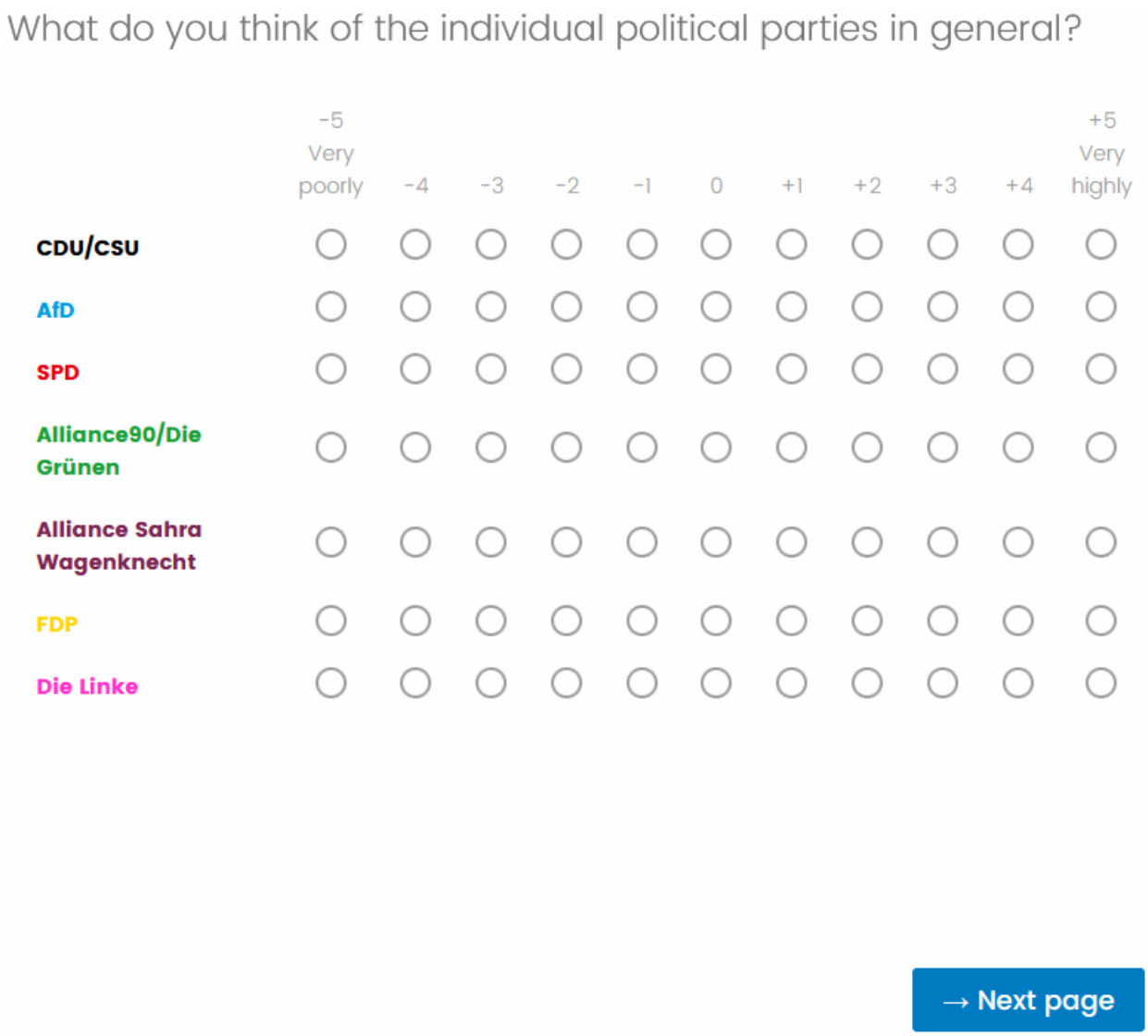


Figure A46: Attitude Thermometer

K.5 Donations (Randomized Order & Constant Across Treatments)

Donation items were organized as a sequence of four to five questions, using the staircase method (Falk et al., 2018). In each decision, participants chose between receiving a payment for themselves combined with a €5 donation to the party's donation account, and receiving nothing (with no donation made). Participants were truthfully informed that we would randomly select 10 participants and implement one randomly chosen decision for each of them. Figure A47 shows the first question participants were asked regarding the CDU. If they indicated that they were willing to allow the donation for a payment of €50 to them, we asked them whether they would also be willing to allow the donation for a lower amount. Similarly, if they did not allow the donation when offered €50, we asked whether they would be willing to do so for a higher amount. Hence, depending on their answer to the first question, the payments offered to them in the second question of the sequence were either €20 (if they allowed the donation) or €80 (if they did not allow the donation). Following the same logic, and depending on their response in this second question, amounts in the third question were either 5, 35, 65, or 95. Similarly, the fourth question included the values 0, 10, 30, 40, 60, 70, 90, and 105. Finally, we asked a fifth question offering a payment of €200 only to participants who were not willing to allow the donation for a payment of €105. This adaptive sequence was identical for the CDU and AfD and we randomized whether participants first answered questions about a donation to the AfD or to the CDU.

