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How People Make Up their Minds: Opinion Stability and Change during Direct Democratic Campaigns

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How People Make Up their Minds: Opinion Stability and Change during Direct Democratic Campaigns

Andrea Barbieri

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This dissertation examines how voters make decisions during direct democratic campaigns, focusing on the determinants of vote stability and change. Using panel surveys, experiments, and political advertising data from four ballot campaigns in Switzerland and California, I track voters throughout real-world campaigns to identify when and why opinions change. Drawing on political psychology theories, I investigate how policy information and elite cues shape vote choices, particularly when they conflict; how campaign advertising persuades voters; and how individual characteristics such as attitude strength, partisanship, and political sophistication moderate information processing. The findings reveal that a sizable share of voters change their opinions during campaigns, following predictable psychological patterns. Challenging conventional wisdom about partisan dominance, voters strategically choose which information to rely on based on how strongly they feel about policy issues, demonstrating sophisticated engagement with democratic decision-making.

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How people make up their minds: Opinion stability and change during direct democratic campaigns

THÈSE

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de l'Université de Genève

par

Andrea Barbieri

sous la direction de

prof. Pascal Sciarini

pour l'obtention du grade de

Docteur en sciences de la société

mention science politique

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Genève, 23 septembre 2025

La Faculté des sciences de la société, sur préavis du jury, a autorisé l'impression de la présente thèse, sans entendre, par-là, émettre aucune opinion sur les propositions qui s'y trouvent énoncées et qui n'engagent que la responsabilité de leur auteur.

03 octobre 2025

Le doyen

Pascal SCIARINI

Impression d'après le manuscrit de l'auteur

Summary

Direct democracy faces growing criticism despite its normative appeal as a means of citizen empowerment. A longstanding tradition of scholarly work argues that ordinary citizens often lack the necessary qualifications to make well-informed decisions on complex policy issues. Other scholars worry that such instruments mostly benefit well-organized interest groups rather than ordinary citizens. Against this negative view of direct democratic votes, there is a branch of literature that argues in favor of this form of citizen empowerment due to its educational effects on the population. This dissertation contributes to these debates by examining how voters actually process campaign information and form vote decisions during direct democratic campaigns. If citizens blindly follow elite cues or change opinions at random, this would support the pessimistic view. If, instead, voters are able to navigate complex information environments and make reasoned choices based on their evaluations of policies, this would support those who hold a more positive view of direct democratic processes. By tracking vote stability and change during real campaigns, I assess which view better describes voter behavior.

In a series of four papers, each prepared for individual publication in peer-reviewed journals, I answer this question by using panel surveys, experiments, and political advertising data from four ballot campaigns in Switzerland and California to track voters throughout real-world campaigns and identify when and why opinions change. First, using an experimental design, I demonstrate that policy information and party cues reinforce each other when aligned, that voters follow party cues when they conflict with policy information but that this result is moderated by both partisanship and attitude strength. Second, analyzing all four ballot campaigns, I show that different types of elite cues—from parties, government, and interest groups—help voters align their choices with their policy evaluations, but that the effectiveness of these cues varies across institutional contexts. Third, I provide evidence that voters with

strong policy positions prioritize substantive evaluations over party cues throughout the campaign, while those with weaker attitudes rely more heavily on partisan shortcuts. Finally, through linkage data between advertising exposure and individual vote intentions in Switzerland, I demonstrate that campaign advertising can persuade voters to change their minds, but only under high-intensity exposure and primarily among politically sophisticated citizens. Overall, my findings challenge the pessimistic view that direct democracy voters are easily manipulated, revealing instead that citizens selectively rely on different information sources based on how strongly they feel about policy issues.

Résumé

La démocratie directe fait l'objet de critiques croissantes, malgré son attrait normatif en tant que moyen de participation citoyenne. Une tradition scientifique de longue date soutient que les citoyens ordinaires ne disposent pas toujours des qualifications nécessaires pour prendre des décisions éclairées sur des questions politiques complexes. D'autres chercheurs craignent en effet, que ces instruments profitent principalement à des groupes d'intérêt bien organisés plutôt qu'aux citoyens ordinaires. Contrairement à cette vision négative, une autre branche de la littérature défend cette forme de participation citoyenne en raison de ses effets éducatifs sur la population. Cette thèse alimente à ce débat en examinant la manière dont les électeurs traitent réellement les informations des campagnes politiques et prennent leurs décisions de vote lors des scrutins de démocratie directe. Une vision pessimiste de la démocratie directe se confirmerait si les citoyens obéissaient sans réfléchir aux élites ou modifiaient leurs opinions de façon aléatoire. À l'inverse, une conception optimiste des processus démocratiques directs se validerait si les électeurs parvenaient à s'orienter dans un paysage informationnel complexe et à prendre des décisions réfléchies basées sur leur évaluation des politiques. En suivant la stabilité et l'évolution des votes au cours de campagnes réelles, j'évalue quelle vision reflète le mieux le comportement des électeurs.

Ma série de quatre articles, tous destinés aux revues scientifiques, répond à cette question précise. J'analyse des enquêtes par panel, des expériences et des données publicitaires issues de quatre campagnes électorales suisses et californiennes. Cette approche me permet d'observer les électeurs pendant des campagnes concrètes et de déterminer avec exactitude quand et pourquoi leurs opinions évoluent. Tout d'abord, à l'aide d'une expérience par sondage, mon analyse démontre deux phénomènes clés : premièrement, les informations politiques et les signaux des partis se renforcent quand ils concordent. Deuxièmement, les électeurs privilégient les signaux des partis face aux informations contradictoires, même si l'esprit partisan et la conviction personnelle atténuent cette tendance. Ensuite, l'analyse des quatre campagnes électorales, montre que les différents types de signaux émis par les élites (partis, gouvernement et groupes d'intérêt) aident les électeurs à faire des choix cohérents avec leurs évaluations politiques. L'impact de ces signaux varie toutefois selon la structure institutionnelle de ceux contextes (Californie et Suisse). Troisièmement, je démontre que les électeurs aux convictions politiques affirmées privilégient les évaluations fondées sur le contenu des propositions plutôt que sur les signaux émis par les partis, et ce, de manière constante durant l'ensemble de la campagne. En revanche, les citoyens dont les opinions politiques sont moins définies ont tendance à recourir davantage aux raccourcis partisans. Enfin, grâce à des données établissant un lien entre l'exposition à la publicité électorale et les intentions de vote en Suisse, je démontre que la publicité peut persuader les électeurs de changer d'avis, mais uniquement en cas d'exposition intensive, et principalement chez les citoyens politiquement avertis. Dans l'ensemble, ces résultats remettent donc en question l'idée que les électeurs en démocratie directe seraient faciles à manipuler. Au contraire, ils révèlent que les citoyens s'appuient de manière sélective sur différentes sources d'information, en fonction de l'importance qu'ils accordent aux enjeux politiques.

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Introduction

How do voters make voting decisions during direct democratic campaigns? This question lies at the heart of understanding the health and legitimacy of modern electoral processes. As direct democracy is increasingly adopted around the world, it also attracts growing criticism.

While direct democracy is normatively appealing as a means of citizen empowerment, the cognitive mechanisms that shape voter decision-making may undermine its democratic promise. A longstanding tradition of scholarly work argues that ordinary citizens often lack the necessary qualifications to make well-informed decisions (Bartels, 1996; Budge, 1996; Magleby, 1984). In the U.S. context, it has long been observed that average levels of political knowledge are quite low (Boudreau & Lupia, 2011; Campbell et al., 1960; Carpini & Keeter, 1996). In addition to concerns about voter competence, other scholars are concerned that such instruments mostly benefit well-organized interest groups rather than ordinary citizens (Boehmke, 2005; Gerber, 1999). There are also worries that direct democracy can lead to the adoption of laws that are illiberal or that discriminate against minorities (Cain et al., 2008; Donovan & Bowler, 1998; Gamble, 1997).

Against this negative view of direct democratic votes, there is a branch of literature that argues in favor of this form of citizen empowerment due to its educational effects on the population. According to this view, direct democracy provides citizens with opportunities to engage in political choices, pushing them to inform themselves and actively participate in political processes (Tolbert et al. 2009, Donovan et al. 2008). Empirical studies show that direct democratic instruments can also produce desirable outcomes (Jaquet, 2021). In the United States, for instance, studies show that in those states where initiatives and referenda are performed, citizens have a higher level of interest in politics and political sophistication (Smith

& Tolbert, 2004).[1] Moreover, it helps to keep accountable governments as the direct threat of direct democratic instruments can lead governments to reduce spending (Emmenegger et al., 2021; Matsusaka, 2018). More specifically to this dissertation, some studies show that voters are able to navigate the competing interests of elites to make choices that defend public interest (e.g., Lupia, 1994), while others show that voters mainly consider policy information to make vote decisions (Colombo & Kriesi, 2017; Kriesi, 2005).

My PhD dissertation contributes to these debates by asking how voters behave during direct democratic campaigns.[2] Based on cognitive theories of information processing, I study how citizens form, maintain, or change their opinions during direct democratic campaigns, primarily in a dynamic way. In the following sections, I will introduce key concepts, the research questions and contributions, illustrate the case studies, the data used, and finally introduce the four papers and how they answer the research questions.

Key Concepts and Theories

In this dissertation, I study the short-term dynamics of vote stability and change across different contexts. This implies focusing on predictors that vary throughout campaigns and how these shape voters' choices. On the one hand, I consider the information sources that can influence opinion stability and change. In particular, I examine how voting recommendations from political elites and the evaluation of substantive policy information affect vote choices. I also analyze how campaign activities, such as advertising, influence voting behavior. On the other hand, I take into account voters' characteristics that may moderate the effect of campaign activities and information sources. Before going deeper into the dissertation, it is important to

[1] Some authors are critical towards the arguments and evidence on the secondary benefits of direct democratic votes (see Dyck & Lascher Jr., 2009).

[2] This dissertation is part of the four-year Swiss National Science Foundation project *"Opinion Stability and Change in Direct Democratic Campaigns in Comparative Perspective"* (Project No. 201119).

define some of the key concepts used in this manuscript and highlight the main theories employed in the dissertation.

Vote Stability and Change

Starting from the main dependent variable, in this dissertation, I refer to vote stability and change as the extent to which citizens maintain or revise their vote intentions over the course of a direct democratic campaign. The main dependent variable across the four articles is vote intention (or vote choice), which I study in both static and dynamic ways, depending on the research questions of each paper.

Information sources and campaign activities

Information sources refer to the content and origin of political messages that voters encounter during direct democratic campaigns. In this dissertation, I focus specifically on two central types of information sources: policy information and elite cues. These sources differ in content and format, but both provide voters with guidance on how to position themselves on a given ballot measure.[3] A cue is a message that people may use to infer other information and, by extension, to make decisions (Bullock, 2020). Cues in political campaigns mainly derive from political actors such as parties or prominent political figures, institutions such as the government, or interest groups. In the context of direct democratic votes, cues come in the form of a link between the political actors and their stand on an issue. For instance, a cue from a party can come in the following form: "the Democrats support tax cuts" (Bullock, 2020).

Policy information refers to substantive arguments or factual information related to the content and consequences of the ballot proposal. This can include explanations of policy goals, expected outcomes, costs, and the social or economic impact of a proposed measure. Policy

[3] See Petitpas et al. (2024) for a quick overview.

information provides the basis for voters to evaluate initiatives on their merits, independent of external endorsements or party positions.

Campaign activities refer to the deliberate communication strategies and media channels through which political actors attempt to reach and influence voters during direct democratic campaigns. In this dissertation, I focus on campaign advertising, ads published in the context of ballot measures, intended to inform voters, reinforce existing preferences, or persuade them to change their vote intentions. While shaping vote choices is a central aim of campaign activities, their effectiveness depends on both the intensity of the campaign and individual-level factors such as political sophistication.

Individual characteristics

Central to this dissertation is the heterogeneity in characteristics across individuals and how such differences affect the reception and processing of information. Two key characteristics are analyzed in this work, political sophistication and partisanship, which the literature identifies as central to these processes.

Political sophistication refers to an individual's capacity to understand, interpret, and engage with political information. This is shaped by both motivation (interest in political matters and the drive to participate) and resources (such as education, cognitive ability, political knowledge, and time) (Luskin, 1990). In this dissertation, I consider motivation as interest in politics, and resources as issue-specific knowledge. Political knowledge is broadly defined as the store of political information that allows citizens to connect their values to concrete political issues and helps them make political decisions (Carpini & Keeter, 1993) Because this dissertation focuses on direct democratic votes, I conceptualize political knowledge as issue-specific knowledge that is, factual knowledge related to the policy at stake (Gilens, 2001; Goren, 2004).

Partisanship, by contrast, refers to an individual's psychological attachment or loyalty to a political party (Campbell et al., 1960). This attachment tends to persist over time, influencing

how people vote, what information they trust, and how they perceive political events. It is important to distinguish partisanship from party cues: while cues are external messages or signals, partisanship is an internal orientation, a feeling of identification or closeness toward a party (Bullock, 2020).

Theoretical framework

The analysis of vote stability and change in direct democratic campaigns draws on several complementary theories from political behavior and political psychology. These theoretical frameworks help explain how voters process campaign information, form preferences, and potentially change their vote intentions over time.

Starting from *motivated reasoning theory*, this theory provides the foundation for understanding how prior attitudes and partisan attachments shape information processing during campaigns. According to this theory, individuals are motivated to reach conclusions that are in line with their existing beliefs and preferences (goal-oriented) rather than engaging in objective evaluation of information to reach conclusions (accuracy-oriented) (Kunda, 1990; Taber & Lodge, 2006). In the context of direct democracy, motivated reasoning suggests that voters may selectively interpret and recall campaign information in ways that support their initial preferences or partisan attachment. This has important implications for understanding when and why voters change their minds during campaigns, as well as how they respond to information that conflicts with their initial attitudes.

While motivated reasoning emphasizes how existing predispositions bias information processing, dual-process theories of cognition offer a different perspective on how voters navigate information during political campaigns. Particularly, the *heuristic-systematic model* (Cacioppo et al., 1986; Eagly & Chaiken, 1995) offers insights into how voters may choose how to inform themselves during political campaigns. According to this framework, individuals

can process information through two distinct routes: systematic processing, which involves careful evaluation of message content and arguments, and heuristic processing, which relies on simple decision rules or shortcuts such as source credibility or party endorsements. In the context of campaigns, voters' decisions to rely on one of the two processing modes depend on both motivation and cognitive capacity. In direct democratic contexts, where voters often encounter complex policy proposals with limited prior knowledge, the balance between systematic and heuristic processing becomes particularly relevant for understanding how different types of campaign information influence vote choices.

Building on these insights about information processing, *attitude strength theories* complement the first two theories by examining how strongly people hold their initial views. This theory suggests that the strength of voters' initial preferences moderates how they might be influenced by campaign information (Petty & Krosnick, 1995). Strong attitudes are characterized by stability and resistance to change, while weak attitudes are more malleable to external influence. In direct democratic campaigns, attitude strength becomes a crucial moderator of campaign effects since voters might have weaker attitudes toward ballot propositions compared to candidate elections. Understanding how attitude strength interacts with different types of campaign information helps explain why voters react differently to the same kind of information.

These individual-level theories of information processing are complemented by *Zaller's Receive-Accept-Sample (RAS) model* (Zaller, 1992), which provides a framework for understanding how citizens form and update political opinions based on the flow of information from political elites. The model posits that opinion formation occurs through three sequential processes: citizens must first receive political messages, then accept or reject them based on their existing political predispositions, and finally make a decision based on the information available to them. This model is particularly relevant for direct democratic campaigns, where

voters are exposed to competing messages from various political actors throughout the campaign period. The RAS model helps explain how the timing and intensity of campaign information, combined with individual political predispositions, shape how vote intentions evolve over time.

Taken together, these theoretical perspectives provide a framework to understand the dynamic nature of opinion formation during direct democratic campaigns. They highlight how the interaction between information sources, campaign activities, individual characteristics, and cognitive processing mechanisms shapes patterns of vote stability and change over time.

Research questions

Empirical evidence shows that voters can and do change their minds during direct democratic campaigns. Building on this, the dissertation assumes that opinion change is possible in such contexts, a premise underlying all four articles. The key question, therefore, is not *whether* voters change their opinions, since prior research has already established this, but rather *how* and *why* such changes occur. In particular, little is known about the mechanisms through which campaign activities and information sources shape vote stability and change. This dissertation addresses that gap by first asking:

1. How do campaign activities and information sources affect vote stability and change over the course of campaigns?

To address this question, I examine the role of two major factors: information sources and campaign activities. First, I study how policy information and political cues influence voting choices. Second, I investigate the persuasion effects of campaign advertising on citizens' political decisions. Assuming that information sources and campaign activities shape voting behavior, I examine whether these have short-term effects on vote stability and change. In other words, does information acquired during the campaign alter vote intentions?

While information sources and campaign activities play a major role in shaping voting behavior, direct democratic votes also vary widely in terms of complexity, salience, and campaign intensity, and these characteristics may condition how voters process information. Similarly, institutional settings differ in the visibility of political actors, the role of parties, and the involvement of interest groups. Building on this, the dissertation assumes that the influence of information sources and campaign activities may not be uniform but instead shaped by both context and ballot-specific characteristics. This leads to the second research question:

2. Do the effects of information sources differ across ballots and contexts?

To address this question, I analyze ballots across Switzerland and California and test whether information sources have different effects in different contexts.

Lastly, I analyze how individual characteristics moderate the impact of both information sources and campaign activities on vote decisions. I study whether the information acquired through campaigns affects voters uniformly. Put differently, do voters react similarly to the information they encounter during the campaign? Throughout the dissertation, I mainly study the effects of a specific set of individual characteristics: attitude strength, partisanship, and political sophistication.

3. Do individual characteristics moderate the relationship between campaign activities and information sources on vote stability and change?

Why are these research questions relevant? First, this dissertation studies vote stability and change in direct democratic campaigns. While the topic of opinion formation in electoral contexts has a long tradition in political science (Berelson et al., 1954; Farrell & Schmitt-Beck, 2002; Zaller, 1992), few studies have focused specifically on opinion dynamics during referendum or initiative campaigns. This is notable because, unlike elections, direct democratic votes are less structured by strong partisan loyalties and enduring social cleavages. Voters are often required to decide on policies they have little prior knowledge about. To form a decision,

they frequently need to evaluate substantive arguments and weigh competing considerations. Moreover, compared to elections, direct democratic campaigns involve a wider set of political actors, such as governments and interest groups, who usually play a secondary role in electoral contests. As a result, voters are exposed to more diverse sources of information, which can lead to greater volatility in vote preferences (Farrell & Schmitt-Beck, 2002; Leduc, 2002). Thanks to the dynamic character of the hypotheses and measures, I am able to provide fine-grained evidence of opinion change occurring during real-world campaigns. The combination of experimental design and longitudinal observational data enables this dissertation to bring new empirical evidence to the study of campaign dynamics.

Second, the dissertation speaks to the literature on opinion formation, and particularly to the debate on the competing role of policy information and political cues in shaping vote choices.[4] Although the competition between the two has been extensively studied (e.g., Bullock, 2011; Cohen, 2003; Colombo & Kriesi, 2017; Tappin et al., 2023), the empirical results are mixed and do not lead to any definitive conclusion. Several studies, such as Cohen (2003) and more recently Tappin et al. (2023), show that party cues are more powerful than policy information in shaping people's behavior. Other studies, however, point in the opposite direction. For example, the two experimental studies reported by Bullock (2011) show that the effects of position-taking by party elites are smaller than the effects of policy information. In another experimental study on citizen-sponsored initiatives, Boudreau and MacKenzie (2014) also find that policy information can counteract the effects of party cues: when voters receive substantial policy information that contradicts their party's position on a given initiative, they tend to shift

[4] In this dissertation I focus on three different sources of political cues: party, interest group and institutional cues coming from the government (Switzerland) or the governor (California). While recent studies (Ahn et al., 2022; Walder & Strijbis, 2022) show the importance that negative party cues have on voting behavior, I do not treat this type of cues in this dissertation, as they partially fall out of the scope conditions (in the dissertation I decided to focus on positive cue-taking and the moderating role of partisanship, i.e. party cues coming from people's preferred party). Nonetheless, I recognize that the voting recommendations of disliked parties may be an important heuristic for some voters, particularly in fragmented or low-information environments, and for voters who might not have a preferred party, but that still may dislike some political actors. This is why the treatment of negative cues is part of a separate study conducted within the broader FNS research project (Sciarini et al.).

their opinions away from the party line and display views that are no different from those in the control group. By leveraging experimental designs and panel data, this dissertation brings new evidence and advances this debate.

Third, the dissertation contributes to the study of campaign effects in direct democratic votes. In particular, I analyze the dynamic effects of individual exposure to political advertising on vote stability and change. While earlier research has studied whether advertising persuades voters in direct democratic campaigns, most rely on aggregate-level exposure measures, implicitly assuming that all citizens are exposed to advertising in a uniform way. Very few studies can link advertising data to individual voting behavior, as I do in this dissertation. This helps to increase precision and evidence on how campaign activities, such as advertising, may or may not persuade voters.

Fourth, wherever data availability allows, I compare direct democratic campaigns across different contexts. Thanks to the use of original datasets, I test the effect of information sources on vote choice in both Switzerland and California. This cross-contextual design is novel and helps improve the external validity and generalizability of the findings. Moreover, it engages with theoretical questions about how different institutions and actors influence voters' decision-making processes. Most importantly, it allows us to test whether citizens in Switzerland and California rely on similar cognitive processes when making voting decisions, despite facing different institutional contexts and ballot characteristics.

Case studies and ballot propositions

This dissertation draws on four different ballot measures from two distinct data collections conducted in California and Switzerland.[5] This section explains the rationale for focusing on ballots in these two contexts. It provides background on the differences between the two

[5] Through the research project we collected data on a fifth and sixth ballot measure (Transplant law and Netflix law March/June 2022), however, in this dissertation I do not analyze data related to these specific ballots.

systems of direct democracy, outlines the content of the ballot measures, summarizes the outcomes of each campaign, and highlights similarities and differences across the ballots.

Case strategy

The choice of studying direct democratic votes in Switzerland and California stems mostly from the rich traditions that the two contexts have with this democratic innovation (Bowler & Donovan, 2000; J. G. Matsusaka, 2008). Indeed, for more than a century, both have experienced the use of direct democratic votes (Jaquet, 2021), even though the tradition in the two contexts is different. As described by Kriesi (2009), California and Switzerland belong to two different types of direct democratic systems. In categorizing them, Kriesi (2009, 79-80) identifies three main variants of direct democracy, based on the bottom-up versus top-down nature of the process and the extent of government and parliamentary involvement. It identifies California as the typical case of the "unmediated" or "populist" variant, while Switzerland is the "mediated" variant. The third variant, referred to as the “plebiscitary” model, is characterized by referendums that are initiated exclusively by the executive, typically the head of state or government.[6]

In the unmediated variant, direct democratic votes follow a bottom-up logic and typically originate from citizen-sponsored initiatives. Once legal requirements are met, these initiatives are submitted to a popular vote without any formal reaction from the legislature. This "direct" form of initiative is common in many U.S. states, including California (Lupia & Matsusaka, 2004), and allows interest groups and social movements to bypass state legislatures. Legal constraints regarding institutional involvement, public support, and campaign financing often mean that state governments remain largely inactive during such initiative campaigns.

[6] A key example of this model is France, where only the president has the authority to call a referendum. In practice, such votes are rare and often serve as instruments for the president to reaffirm political support rather than as genuine tools of citizen participation. Within the SNF project we intended to collect data in France, but political circumstances made that no vote was held during the project timeframe.

In contrast, Swiss direct democracy reflects a mediated model. Regarding how votes are triggered, Switzerland combines bottom-up and top-down elements. Popular initiatives originate from citizens and are thus bottom-up in nature. The mandatory referendum is top-down, while the optional (or facultative) referendum blends both. The optional referendum allows citizens to challenge legislation passed by the federal parliament if enough signatures are collected within a specific timeframe. Furthermore, the Swiss government is actively involved in the process: it takes positions on initiatives, may propose countermeasures, and often campaigns to shape the outcome of the vote.

The choice of these two cases is motivated by the fact that institutional differences can shape what kind of information people may look for and weigh during campaigns, but that people experience similar cognitive processes in different systems. On the one hand, institutional differences across California and Switzerland lead to variation in the structure of campaign communication and the types of political cues voters are used to follow. In California, cues often come from non-state actors, such as interest groups, whereas in Switzerland, voters frequently receive guidance from institutional actors, including government officials and political parties. By comparing these two settings, the dissertation can shed light on how institutional designs shape the nature of elite communication during campaigns.

On the other hand, the dissertation rests on the conviction that these institutional differences do not fundamentally alter the cognitive mechanisms underlying opinion formation. Despite differences in how campaign information is delivered, citizens in both Switzerland and California draw on both policy information and elite cues to form and revise their vote preferences. By comparing the two cases in the dissertation, I can assess the extent to which cognitive mechanisms are similar among citizens in Switzerland and California who vote on direct democratic ballots.

<u>Ballot selection and characteristics</u>

To select the ballot measures analyzed in this dissertation, I focused on cases that reflect the key features of the Swiss and Californian systems of direct democracy. In Switzerland, the analysis centers on two types of referenda, optional and mandatory, which are representative of the mediated variant of direct democracy. In contrast, the Californian cases are citizen initiatives, emblematic of the unmediated variant of direct democracy.