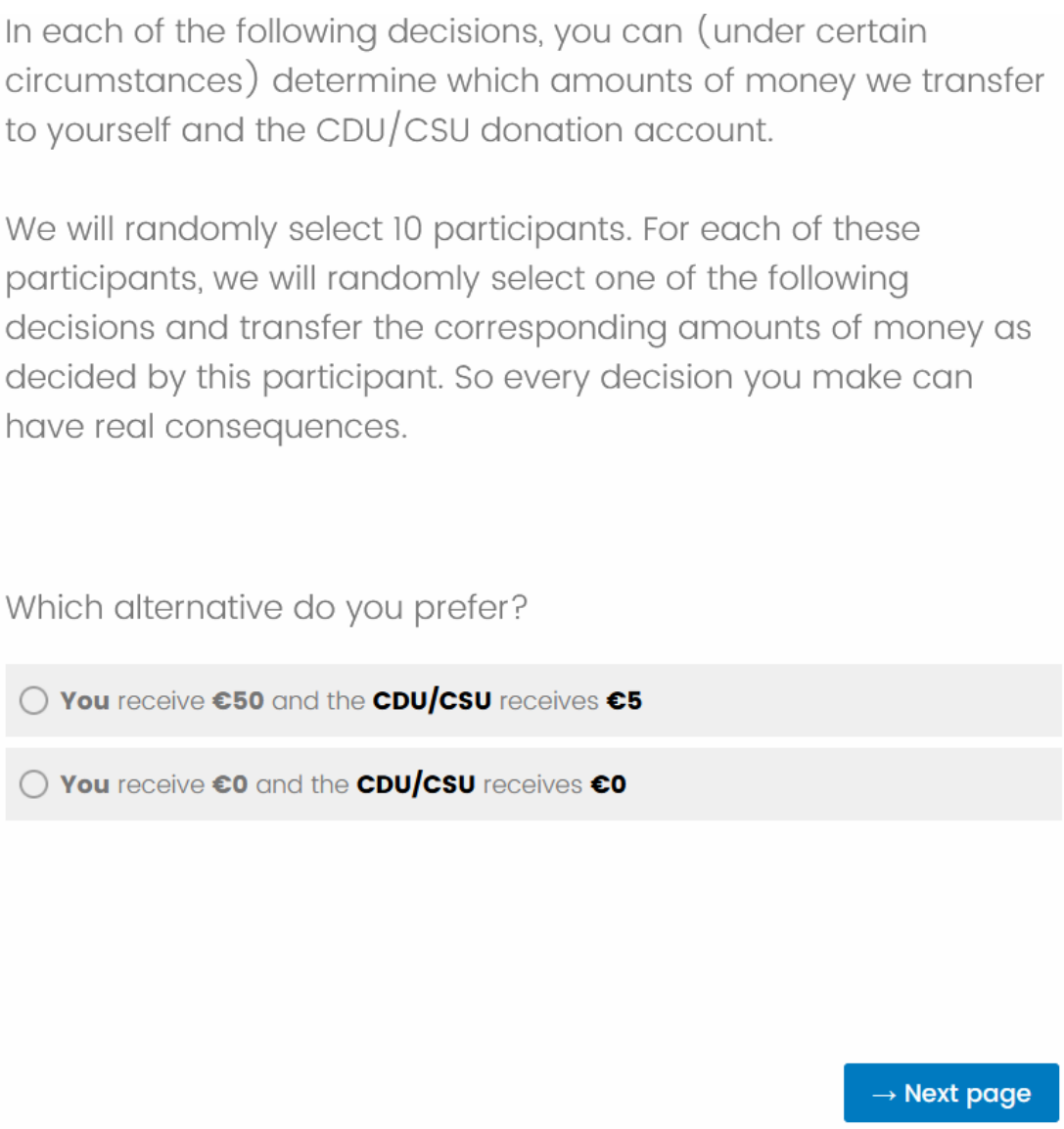


Figure A47: The First CDU Donation Item

K.6 Other Outcomes (Randomized Order & Constant Across Treatments)