In the Swiss context, two ballot measures were selected. The first is the "Climate Law," an optional referendum launched by the Swiss People's Party (SVP) to challenge a revised legislative package aimed at reducing environmental pollution, promoting energy independence, and achieving climate neutrality by 2050. The law included subsidies for building insulation and renewable energy development. Among the six largest political parties, the SVP was the only one to oppose the law, and it invested heavily in a campaign to defeat it. As a result, the ballot became the most polarizing and contentious issue among the three items presented to voters in that electoral round. Despite this opposition, the law was approved by 59% of voters.

The second Swiss case is the OECD Law, a mandatory referendum to approve a constitutional amendment implementing a global corporate tax reform. The measure introduced a minimum 15% tax rate for large multinational corporations, in line with OECD and G20 agreements. The proposal received broad elite support: it was backed by the federal government and all major parties except the Socialist Party (which opposed it) and the Greens (which left the decision to party members). Due to the technical nature of the proposal and the broad elite consensus, the campaign surrounding the OECD Law was relatively low-key and one-sided. The measure was ultimately approved by 78% of voters.

In California, the focus is on two competing initiatives, Propositions 26 and 27, related to the legalization of sports betting, both of which appeared on the ballot during the November 2022 midterm elections. Proposition 26 proposed to legalize in-person sports betting at Native

American casinos, while Proposition 27 sought to legalize online sports betting, allocating a portion of the revenue to homelessness prevention programs. The campaigns surrounding these initiatives were marked by intense competition among interest groups aiming for control over the emerging sports betting market. Together, the campaigns raised over $400 million, making them among the most expensive in California's history. Politically, the Republican Party opposed both measures, while the Democratic Party opposed Proposition 27 but remained neutral on Proposition 26. Ultimately, voters rejected both proposals, with 67% voting against Proposition 26 and 82.3% against Proposition 27.

These four ballots were selected to reflect variation in institutional context and campaign intensity. One of the key differences between the Swiss and Californian ballots stems from structural features of the two systems. In California, ballot propositions are always held concurrently with national elections, typically every two years. This creates a dense and competitive information environment, as voters must decide on numerous candidates and policy issues on the same day. To maximize the chances of observing meaningful exposure to campaign messages and elite cues, the study focused on Propositions 26 and 27, which were expected to generate the highest levels of spending and media attention during the 2022 election contest. These initiatives, therefore, represent cases of high-intensity campaigns within the Californian context.

By contrast, in Switzerland, direct democratic votes occur up to four times per year and are therefore often independent from national elections. The Climate Law and the OECD Law were presented to voters in the same electoral round, alongside a third referendum (Covid-19 Law) not analyzed in this dissertation. Among the three, the Climate Law generated the most public attention and campaign activity, due to its polarizing content and the financial investment made by both supporters and opponents of the law. It represents a high-intensity campaign relative to the Swiss context. In contrast, the OECD Law serves as a case of lower campaign intensity,

marked by greater technical complexity and broad elite consensus, resulting in minimal public debate.

Survey data collected as part of the SNF project allows further comparison across the four ballots in terms of perceived importance and complexity. In the post-vote surveys, respondents rated the Climate Law as significantly more important than the other three measures, with an average score of 7.3 on a 10-point scale (1 = not important at all; 10 = extremely important). The remaining three ballots, Propositions 26 and 27, and the OECD Law, received similar rates in terms of self-perceived importance by respondents: 5.2, 5.3, and 5.9, respectively. In terms of perceived complexity, the OECD Law was viewed as slightly more complex, with an average score of 2.3 on a 4-point scale (1 = very easy; 4 = very complex). The other three ballots, Climate Law, Proposition 26, and Proposition 27, were rated as less complex, with average scores of 2.1, 2.1, and 1.9, respectively.[7]

Data

This section provides a brief overview of the two main data sources used in this dissertation. The first source consists of two individual-level panel datasets characterized by a rolling cross-section (RCS) during the second wave. Through the SNF project, we collected data in California (2022) and in Switzerland (2023). Each dataset is based on a three-wave design, allowing for the tracking of citizens' opinions and behaviors before, during, and after the campaign period. In the first wave of the study of both contexts, we included an experimental design. For each data set, we collected responses from a representative sample of the population based on quotas on age, gender, and education. For Switzerland, we also have quotas for geographical residency, and in California, for race. The original sample for Switzerland is of 3795 respondents, while that for California is of 3555 respondents. The use of a three-wave panel data set allowed for measuring vote intention and political perceptions at the onset of the campaign, before which

[7] Appendix A provides further details about the data, a summary table of key information about the ballot measures.

these attitudes might be influenced by the campaign.[8] The repeated measures across three waves made it possible to observe within-respondent changes in political attitudes and intentions over time.

The second data source is an advertisement dataset focused on the ballot measures in Switzerland. This dataset, collected by the private firm *MediaFocus*, offers comprehensive coverage of political advertising published in the months leading up to the referenda, across print, online media, and out-of-home formats such as billboards. For the ballot measures in Switzerland, the political ads dataset provides information on the publishing date, the cost of each advertisement, and whether the advertisement is in favor of or against the ballot.

In Switzerland, the panel data with the RCS during the second wave could be linked to the advertisement dataset. Each respondent was matched to a specific media outlet on a given day, making it possible to estimate individual-level exposure to campaign content related to specific ballot measures. This was a crucial feature, as citizens were not uniformly exposed to the same information throughout the campaign. The combination of longitudinal panel data, RCS design, and systematic campaign activity data provided the basis for a fine-grained analysis of how voters engaged with campaign messages (ads) over time and how this affected their voting behavior.

By combining these data sources and research designs, this dissertation brings a novel contribution to the study of opinion formation in direct democratic campaigns by taking a dynamic approach. This dynamic perspective unfolds in three ways. First, it examines within-individual' short-term opinion change in an experimental setting, showing how exposure to arguments and cues can influence changes in vote intention. Second, it analyzes how factors that affect intentions/choices evolve over time by using the three-wave panel data. Third, it

[8] Since voters at the beginning of the campaign might not yet have heard of the ballot measures, the first wave of the survey included a short introduction to each proposition, stating its title and briefly describing its content. While it is not possible to entirely rule out prior knowledge, the vote intention recorded in wave 1 is best interpreted as respondents' immediate reaction to this minimal information.

studies how campaign activities, particularly political advertising, influence vote (in)stability over time by relying on a rolling cross-section (RCS) design. This setup allows for linking campaign exposure to individuals on a daily basis, offering a more detailed view of how the intensity of information matters over time.

Taken together, these elements make the dissertation innovative in several respects. The use of both experimental and observational data, the focus on vote intention as a dynamic outcome, and the use of individual-level campaign exposure data make it possible to test opinion formation in a more fine-grained and realistic way than most previous studies. This allows for a better understanding of how citizens react to political information in the context of real-world direct democratic campaigns.

The four papers

In this section, I provide a summary of the content of the four articles and how they address the main research questions.

The first paper (Barbieri et al., 2025) uses an experimental design to examine how party cues and policy information lead voters to change their vote choices. In this paper, we engage with the "party over policy" debate (e.g., Boudreau & MacKenzie, 2014; Bullock, 2011; Cohen, 2003) by integrating voters' prior attitudes, party cues, and substantive policy information within the same experimental setup. Taking prior attitudes into account is something rarely done in experimental research on the party versus policy debate, yet it is necessary to identify the causal mechanisms that lead voters to change their minds on ballot measures. This paper contributes to answering research questions 1 and 3.

The second paper (Barbieri, a) focuses on the determinants of vote choices and institutional differences across contexts (questions 1 and 2). It investigates whether political cues more broadly help voters align their choices with their evaluation of substantive arguments related to the ballots. It makes two main contributions. First, it tests the effects of multiple political cues

- such as party cues, interest group cues, and government cues - in moderating the relationship between argument evaluation and vote choice. Second, it examines whether the effects of these different types of cues are similar (or different) across Switzerland and California.

The third paper (Petitpas et al.) relates to research questions 1 and 2. It goes beyond the party versus policy debate and explores how the evaluation of substantive arguments and the perception of party cues jointly influence vote choice over the course of the campaign. Building on the first article of the dissertation, we ask what happens when voters' policy evaluations conflict with the voting recommendation of their preferred party. We argue that what matters is the strength of voters' positions on the arguments. When voters hold strong opinions about the policy, they tend to align their vote choice with these opinions, even when they conflict with the recommendation of their preferred party. When voters have weak opinions, they are more likely to follow their preferred party's cue.

The fourth paper (Barbieri, b) focuses on the determinants of vote change, the effects of campaign activities, and the role of individual characteristics, addressing research questions 1 and 3. The goal of this article is to test whether advertising persuades voters to change their vote intentions during the campaign. I argue that the extent of persuasion likely depends on three factors: the direction of the message (whether it supports or opposes the ballot), the intensity of exposure, and individual differences among voters, such as political sophistication.

Research strategy

<u>Similarities and differences across papers</u>

A central strength of this dissertation lies in its use of diverse research designs to answer the core research questions. The four articles rely on a variety of methodological approaches, including experimental designs, cross-sectional analyses, panel data, and linkage data. This diversity enables a comprehensive investigation of how information sources, campaign activities, and individual-level factors interact during direct-democratic campaigns. However,

the differences in research design and empirical focus across the papers also result in variations in scope, analytical strategy, and the use of key variables.

One of the primary differences across the four articles is that not all ballots are analyzed in every paper. The first article, which uses an experimental design to identify causal mechanisms linking information sources to vote stability and change, focuses exclusively on one ballot measure: California's Proposition 27.[9] In the 2023 Swiss data collection, respondents were presented with a different experimental design developed for a separate article outside the scope of this dissertation. The fourth article relies on a linkage between panel survey data with a rolling cross-section design and an advertisement dataset, which was only available for the Swiss context. As a result, this article focuses exclusively on Switzerland. Here, the analysis centers on the Climate Law, excluding the OECD law for two main reasons. First, the OECD campaign was highly one-sided, limiting exposure to messages from opposing camps. Second, it was a low-intensity campaign, which resulted in very few ads being published. This minimized the potential for voters' exposure to ads.

Papers 2 and 3 share the greatest degree of similarity. Both analyze all four ballot propositions and rely on a similar set of explanatory variables. Yet they differ in both objective and empirical strategy. Paper 2 investigates whether different types of political cues (party cues, interest group cues, and government cues) help to vote in line with their evaluations of substantive policy arguments. It focuses on comparison between Switzerland and California, using a cross-sectional design to assess whether people can reach consistent decisions when exposed to a variety of cues. In terms of empirical strategy, it tests the cue on each ballot separately. This is done to test whether the context (Switzerland or California's direct democratic systems)

[9] In the context of the SNF project, we chose to run the experiment on only one ballot measure per survey. This decision was made to maximize the statistical power of the analysis. Including experiments on both ballots would have required splitting the sample in two, effectively halving the number of respondents available for each experimental condition. The same experimental design was replicated in the Swiss data collection of 2022. However, the data from that particular collection is not used in this dissertation.

influences the reception and importance of different political cues (party, government, and interest group cues). In contrast, Paper 3 examines how the relative influence of policy arguments and party cues changes over the course of the campaign. It uses panel data to investigate whether and how voters reconcile situations in which their evaluations of policy arguments conflict with the voting recommendations of their preferred party. Since we assume that voters in Switzerland and California process information in the same way, in this case, we analyze all ballots together (stacked data set).

Another important difference between the two papers lies in how party cues are operationalized. Paper 2 uses knowledge of elite positions, that is, whether respondents are aware of where parties, government/governor, and interest groups' positions on a given ballot measure, as the key predictor. This approach allows an assessment of whether citizens have correctly received and retained elite messages. This strategy is particularly well-suited to a comparative design, as knowledge provides a more standardized indicator across institutional contexts. By contrast, Paper 3 focuses on the perception of party cues. The main concern here is how voters interpret and reconcile conflicting information. Since I analyze citizens' voting preferences during the campaign, using the perception of their preferred party position is more suited.

Finally, the use of moderators varies across the articles. This choice is driven by differences in research goals and design. Papers 1 and 4 include individual characteristics as moderators, such as political sophistication, partisanship, and attitude strength, while Papers 2 and 3 do not. This was done because the former are meant to test the moderating role of individual characteristics. Indeed, Paper 1 focuses on one ballot in a single context and investigates the causal mechanisms behind vote change and examines whether individual characteristics condition responses to different types of information. Similarly, Paper 4 examines the effects of political advertising on one ballot, the Climate law, and whether its persuasive effects vary by political sophistication. In contrast, while the remaining two papers include interaction effects, Paper 2

aims to map the general effects of multiple political cues and compare them across institutional settings. Paper 3 focuses on how party cue perception and argument evaluation influence vote choice over time.

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Appendix A - **Additional information**

The three tables below provide some key information that should be useful for readers. The first table shows the share of voters who maintained or changed their vote intention/choice between the beginning of the campaign and the post-vote survey. These descriptive statistics show variation across the four ballots. More details about this variation are provided in the articles.

Table 1 - Citizens' voting behavior (stability and change) between Wave 1 and Wave 3 by ballot proposition.

Variable	Wave 1 Response	Yes (W3)	No (W3)	Total
Climate	Yes	85.4% (662)	14.6% (113)	775
	No	19.5% (65)	80.5% (268)	333
	Don't Know	61.7% (113)	38.3% (70)	183
	Total	840	451	**1,291**
OECD	Yes	84.6% (601)	15.4% (109)	710
	No	63.1% (161)	36.9% (94)	255
	Don't Know	80.7% (247)	19.3% (59)	306
	Total	1,009	262	**1,271**
Prop 26	Yes	57.2% (259)	42.8% (194)	453
	No	15.1% (53)	84.9% (298)	351
	Don't Know	35.4% (46)	64.6% (84)	130
	Total	358	576	**934**
Prop 27	Yes	54.0% (188)	46.0% (160)	348
	No	5.3% (25)	94.7% (446)	471
	Don't Know	20.0% (23)	80.0% (92)	115
	Total	236	698	**934**

Table 2 – Direction of vote change between Wave 1 and Wave 3 by ballot proposition.

Ballot Proposition	Activation Rate	Conversion Rate	Net Vote Change
	(DK → Vote Choice)	(Vote shift (YES/NO)	(% points)
Climate	14.2% (183)	13.8% (178)	-3.7%
OECD	24.1% (306)	21.2% (270)	+4.1%
Proposition 27	12.3% (115)	19.8% (185)	-14.5%
Proposition 26	13.9% (130)	26.4% (247)	-15.1%

Note: Activation rate = percentage of total respondents who moved from "Don't Know" to a vote choice. Conversion rate = percentage who changed between Yes/No positions. Values in parentheses show raw frequencies.

The table reveals that while for the Climate and OECD measures both mechanisms are roughly equally present (around 50-50 split), for the two California propositions, conversion rates clearly prevail over activation rates.

The third table provides a summary of key information on each ballot that readers might want to reference while reading the dissertation. The table summarizes the positions of the most important parties in Switzerland and California, along with government/governor positions, main interest groups, and some information on ballot characteristics.

Table 3 - Summary of key information for each ballot proposition

Ballot Proposition	Party Recommendation	Government/or Recommendation	Interest Group Recommendation	Campaign Intensity	Importance Level	Complexity Level
Climate	SVP: No PLR: Yes SP: Yes Greens: Yes Center: Yes	Yes	Economiesuisse: Yes Union Syndicale Suisse: Yes	High	7.3/10	2.1/4
OECD	SVP: Yes PLR: Yes SP: No Greens: Free Center: Yes	Yes	Economiesuisse: Yes Union Syndicale Suisse: Yes	Low	5.9/10	2.3/4
Proposition 26	Democratic Party: Yes Republican Party: Free	Free	CNIGA: Yes DraftKings: Free	High	5.3/10	2.1/4
Proposition 27	Democratic Party: No Republican Party: No	No	CNIGA: No DraftKings: Yes	High	5.2/10	1.9/4

Note: Self perceived importance measured on 10-point scale in Wave 3. Self perceived ballot complexity measured on 4-point scale in Wave 3. Party and Government/or recommendations indicate official positions. Interest group recommendations show positions of two key stakeholder organizations per ballot.

First Paper: Betting on Partisanship: Biased Information Processing and Opinion Change on a Citizen Initiative[10]

Andrea Barbieri, Adrien Petitpas, Pascal Sciarini

Abstract

How do voters make up their minds when voting on a citizens' initiative? Motivated reasoning theory makes a strong case for a partisan bias in the way citizens process information, but empirical evidence is mixed. We offer a more systematic test of the "party over policy" argument by integrating prior attitudes into the analysis of how voters respond to cues and policy information. Results of a survey experiment with pre-post measures of vote intentions on a California citizen initiative on online sports betting in 2022 provide support for partisan motivated reasoning. Regardless of the direction of policy information, voters who change their minds tend to follow the cue of their preferred party, even when the cue contradicts their initial vote intention. These results have important normative and practical implications.

[10] Barbieri, A., Petitpas, A., & Sciarini, P. (2025). Betting on Partisanship: Biased Information Processing and Opinion Change on a Citizen Initiative. *Political Behavior*, 1-19. https://doi.org/10.1007/s11109-025-10053-3

Introduction

Do party cues outweigh policy information when citizens make their decision on a policy proposal through the initiative process? Motivated reasoning theory answers this question in the affirmative. Providing grist to the mill of the "party over policy" view (Cohen, 2003), it claims that party cues bias citizens' information processing. Empirical evidence, however, is mixed. While in some studies voters do follow party endorsements and ignore policy information (Bolsen et al., 2014; Pannico, 2020), others find that voters rely on both (Boudreau & MacKenzie, 2014; Bullock, 2011; Colombo & Kriesi, 2017). We argue that these inconclusive results are due to the lack of consideration of prior attitudes, which are central to the theory of motivated reasoning, but neglected in existing studies. This, in turn, leads to an inadequate empirical test of how party cues and policy information influence voters' choices, and in particular, how the former may bias the latter.

In this paper, we put the "party over policy" argument to a more systematic test. First, we integrate both voters' prior attitudes, party cues, and substantial policy information into a comprehensive framework of opinion formation and change. Second, unlike existing experimental studies that typically infer opinion "change" through group comparisons, our method additionally involves contrasting respondents' vote intentions before and after the experiment. This allows for a more valid assessment of voters' responses to information and cues. Third, we explore the role of possible moderators like partisanship, sophistication, and strength of prior attitudes.

Empirically, we conduct an experimental survey in a real-world context. We collected data at the very beginning of a campaign for a citizen initiative on sports betting in California in 2022 (Proposition 27). California has extensive experience with citizen initiatives, and Proposition

27 resulted in the most expensive campaign ever ($400 million).[11] Proposition 27 addressed a policy that was unfamiliar to voters. As such, it is a typical case of direct democratic votes, where people are asked to make a decision on issues about which they initially have little knowledge (Bowler, 2015).

Literature review

There is a broad consensus in the literature that party cues – or party endorsements – play an important role in opinion formation in general, and in direct democratic votes in particular (Azrout & de Vreese, 2018; Bisgaard & Slothuus, 2018; Brader et al., 2013; Bullock, 2020; Petitpas et al., 2024; Sciarini & Tresch 2011; Slothuus & Bisgaard, 2021; Slothuus & de Vreese, 2010). As Kriesi (2005:139) bluntly puts it, party cue is "the quintessential shortcut in direct democratic votes".

A more crucial – and more controversial – question concerns the relative influence of party cues versus substantial policy information. Of course, studies that focus on either party cues or policy information cannot, by definition, provide a convincing answer to this question (Bäck et al., 2021; Bolsen et al., 2014; Walder & Strijbis, 2022).[12] As Bullock (2011, 2020) correctly points out, the only way to assess the relative weight of campaign arguments and party cues is to expose respondents to both factors simultaneously.

[11] Ballotpedia.org. *Ballot measure campaign finance*. Retrieved 10 December 2022, from https://ballotpedia.org/Ballot_measure_campaign_finance,_2022

[12] Other streams of research investigate similar mechanisms but from different perspectives. For instance, some use conjoint experiments to evaluate the acceptability of policy packages (e.g. Häusermann et al. 2019, conditional on the support of party coalitions (e.g. Dermont & Stadelmann-Steffen, 2020). However, this approach is mainly interested in the content of policy packages, i.e. in the degree of support for different configurations of policy reforms. Another stream looks at how voting advice applications (VAA), together with party cues influence vote intentions (e.g. Stadelmann-Steffen et al. 2023), but not in how policy information – and the related arguments for and against a proposal – influence citizens' support.

Studies that meet this requirement and examine the effects of both party cues *and* policy information yield mixed results. Consistent with motivated reasoning theory, some studies do find that voters process information with a partisan bias, i.e., blindly following the cue of their preferred party and ignoring policy information (Cohen, 2003; Pannico, 2020). However, other studies provide a more balanced view (Boudreau & MacKenzie, 2014; Colombo & Kriesi, 2017; Mullinix, 2016; Tappin et al., 2023). For example, the two experimental studies reported by Bullock (2011) show that the effects of position taking by party elites are smaller than the effects of policy information. In another experimental study of citizen-sponsored initiatives, Boudreau and MacKenzie (2014) also find that policy information counteracts the effects of party cues: when voters receive substantial policy information that contradicts their party's position on a given initiative, they tend to shift their opinions away from the party's position and show opinions that are no different from the control group.

However, existing experimental studies suffer from two limitations that, we argue, may account for these inconclusive results. First, these studies fail to do justice to the motivated reasoning theory on which they are based by not conceptualizing the role of prior attitudes. As a result, when voters are exposed to arguments in favor of a given policy and show strong support for that policy, we do not know the extent to which that support is due to the arguments or to the voters' prior beliefs.

Second, and relatedly, because experiments manipulating policy information and party cues do not take respondents' prior attitudes into account, they cannot measure their change in opinion. Instead, they infer change from the differences in support between the treatment group and the control group. That is, they do as if a difference in policy support equals a change in opinion. For example, Mullinix (2016) finds that when partisan motivations and issue motivations conflict, people generally engage in partisan motivated reasoning. However, Mullinix's (2016) study does not assess how motivations affect pre-existing opinions and, therefore, cannot

demonstrate a possible change of opinion. To test whether a change in opinion has actually occurred, it is necessary to compare opinions before and after the treatment.

Some authors have recognized the need to take into account voters' pre-existing opinions when analyzing opinion stability and change (Cobb & Kuklinski, 1997; Goodwin et al., 2020; Guess & Coppock, 2020; Stanley et al., 2020; Taber et al., 2009). However, these studies fall into the other trap mentioned above (Bullock, 2011), in that they focus on policy arguments and disregard party cues.[13]

In sum, existing studies often take into account prior attitudes, but they rarely test how party cues and substantial policy information affect these attitudes. To understand what triggers opinion change, we need to consider voters' prior attitudes and integrate them into a comprehensive framework that includes party cues and policy information regarding a ballot measure. Moreover, to assess whether and to what extent party cues bias citizens' processing of policy information as a function of their pre-existing attitudes, we must design an experiment with pre-post measures of the attitude at stake – in our case, vote intention.

Hypotheses

We derive our hypotheses from the theory of (partisan) motivated reasoning (Taber & Lodge, 2006), which posits how motivation and goals shape the way citizens process information. It identifies two main types of motivation: *accuracy* and *directional* goals. The former leads people to seek balanced information that does not favor one point of view, and thus to make accurate decisions. However, most citizens follow directional goals and are driven by the desire

[13] The study by Morisi et al. (2021) avoids this trap, by considering intra-individual dynamics on both arguments and cues. However, they do not analyze party cues, but "change cues"– to test the status quo heuristic. In addition, the pre-post measures of voters' opinions are measured in two different waves, which threatens causal identification. Colombo and Kriesi (2017) study both party cues and policy arguments, however they use panel data covering two Swiss referendums. The authors find that party cues affect the way voters evaluate and process campaign arguments.

to defend their prior beliefs and feelings. Often, directional goals outweigh accuracy goals, leading citizens to accept information if in line with their opinion and to reject conflicting information.

The *prior attitude effect* accounts for this mechanism as voters process information to defend their own position (Mullinix 2016, Stanley et al. 2020, Taber et al. 2009). That is, they tend to evaluate more positively messages that confirm their position and to evaluate more negatively messages that conflict with their position (Taber & Lodge, 2006). Therefore, information that conflicts with prior attitudes is less persuasive and less likely to change opinions.

To this argument, the theory adds the role of party cues and coins the concept of *partisan motivated reasoning* (Bolsen et al. 2014).[14] Because citizens have a strong attachment to their party, they are motivated to defend that identity (Bäck et al., 2021). They process information with a perceptual screen (Campbell et al., 1960) and strive to make decisions in line with their party identification. Party cues activate a directional motivation that compels citizens to support their party's position (Petersen et al., 2013). Therefore, when citizens are exposed to both party cues and substantial information, they tend to favor the former and align their position with that of their preferred party. Depending on the direction of citizens' prior attitudes (in our case of their initial vote intention), a conflict may then arise between citizens' prior attitudes and the cue they receive from their preferred party, i.e., the party's recommendation to vote Yes or No on the ballot measure. When respondents are exposed to policy information that aligns with their vote intention, but with a party endorsement that conflicts with it, they are likely to follow the cue and change their opinion.