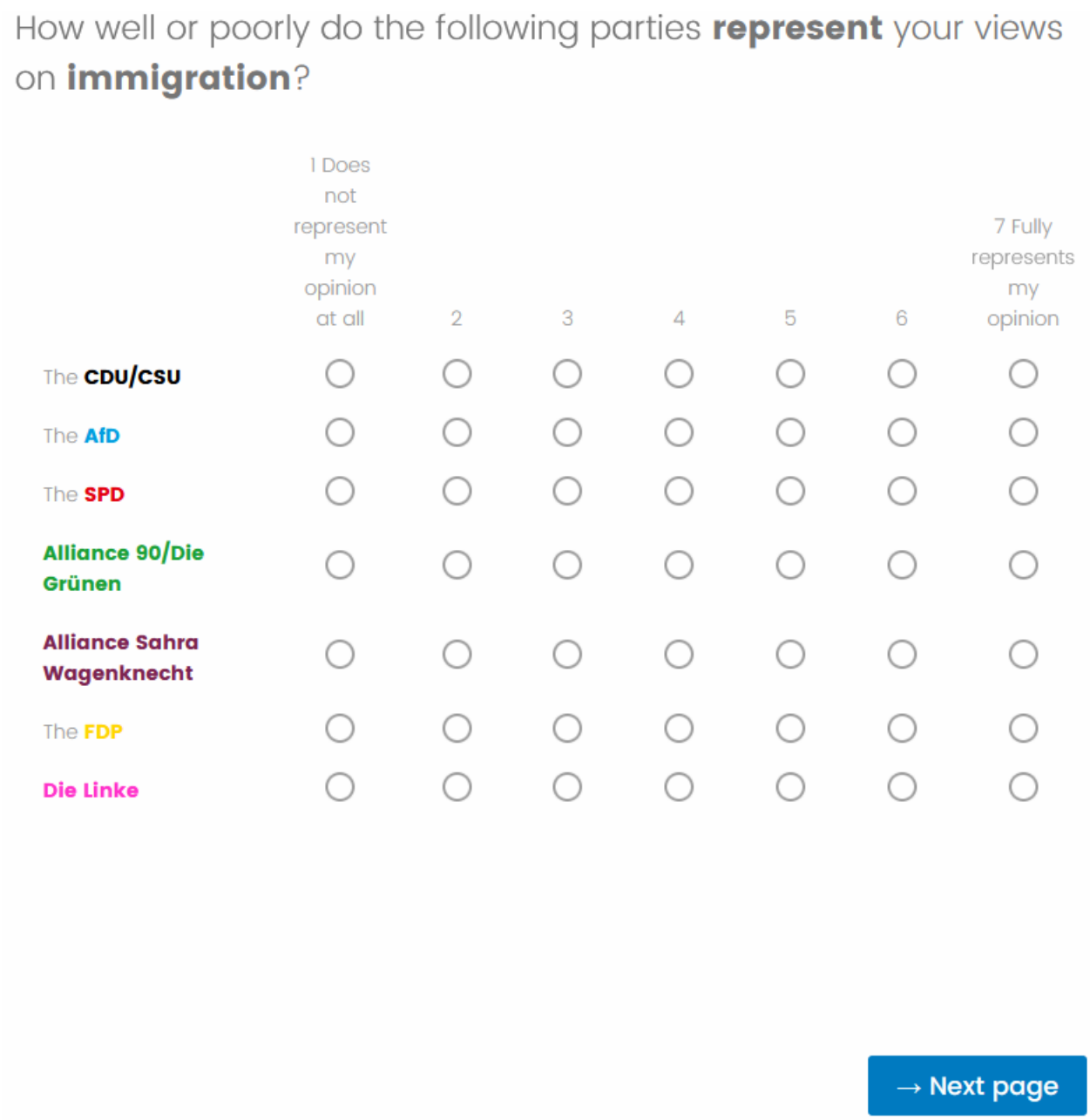


Figure A48: Perceived Representation

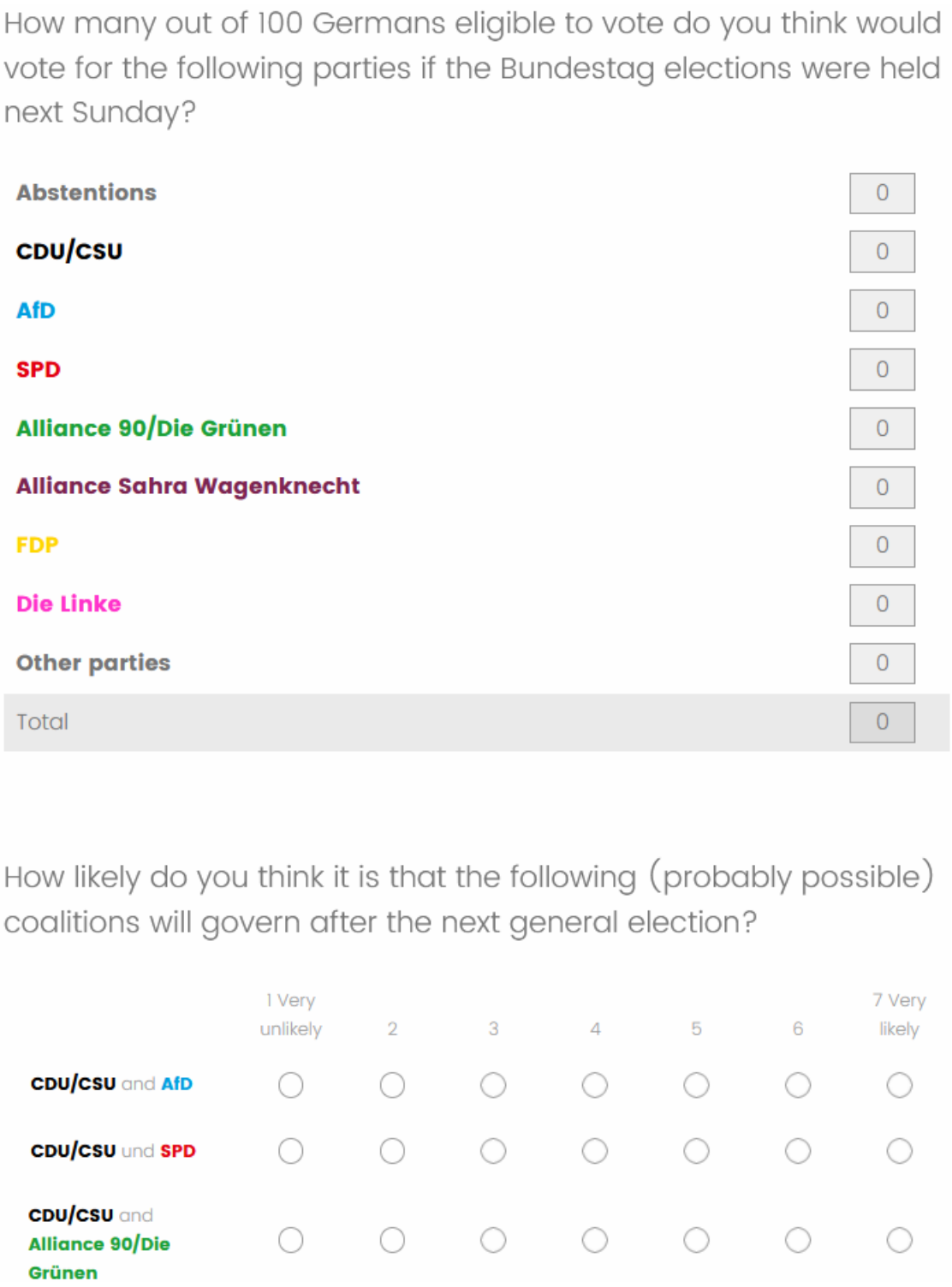


Figure A49: Expected Vote Shares

K.7 Final Block (Fixed Order & Constant Across Treatments)

Figure A50: Final Block, Screen 1

Did you find this survey politically biased or politically unbiased?

- ◯ Strong left bias
- ◯ Left bias
- ◯ Slight left bias
- ◯ No or nearly no bias
- ◯ Slight right bias
- ◯ Right bias
- ◯ Strong right bias

You have received information about the opinions of members of the Bundestag as part of this study. Do you find this information credible or untrustworthy?

- ◯ Very credible
- ◯ Credible
- ◯ Rather credible
- ◯ Rather implausible
- ◯ Implausible
- ◯ Very implausible

Were you or at least one of your parents born abroad?

- ◯ Yes
- ◯ No

Figure A51: Final Block, Screen 2