There are three reasons for this expectation. First, even if the policy information confirming the vote intention is compelling, the party cue is simpler to use, more easily accessible, and thus

[14] Dual-process theories make similar predictions but for other reasons and start from different premises (Cacioppo et al., 1986; Eagly & Chaiken, 1993).

more powerful (Boudreau & MacKenzie, 2014). Second, a cue is a reliable and credible source of information for voters, especially when compared to policy information without specific endorsements (Boudreau & MacKenzie, 2014; Lupia, 1994). Third, cues may even cause voters to reevaluate their perceptions of arguments (Bolsen et al., 2014; Colombo & Kriesi, 2017). In this scenario, citizens do not simply ignore arguments, but rather, following a disconfirmation bias, tend to denigrate and reject them because they conflict with their party's official voting recommendation.

H1a: *Voters exposed to policy information confirming their vote intention and to a party cue conflicting their vote intention are more likely to change their vote than voters in the control group who receive neither information nor a party cue.*

In contrast, but still consistent with partisan motivated reasoning, when the party cue matches their vote intention, but the policy information does not, voters are likely to prioritize the party cue and to stick to their vote intention.

H1b: *Voters exposed to policy information that conflicts with their vote intention and to a party cue that confirms their vote intention are not more likely to change their vote than voters in the control group.*

So far, we have assumed situations in which policy information is completely one-sided. In the real world of initiative and referendum campaigns, however, voters are usually exposed to both arguments for *and* against a given ballot measure, i.e., to somewhat balanced information. If, in addition to the party cue, citizens receive both pro and con arguments, this means that they are confronted with two pieces of information (the cue and one of the arguments) that either confirm or conflict with their vote intention. Since the effect of the party cue is still likely to be dominant, voters' decisions will depend mainly on the conflicting versus confirming nature of

the cue. When voters are exposed to a party cue that conflicts with their vote intention, they are faced with two reasons to change their vote, a cue and a policy argument:

H2a: *Voters exposed to balanced policy information and to a party cue conflicting their vote intention are more likely to change their vote intention than voters in the control group.*

In contrast, when voters are exposed to a party cue that is in line with their vote intention, they are faced with only one conflicting argument, which they are very likely to ignore:

H2b: *Voters exposed to balanced policy information and to a party cue confirming their vote intention are not more likely to change their vote intention than voters in the control group.*

The above hypotheses implicitly assume that individuals in the different treatment groups do not differ from each other. That is, they assume the homogeneity of the electorate and overlook the fact that it is intrinsically heterogeneous (Bartle, 2005; Lachat, 2007; Stubager et al., 2018). In the present context, as in public opinion research in general, three moderators are likely to make a difference: partisanship, sophistication, and attitude strength. All are expected to alter the partisan bias, but through different mechanisms.

Motivated reasoning theory predicts that partisanship enhances the effect of party cues, leading partisans to process policy information in a particularly biased manner. Partisanship is an emotional and identity attachment to an in-group (Campbell et al., 1960; Leeper & Slothuus, 2014), and as such it tends to reinforce motivational reasoning. On the one hand, because partisan motivated reasoning primes people to defend their identity when it is challenged (Bolsen et al., 2014), partisans exposed to policy information that contradicts their vote intention but to a party cue that is consistent with it, are more likely than nonpartisans to prioritize their party cue and to not change their minds. On the other hand, because partisan motivated reasoning leads people to align their view with that of their preferred party, partisans will be more likely than nonpartisans to change their vote intention when confronted with a conflicting cue and confirming policy information.

H3: *The partisan bias postulated in H1 and H2 is stronger for partisans than for nonpartisans.*

While the moderation effect of party identification is mainly due to a strengthening of the role of cues, the moderation effect of sophistication operates through a weakening of the role of policy information. According to motivated reasoning theory, cognitive sophistication increases politically motivated reasoning, leading respondents to process policy information in a biased way. Bullock (2011) finds that need for cognition (a proxy for political sophistication) alters how citizens perceive policy information and cues. Taber and Lodge (2006) show that highly sophisticated voters tend to reject attitude-*inconsistent* arguments and rely more on attitude consistent arguments.

Sophisticated citizens, therefore, resist more than unsophisticated voters to policy information contradicting their vote intention, which reduces their likelihood of changing their vote intention. This is because politically knowledgeable citizens are better able to counterargue incongruent information (Taber & Lodge, 2006). They also have greater motivation and resources to defend their prior attitudes. As policy information has less effect on sophisticated voters, the partisan bias (induced by cues) will be more prominent for them than for unsophisticated voters.

H4: *The partisan bias postulated in H1 and H2 is stronger for sophisticated voters than for unsophisticated voters.*

Finally, we also test the moderating effect of the strength of prior attitudes towards the ballot measure. Research on attitudes and resistance to change suggests that stronger attitudes lead to greater resistance to change (for an overview, see Krosnick & Petty, 1995). A mechanism proposed by Eagly and Chaiken (1995) suggests that recipients of new information process it either passively or actively. For example, respondents with strong attitudes about an issue who encounter counter attitudinal information may either ignore the information (passive processing) or actively refute it with a counterargument (active processing). In both cases,

individuals with stronger attitudes are expected to show greater resistance to attitude change. Therefore, respondents with stronger attitudes should be less inclined to change their vote intentions (Goodwin et al., 2020). Accordingly, we expect that respondents with stronger attitudes will be less likely to change their vote from Yes to No, or vice versa when confronted with policy information and party cues that conflict with their voting intention.

H5: *The partisan bias postulated in H1 and H2 is stronger for respondents with weak attitudes towards the ballot measure than for respondents with strong attitudes.*

Methodology

We conducted a survey experiment on one of the seven ballot measures submitted to voters in the 2022 California general election. Compared to other direct democratic contexts, California has been described as an unmediated variant of direct democracy (Kriesi, 2009; Sciarini & Tresch 2024), due to its bottom-up approach, both in terms of the nature of the votes and the actors involved in direct democratic campaigns. Ballot measures mainly arise from citizen initiatives launched by interest groups and civic associations. These are the main actors involved in the campaigns. Political parties and government bodies usually provide voting recommendations, but these are costly for voters to acquire (Bowler & Nicholson, 2018). Indeed, party cues are less visible than in candidate elections because parties do not engage strongly in campaigns (Bowler et al., 2020).

Thus, we can expect party cues to have less influence on voters' choices in California than in other direct democratic contexts, such as Switzerland (Kriesi, 2005), where political parties play a leading role in campaigns. In this sense, our experiment can be seen as a conservative test of the role of party cues.

Our empirical case is Proposition 27, the "online sports gambling and homelessness prevention" initiative, which aimed to regulate the online sports betting market. The initiative would have allowed gambling companies affiliated with Native American tribes to offer online sports

betting. This proposition was sponsored and promoted by online sports betting companies and opposed by some Native American tribes that control the state's casino industry. If passed, Proposition 27 would have legalized a betting practice currently prohibited in California, representing a market with hundreds of thousands of potential customers.

Proposition 27 is a classic case of citizen initiative. While sports betting is a familiar topic due to frequent advertising on television and the internet, reform of the sports betting industry is a more complex and unfamiliar political issue with limited ideological grounding. In particular, sports betting was only federally legalized in 2018, and political parties lack clear and distinct positions on the issue, especially when compared to highly polarized issues such as migration or healthcare.[15]

On the one hand, the unfamiliarity of the policy should increase the importance of the policy information provided to respondents (Boudreau & MacKenzie, 2014). This is because people tend to have weaker prior attitudes towards unfamiliar policy issues and are likely to benefit greatly from the political messages delivered to them. On the other hand, Ciuk and Yost (2016) show that low salience issues incentivize citizens to rely on party cues more than on high salient issues. Moreover, Chong and Mullinix (2019) argue that non-ideological issues are those where party cues, rather than policy information, have the greatest effect. This is because party cues help voters connect their predispositions to policy issues about which they know little. In this sense, Proposition 27 is a good case for studying the role of party cues and policy information in opinion formation, because there is no reason to believe that one factor is more important than the other.

[15] In 2018, the Supreme Court struck down a 1992 federal law that prohibited sports gambling on US territories. Since then, 40 States introduced sports gambling under blue or red governors. Both the Democratic and Republican parties ended up recommending to reject Proposition 27, which further demonstrates its non-polarizing character.

The pre-registered survey experiment was administered by Ipsos between nine and seven weeks before the election day (08-26/09-16, 2022). The online access sample (N= 3'795) is representative of the Californian population in terms of gender, age, and education (see Appendix A).

The experiment is a 2x4 factorial design. After a brief presentation of Proposition 27, respondents were randomly assigned to one of eight different groups (see Table 1).

Table 1 - 4x2 factorial design (party cue x policy information).

		Party cue	
		Absent	Present
Policy information (Arguments)	Absent		
	Pro		
	Contra		
	Balanced		

The first factor we manipulate is the party cue, i.e., whether respondents receive or not the voting recommendation of their preferred party. We derived the respondents' preferred party from a standard battery of party closeness questions (see Appendix B). In order to maximize the number of respondents who participated in the experiment, those who did not feel close to a party – even when asked whether they felt somewhat closer to a party in the follow-up question – were still assigned to a party based on their answers on a 0-10 liberal-conservative scale: Respondents who answered 0 to 4 were considered Democrats, while those who answered 6 to 10 were considered Republicans; respondents who did not position themselves on the liberal-conservative scale ("don't know" response, N = 188) or who positioned themselves in the middle of the liberal-conservative scale (position 5, N = 414) were excluded from the experiment.

Participants exposed to a party cue received the following sentence about Proposition 27: "The *Republican/Democratic* Party recommends voting *Yes/No*." The assignment of party

endorsements, i.e., whether the respondent received a Yes or No cue, was randomized (see Appendix B). The rationale for randomization was twofold. First, the Democratic Party had just released its endorsement at the time of the experiment, whereas the Republican Party released it during the fieldwork.[16] Second, given the fact that the issue was not very ideological, a Yes or No cue on Proposition 27 was realistic and credible for each party. Third, and perhaps more importantly, this allowed us to ensure that each respondent had an equal chance of receiving a confirming or conflicting cue. At the end of the survey, we informed participants that the cues were fictitious and might not represent reality.[17]

The second factor we manipulate is the campaign arguments (i.e., policy information), according to four conditions: absence of arguments, pro arguments, con arguments, or a mix of pro and con arguments, i.e., balanced arguments. The treatment texts are our creations, based on the main arguments put forward by proponents and opponents during the campaign (see Appendix C). The pro and con arguments follow the same text structure, have the same word length, and are long enough to provide substantial information and thus to influence voters (Bullock, 2011). We deliberately chose not to include a source for the arguments in order to avoid blurring the message, i.e., to avoid respondents relying on heuristics rather than on policy

[16] More specifically, when we designed the questionnaire in late June 2022, neither the Republican nor the Democratic Party had officially released their endorsements. The Democratic Party endorsement did not become available until mid-July 2022, at which point we were unable to modify the questionnaire. Both parties eventually recommended to reject Proposition 27. To make sure that the – false – Yes cue does not bias the results of the experiment, we provide a table that shows the mean support rate by treatment group (Appendix D -Table D1). Respondents receiving a Yes cue (without any argument) have a higher average support (2.75) than the control group (2.57), and the difference is statistically significant ($p = 0.05$). From this we can assume that most respondents did not detect the false information.

[17] The random manipulation of the party cue implies deception, but the experiment complies with the usual ethical standards (see https://www.apa.org/ethics/code, section 8.07).

arguments. For the two groups that received balanced arguments, we randomized the order of the pro and con arguments to eliminate any possible order bias.

Voters' pre-treatment vote intention is our measure of respondents' prior attitudes. Arguments and party cues may confirm or contradict respondents' initial vote intentions. For example, if a respondent whose initial vote intention is in favor of Proposition 27 receives an argument in favor of the policy and a party cue against it, she is simultaneously exposed to an argument that confirms her vote intention and a party cue that conflicts with it. For this reason, we recode the two treatments of the experiment according to whether the arguments and cues confirm or conflict with the vote intention (Table 2). As the experiment has a within-subject component, we face the potential risk that observed changes could be due to response instability rather than treatment effects. However, the fact that our experiment employs both a within-subjects and a between-subjects design helps to ensure that the observed changes are due to the treatments and not to random effects.

Table 2 - Recoding of groups used in the analysis.

		Party cue		
		Absent	Confirming vote int.	Conflicting vote int.
Policy information (Arguments)	Absent			
	Confirming vote intention			
	Conflicting vote intention			
	Balanced			

In terms of moderators, we first consider partisanship, a binary categorical variable derived from the same set of questions on party closeness mentioned above (see Appendix B). Respondents who at the first question said they felt close to a party and identified as Republicans or Democrats are coded as partisans, whereas respondents who said they did not

feel close to a party are coded as nonpartisans - regardless of whether they then answered yes or no to the follow-up question.

Sophistication is a binary categorical variable that distinguishes between unsophisticated and sophisticated voters. It is based on an additive scale comprising two variables – motivation (interest in politics) and resources (issue-specific knowledge). Interest in politics is measured on a four-point scale ranging from not interested at all to very interested (see Appendix B). Respondents' issue-specific knowledge is measured through two factual knowledge questions about Proposition 27. Those who answered both questions correctly received a score of 2, one correct answer received a score of 1, and incorrect answers to both questions resulted in a score of 0 (see Appendix B). To construct the sophistication variable, we added up the scales of political interest and issue-specific knowledge (0-5 scale). Respondents scoring below the mean belong to the group of unsophisticated voters (N=815), while respondents above the mean are considered as sophisticated voters (N=1811).

The third moderator is attitude strength, a binary variable that distinguishes between voters with strong and weak attitudes towards the ballot proposal. We derive it from the voters' pre-treatment vote intention that is measured on a four-point categorical scale: certainly in favor, rather in favor, rather against, certainly against. We assigned respondents who were *certain* to vote "for" or "against" to the strong attitude category, and the others to the weak attitude category.

The dependent variable in our analysis is whether respondents changed their vote intention after the experiment. Accordingly, we asked respondents about their vote intention on Proposition 27 at the very beginning of the survey and, later, immediately after the experiment, at the end of the survey. Both vote intentions are measured on a four-point categorical scale. Vote change includes any change from "in favor" to "against" or vice versa. We exclude from the analysis respondents who were undecided ("don't know") all along (N = 190), as well as changes in and

out of the "don't know" category (N=193; N = 184). There are two reasons for this exclusion. First and foremost, this choice is consistent with our theoretical perspective, which focuses on voters who receive information that either confirms or contradicts their prior attitudes. By definition, "don't know" respondents cannot receive either confirming or contradicting information. Second, the small number of respondents who moved from the support/oppose category to the "don't know" category (N=193) would raise empirical problems if they were distributed across the 12 different experimental groups. This leaves us with 2'626 observations. The distribution of this binary outcome is as follows: 82.7% maintained the same vote intention, while 17.3% of respondents changed their vote intention after the experiment. Among them, 6.8% changed vote intention from yes to no and 10.5% from no to yes (see Appendix D - Table D2).

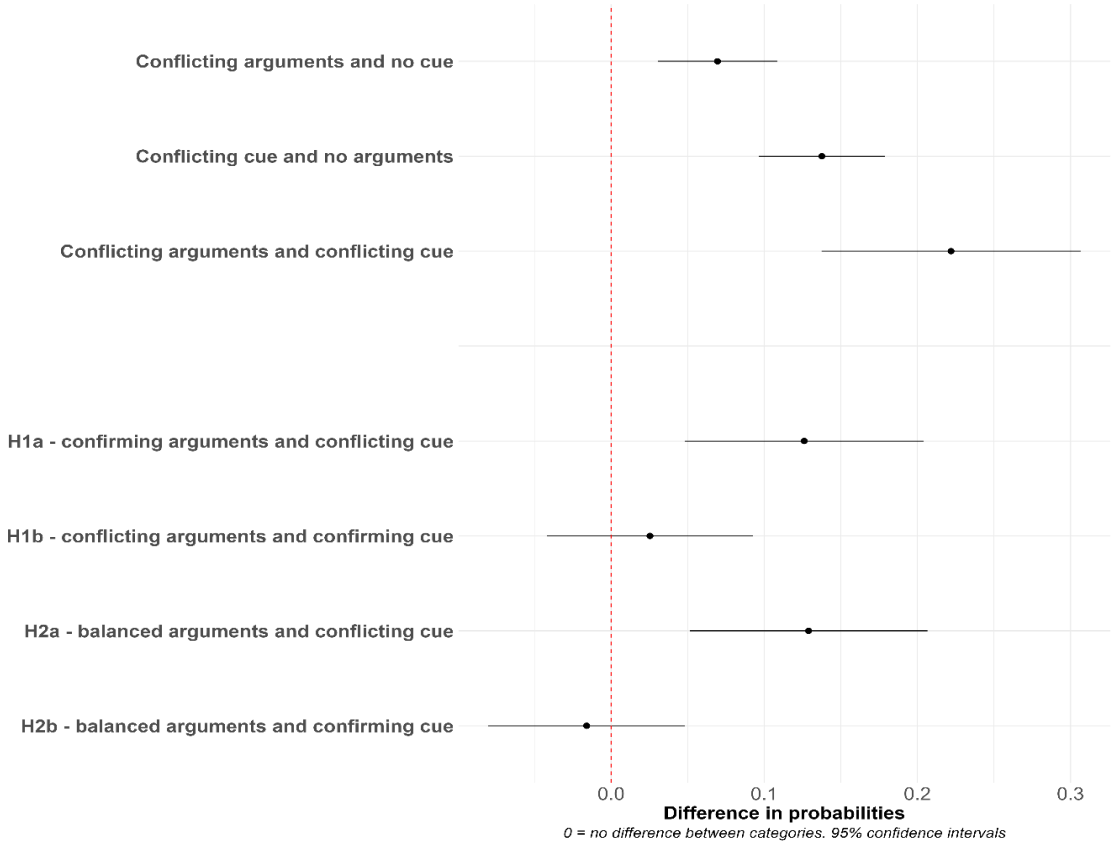
Analysis

To test our hypotheses, we estimate a logit model with a two-way interaction between the two factors shown in Table 2 (see Appendix E for the full models). After calculating the predicted probabilities, we compare each treated group with the control group, which received neither the cue nor the policy information. This tests whether the likelihood of vote change in the treated groups significantly differs from the control group. Uncertainty estimates (95% confidence intervals) are calculated as first-order approximate standard errors.

Figure 1 shows the results for the different situations of confirming/conflicting party cues and policy information, as well as for three additional groups not covered by our hypotheses that received either a conflicting cue but no policy information, or a policy information but no party cue, or both a conflicting cue and a conflicting policy information (see top part of figure 1). The figure shows that the first two groups on top are more likely to change their vote than the control group. This suggests that the two types of treatment have had an effect (people process cues and policy information), but the effect is larger for the group receiving a conflicting party cue.

Not surprisingly, the likelihood of changing one's vote reaches a high in the third group where the initial vote intention is challenged by both the party cue and the policy information.

Figure 1 - Differences in predicted probabilities of vote change between treatment groups and the control group



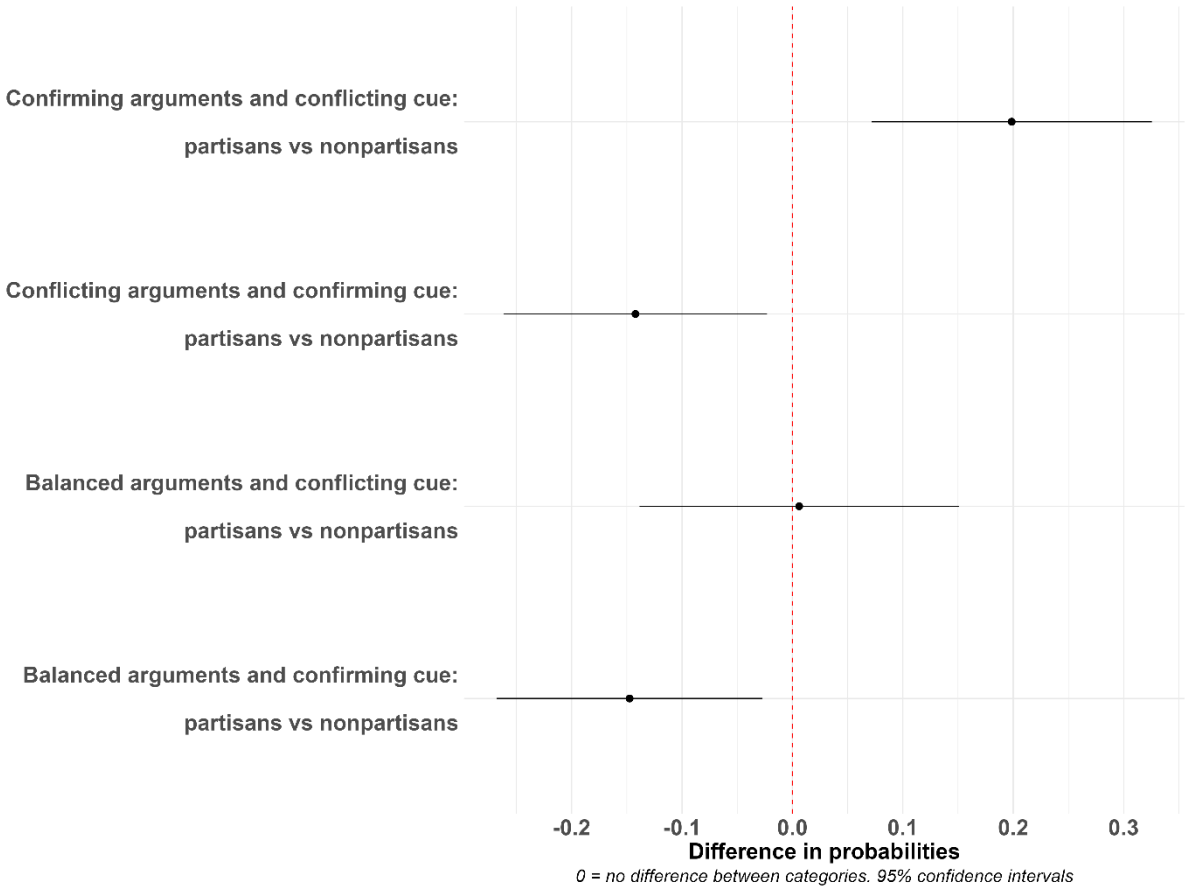
In line with H1a, respondents exposed to confirming arguments but to a conflicting party cue are more likely to change their vote intention than the control group. The difference in the predicted probability of vote change is 0.13 and is statistically significant. In contrast, as expected by H1b, respondents who received a confirming cue but conflicting policy information are no more likely to change their vote intention than the control group. These results support the partisan motivated theory that party cues dominate policy information and bias the way voters process this information in their decision-making.

Interestingly enough, the results are similar when, instead of the treatment combining a conflicting party cue with confirming policy information, we expose respondents to a more

realistic scenario that combines a conflicting party cue with balanced policy information (H2a). In this situation, the probability of a change in vote intention is again 0.13 higher than in the control group. While one might expect that respondents would be sensitive to the conflicting part of the policy information and, therefore, more likely to change their vote than respondents who received only confirming policy information (H1a), this is not the case. This result, which supports H2a, suggests that regardless of the nature of the policy information, i.e., whether it is balanced or one-sided, the conflicting party cue has the same overriding effect on vote change. The strength of the party cue also emerges from the result for the group of respondents who are exposed to balanced information and a confirming cue: As expected (H2b), these people are not more likely to change their vote than the control group.

To test whether partisanship increases the effects of party cues (H3), we run a three-way interaction logit model between the factors shown in Table 2 and partisanship (see Appendix E for the full model). From the logit model, we computed the difference in predicted probabilities of vote change between partisans and nonpartisans who received the same set of factors, e.g. who were both exposed to a conflicting party cue and a confirming policy information (Figure 2).

Figure 2 - Differences in predicted probabilities of vote change between partisans and nonpartisans (H3) - reference category non-partisans

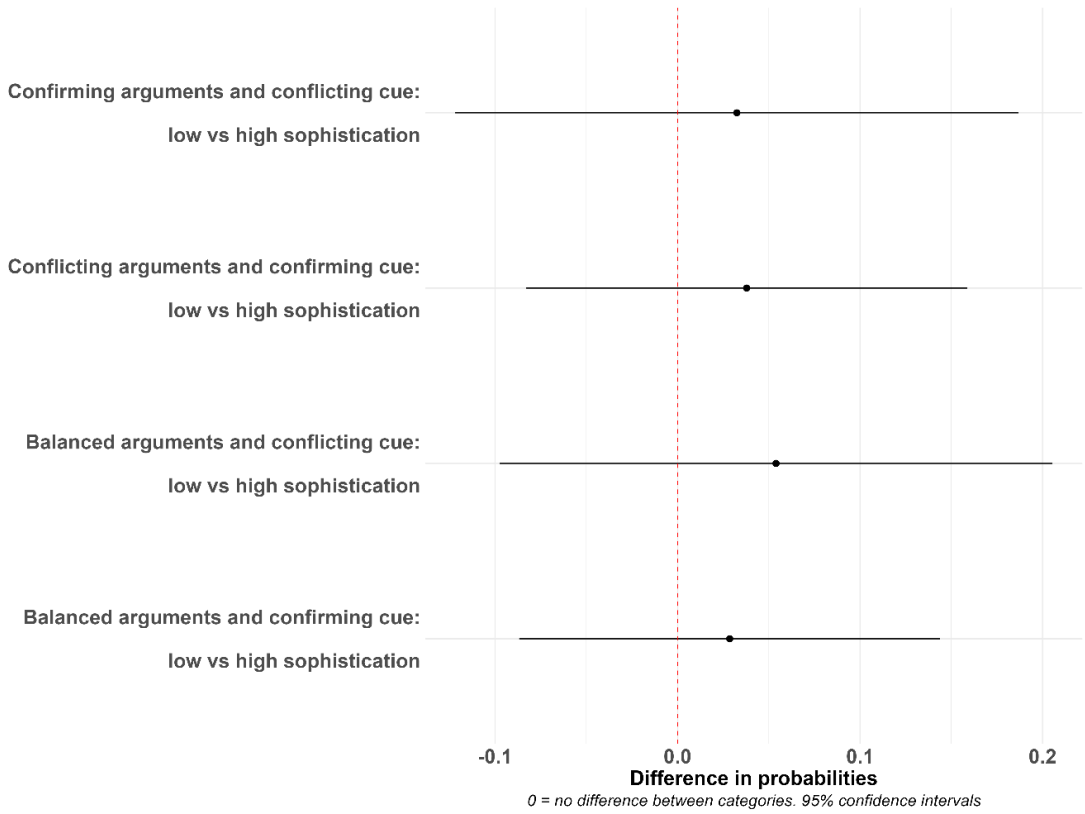


Consistent with our hypothesis, partisans in three of the four groups rely more on party cues than nonpartisans. When partisans receive confirming policy information and a conflicting cue, their probability to change vote intention in the direction of the cue is 0.19 higher than for nonpartisans. When instead partisans receive conflicting policy information and a confirming cue, they again tend to favor the message coming from their party and ignore the arguments against it, which leads to a 0.14 smaller probability of changing vote intention than nonpartisans. Similarly, when exposed to balanced information and a confirming cue, partisans are less likely than nonpartisans to change their vote intention (0.15 probability). The first group

that shows a different pattern is the one exposed to balanced information and a conflicting cue, in which nonpartisans and partisans do not behave differently.

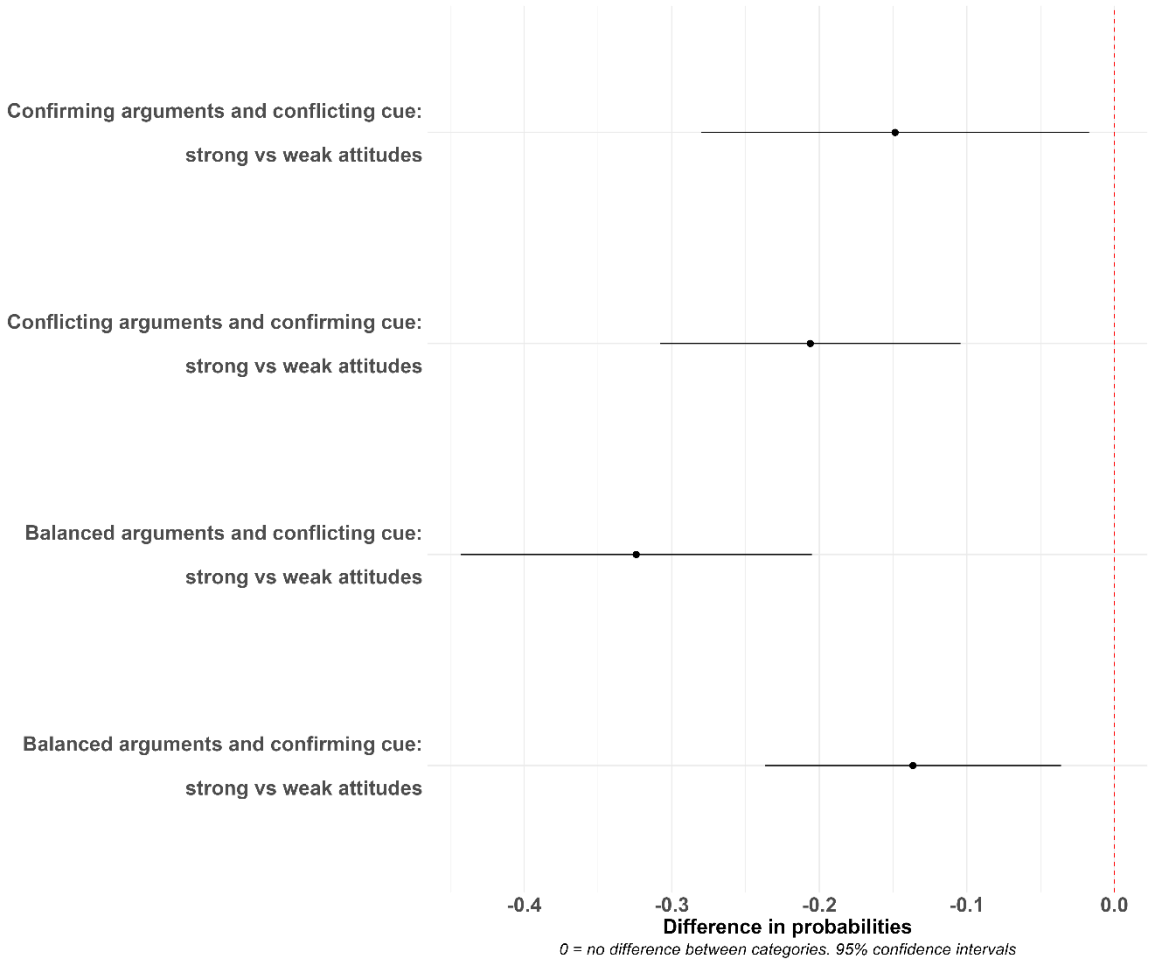
The test of hypothesis 4 on the moderation effect of political sophistication appears in Figure 3. It is based on a model including a three-way interaction between the factors listed in Table 2 and sophistication (see Appendix E). The figure shows the difference in probabilities of a vote change between low and high sophisticates belonging to the same combination of factors. The results contradict the claim of motivated reasoning theory and our hypothesis 4 that sophisticated voters resist more to conflicting political information than unsophisticated voters; according to our experiment, sophisticated voters react to party cues and policy information in the same way as low sophisticates.

Figure 3 - Differences in predicted probabilities of vote change between low and high sophistication (H4) – reference category high sophistication



Finally, Figure 4 shows the test of the moderating effect of the strength of attitudes towards the ballot measure. It is based on a model that includes a three-way interaction between the factors listed in Table 2 and the strength of initial attitudes (see Model 5 in Appendix E). The figure represents the difference in probabilities between respondents with strong and weak attitudes belonging to the same combination of factors. We see that for each treatment, respondents with strong attitudes have a lower probability of changing vote intention than respondents with weak attitudes. Treatment effects are smaller when preexisting attitudes are stronger, which supports hypothesis 5.

Figure 4 - Differences in predicted probabilities of vote change between respondents with strong and weak attitudes toward the ballot measure (H5) – reference category weak attitudes



Robustness tests

As a robustness test, we conduct three additional analyses. The first aims to challenge the findings appearing in Figure 1 by setting an alternative baseline category. While the main test above examines whether receiving a cue and policy information has a different effect than the control group that receives nothing, this additional test examines whether receiving a cue and policy information has a different effect than receiving only policy information. In other words, it tests whether a cue adds to policy information (Figure F1, Appendix F). The test corroborates the results of our main analysis and confirms that party cues outweigh policy information. When respondents are exposed to a cue conflicting with their pre-treatment vote intention, they are more likely to change their opinion in the direction of the party cue compared to when they receive only arguments. When instead respondents face a confirming cue in addition to policy information, they are not more likely to change vote intention than when they receive only policy information.

Second, we restrict the sample to only those respondents who reported having a preferred party, by removing those to whom we assigned a party based on the liberal-conservative scale or selected "other" as preferred party (N = 363). This provides a more conservative test than the one presented in Figure 1. The results are shown in Figure F2 of Appendix F. They remain the same, providing additional support for H1 and H2.

The last robustness test concerns the moderating effect of partisanship. In Figure 2, we use a measure of partisanship that considers as "partisans" respondents who feel very close to the Republicans or the Democrats, as well as those who are more lenient towards one of the two parties (see Petrocik, 2009, for a similar application). In Figure F3 of Appendix F, we provide an additional test with a more restrictive measure of partisanship that considers as partisans only those respondents who feel very close to their preferred party (see the party identification question in Appendix B). The results remain largely the same as in Figure 2. The only exception

concerns the difference in probabilities between partisans and non-partisans for the category "balanced arguments and confirming cue", which is no longer significant.

Conclusion

Applying the theory of motivated reasoning to a direct-democratic context, our study addresses the limitations of existing studies by considering voters' prior attitudes in addition to party cues and substantial policy information in explaining how voters make up their minds on a ballot measure.

While existing empirical evidence is mixed, the results of our survey experiment, which provides a more accurate test of opinion change, support partisan motivated theory.[18] Consistent with the "party over policy" view (Cohen, 2003), we find that party cues outweigh policy information and bias the way voters process policy information. When respondents are exposed to a vote recommendation that contradicts their vote intention, they tend to ignore the confirming policy information and adjust their opinion along partisan lines. When they receive a party cue that is consistent with their vote intention, they disregard the conflicting policy information and stick to their original vote. In other words, regardless of its conflicting or confirming nature, the partisan cue dominates the countervailing policy information. A similar pattern holds when respondents receive balanced information. The conflicting part of the policy information contained in the balanced messages pales in comparison to the dominant – confirming or conflicting – partisan cue. Finally, while the partisan bias does not appear to depend on voters' political sophistication, it is sensitive to partisanship, as partisans are more likely than nonpartisans to blindly follow party cues. The partisan bias is also stronger for voters with weak prior attitudes.

Our results have important implications for opinion formation in direct democratic contexts. From the perspective of normative democracy theory, citizens should rely on campaign

[18] Our findings are also in line with dual process models (Cacioppo et al., 1986; Eagly & Chaiken, 1993).

information to acquire knowledge and be able to cast a vote that is consistent with their underlying policy preferences. However, if citizens blindly follow the recommendation of their preferred party, they will make decisions that may go against their own reasoned opinions on the ballot measure. This would contradict the normative ideal of a free and enlightened choice. Our experimental study of the likelihood of a vote change on Proposition 27 delivers a balanced message in that respect. On the one hand, the vast majority of voters did not change their minds, even after being given reasons (conflicting party cue or policy information) to do so. On the other hand, among voters who did, information processing is affected by partisan bias. This finding is all the more striking because it is based on a pre-post design in which the time interval between the initial question about vote intention and the post-treatment question was very short. On a more practical level, the study also has implications for campaigners. The finding that campaign arguments are less important than party cues and are indeed processed through a partisan lens suggests that in order to influence voters, it is more efficient to emphasize the party line than to campaign on substantial arguments. Even in California, where parties are not heavily involved in direct democracy campaigns, committees on both sides are incentivized to seek party endorsements and clearly communicate them to voters.

While our experimental design breaks new ground, it has limitations. Despite our efforts to minimize the risk, the pre/post-treatment outcome measure could introduce response instability, meaning that observed changes might stem from fluctuations in responses rather than actual treatment effects. The same concern applies to potential anchoring effects – respondents might anchor their post-test opinion to their pre-test response, making them less motivated to engage with new information. Additionally, the focus on a single citizen-sponsored initiative in California is obviously a limitation. As Proposition 27 was not as salient as other issues, such as abortion or immigration, we cannot be sure that the relative importance of party cues and policy information can be extended to these issues. The same is true for the moderating effect

of partisanship, political sophistication, and the strength of prior attitudes. Replicating this study on another ballot measure thus seems as the natural step forward. Applying the same study design in another direct democratic context, i.e., one with greater party involvement in political campaigns, will provide additional insights into the strength of partisan bias.

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Appendix

A - Table A1. Voting-age population vs. sample characteristics (percentages)

		Survey	Targeted demographic quotas (Eurostat 2020)
Gender	Male	46	49
	Female	54	51
Age	18 to 24 years	11.8	11.1
	25 to 34 years	21	19.8
	35 to 44 years	19.5	17.5
	45 to 54 years	14.8	16.3
	55 to 65 years	16.5	17.3
	66 years and over	16.4	18
Education	Up to university	64.2	65
	University and above	35.8	35

B - Battery of questions on party identification, interest in politics, issue specific knowledge.

Liberal-conservative scale

"Liberal" and "Conservative" are two concepts often used to characterize politics. Where would you place yourself on a scale where 0 means liberal, and 10 means conservative?

Party identification

Do you feel close to a party?

1. Yes
2. No
99. Don't know

Which party is it?

1. Democratic Party
2. Republican Party
3. Other Party
99. Don't know

If " Democratic Party" or Republican Party" to the previous question:

How close do you feel to [Party]?

1. Very close
2. Not very close
99. Don't know

If “No” or “don’t know” to the first question:

Is there a party that you feel a little closer to than others?

1. Yes
2. No
99. Don't know

Which party is it?

1. Democratic Party
2. Republican Party
3. Other Party
99. Don't know

Issue-specific knowledge

The "Online sports betting" initiative will open the betting market to …

1. …American Indian casinos and affiliated California companies only.
2. …American Indian casinos and affiliated companies.
3. …American Indian casinos and cardrooms.
4. …American Indian casinos and cities.

99. Don’t know

If the initiative on the legalization of "Online sports betting" is accepted, the taxes and fees will be allocated to ...

1. …the General Fund.
2. …homelessness only.
3. …prevention of future pandemics.
4. …homelessness and the economic and social development of Tribes.

99. Don’t know

Interest in politics

In general, how interested are you in politics?

1. Not at all interested
2. Not very interested
3. Somewhat interested
4. Very interested

C - Treatments

Introduction (all groups)

Finally, here are two questions regarding the Online sports betting initiative. Please take the time to read the following information before answering these questions.

The measure aims to legalize online sports betting for people over 21 years old. American Indian casinos (Tribes) and all Gaming companies that have an agreement with them will have access to the California online sports betting market. To enter the market, companies would have to pay fees.

These fees and subsequent taxes would provide funding for the new California Online Sports Betting Trust Fund. The majority of this fund (85%) would be allocated to the California Solutions to Homelessness and Mental Health Support Account, and the rest (15%) to the Tribal Economic Development Account.

Finally, this measure will create the Division of Online Sports Betting Control within the Department of Justice to regulate the sports betting market and avoid illegal activities.

Arguments in favor (groups with balanced arguments and pro arguments)

For supporters, the initiative regulates the sports betting market and protects citizens. Indeed, legalizing sports betting will protect consumers who now need to rely on an unregulated, unsafe black betting market. Only responsible and trusted companies will be licensed, and in case of non-compliance with the rules, the initiative foresees strong sanctions.

In addition, this initiative benefits all Californians and deals with a major problem in the state: homelessness. First, new taxes and fees will be redirected to governmental bodies dedicated to find solutions to homelessness, such as providing permanent shelter. Second, these resources coming from online sports betting will provide stable and regular financial means to the State without raising taxes on residents.

Finally, another advantage of the initiative is that the market will be open to Tribes and private companies. Thus, everyone will be a winner: the Tribes, the state, the companies, and the population.

Arguments against (groups with balanced arguments and contra arguments)

For opponents, online sports betting is dangerous. It easily turns all electronic devices into betting devices and will hence create addictions, especially among young people. Minors will also be affected as it is impossible to check the age of online bettors.

In addition, this initiative is hypocritical as it will not benefit California and the homeless. First, legalizing online sports gambling is mostly a profit-making exercise, but it is not a reasonable policy to address homelessness. It may even make the problem worse by creating addictions

and therefore more poor people. Second, the big betting companies are out of state, so the profits will go to investments and jobs outside California.

Finally, legalizing online sports betting threatens the self-sufficiency of American Indian Tribes. Out-of-state firms will take resources away from the Tribes, even though the Tribes have been managing gaming well for years.

Party cue (group with cues)

The [Republican/Democratic party] recommends voting [YES/NO]

D - Descriptive statistics

Table D1 presents the mean support rate for Proposition 27 across different treatment groups, measured on a scale from 1 ("certainly against") to 4 ("certainly in favor"). Each treatment group corresponds to a different combination of arguments for or against the ballot measure and of Yes and No cues. To assess whether these treatments significantly influenced support compared to the control group, we conducted two-sample tests.

The average level of support in the control group is 2.57. This serves as the baseline for comparison. When respondents were exposed to arguments against the measure without any party cue, their support dropped to 2.39 ($p = 0.02$). Conversely, when presented with arguments in favor, support increased to 2.68, though this difference was not statistically significant ($p = 0.16$). Party cues also had a notable impact. A Yes cue alone (without arguments) increased support to 2.75, while a No cue decreased it to 2.31. Similarly, when respondents received both pro arguments and a No cue, support declined to 2.35 ($p = 0.02$). However, when they received con arguments alongside a Yes cue, support rose to 2.7, though this increase was not statistically significant ($p = 0.22$).

These results follow our expectations: both party cues and arguments influence vote intention, but their effects are not symmetrical. First, party cues have a stronger influence than arguments, consistent with our hypotheses. However, respondents do not ignore the contra arguments when they conflict with a Yes party recommendation. Second, con arguments have a greater impact than pro arguments. This asymmetry is consistent with the nature of the ballot measure and the campaign surrounding it. Indeed, the political campaign around Proposition 27 ended with a massive 82% No vote. This suggests that the pro arguments we presented to respondents reflected the real-world campaign, i.e., that they were less convincing than the arguments put forward by the No camp.

Table D1 - Two Sample Test, Experimental treatment on support for the initiative

		Dependent Variable: Vote support (scale 1-4) 4 equal max support	
	Mean	Standard deviation	p-value
Pro arguments, Yes cue	2.84	1.001	0.01
Yes cue	2.75	0.92	0.05
Contra arguments, Yes cue	2.70	1.08	0.22
Balanced arguments, Yes cue	2.69	1.09	0.39
Pro arguments	2.68	1.01	0.16
Control	2.57	1.04	NA
Balanced arguments	2.49	1.04	0.28
Contra arguments	2.39	1.09	0.02
Balanced arguments, No cue	2.35	1.09	0.01
Pro arguments, No cue	2.35	1.08	0.02
No cue	2.31	1.06	0.01
Contra arguments, No cue	2.21	1.11	0.0001
N	2,626		

Table D2 shows the distribution of the dependent variable according to the two factors used in the experiment. We split vote change according to its direction to check that respondents change their vote intention based on the direction of the party cue and of the arguments. The distribution suggests that respondents change their vote intention according to the stimuli they receive. For instance, those respondents receiving a No cue change vote intention more often from favor to against than those receiving a Yes cue (and vice-versa). Results are less clear-cut for arguments, but we nevertheless see that respondents receiving pro arguments change more often vote intention from against to favor than those receiving contra arguments (and vice versa).

Table D2 - Distribution of the (split) dependent variable according to the experimental factors.

		Party cue		
		Absent	No	Yes
Direction of vote Change	Stability	86	80	79
	Against to Favor	10	7	16
	Favor to Against	4	13	5
	%	100	100	100
	N = 2626	1322	768	536

		Policy information (Arguments)			
		Absent	Pro	Contra	Balanced
Direction of vote Change	Stability	84	82	82	83
	Against to Favor	12	13	8	9
	Favor to Against	4	5	10	8
	%	100	100	100	100
	N = 2626	649	657	663	657

E -Logit models

In the table below, we show the (1) main effects, (2) two-way interaction between party cue and policy information (arguments) corresponding to H1 and H2, (3) three-way interaction between party cue and policy information (arguments) and partisanship (H3), (4) the three-way interaction between party cue and policy information (arguments) and sophistication (H4), and finally (5) the three-way interaction between party cue and policy information (arguments) and attitude strength (H5).

Table E1 - Logistic regression models

	Dependent variable:				
	Vote change (binary) Ref. Cat.: No				
	(1)	(2)	(3)	(4)	(5)
Confirming arguments	-0.177	-0.453	-0.141	-0.524	-0.032
	(0.158)	(0.246)	(0.406)	(0.301)	(0.500)
Balanced arguments	0.085	0.043	0.325	-0.030	-0.454
	(0.152)	(0.223)	(0.393)	(0.271)	(0.583)
Conflicting arguments	0.509**	0.485*	1.241**	0.358	0.709
	(0.145)	(0.212)	(0.355)	(0.265)	(0.456)
Confirming cue	-0.252	-0.552	-0.09	-1.781**	0.375
	(0.144)	(0.314)	(0.474)	(0.617)	(0.561)
Conflicting cue	0.891**	0.843**	1.101**	0.755*	1.139*
	(0.118)	(0.244)	(0.418)	(0.294)	(0.502)
Partisanship (partisans)			0.447		
			(0.351)		
Sophistication (low)				0.027	0.027
				(0.341)	(0.341)
Attitude Strength (weak)					1.402**
					(0.408)
Confirming arguments*Confirming cue		0.609	0.220	1.495	0.142
		(0.445)	(0.680)	(0.753)	(0.767)
Balanced arguments*Confirming cue		0.370	0.609	1.593*	-0.009
		(0.427)	(0.632)	(0.714)	(0.887)
Conflicting arguments*Confirming cue		0.265	-0.129	1.533*	-1.200
		(0.401)	(0.586)	(0.694)	(0.808)
Confirming arguments*Conflicting cue		0.413	-0.592	0.534	0.127
		(0.354)	(0.631)	(0.428)	(0.693)
Balanced arguments*Conflicting cue		-0.068	-0.251	0.018	-0.279
		(0.338)	(0.583)	(0.410)	(0.801)
Conflicting arguments*Conflicting cue		-0.077	-0.947	0.066	-0.353
		(0.326)	(0.548)	(0.400)	(0.646)

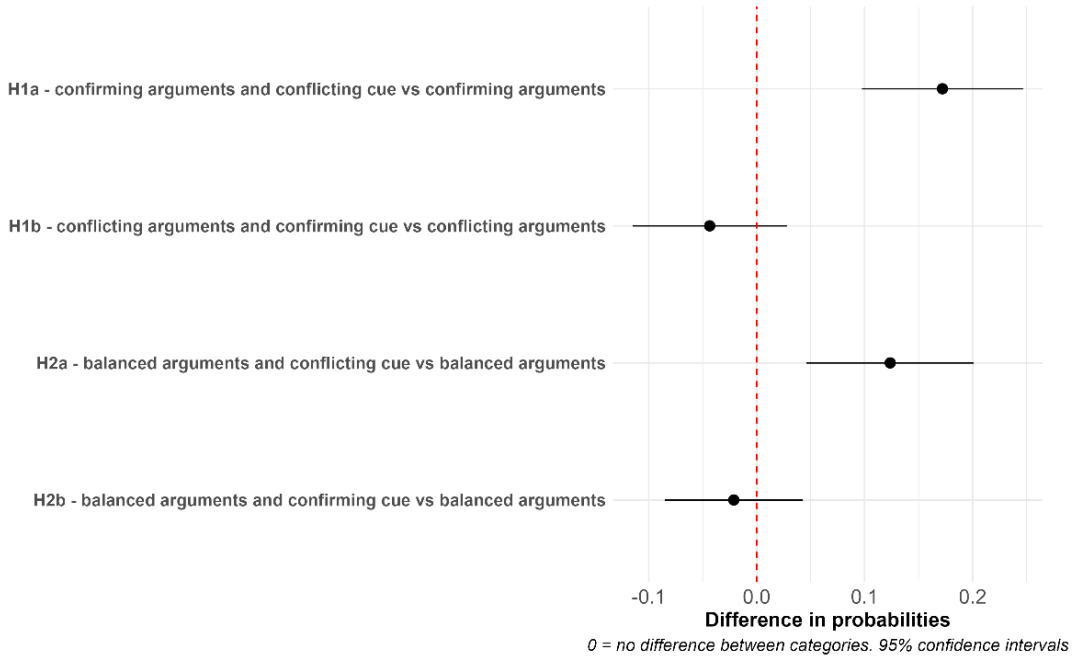
Confirming arguments*Partisanship (partisans)	-0.474		
	(0.513)		
Balanced arguments*Partisanship (partisans)	-0.426		
	(0.474)		
Conflicting arguments*Partisanship (partisans)	-1.255**		
	(0.449)		
Confirming cue*Partisanship (partisans)	-0.767		
	(0.645)		
Conflicting cue*Partisanship (partisans)	-0.249		
	(0.645)		
Confirming arguments*Confirming cue*Partisanship (partisans)	0.654		
	(0.909)		
Balanced arguments*Confirming cue*Partisanship (partisans)	-0.553		
	(0.884)		
Conflicting arguments*Confirming cue*Partisanship (partisans)	0.561		
	(0.821)		
Confirming arguments*Conflicting cue*Partisanship (partisans)	1.430		
	(0.771)		
Balanced arguments*Conflicting cue*Partisanship (partisans)	0.259		
	(0.717)		
Conflicting arguments*Conflicting cue*Partisanship (partisans)	1.414*		
	(0.687)		
Confirming arguments*Sophistication (low)		0.225	
		(0.520)	
Balanced arguments*Sophistication (low)		0.249	
		(0.476)	
Conflicting arguments*Sophistication (low)		0.347	
		(0.444)	
Confirming cue*Sophistication (low)		2.157**	
		(0.750)	
Conflicting cue*Sophistication (low)		0.317	
		(0.527)	
Confirming arguments*Confirming cue*Sophistication (low)		-1.356	
		(0.992)	
Balanced arguments*Confirming cue*Sophistication (low)		-2.177*	
		(0.966)	
Conflicting arguments*Confirming cue*Sophistication (low)		-2.262*	
		(0.908)	
Confirming arguments*Conflicting cue*Sophistication (low)		-0.404	
		(0.765)	
Balanced arguments*Conflicting cue*Sophistication (low)		-0.324	
		(0.729)	
Conflicting arguments*Conflicting cue*Sophistication (low)		-0.445	
		(0.696)	
Confirming arguments*Attitude strength (weak)			-0.521

					(0.578)
Balanced arguments* Attitude strength (weak)					0.537
					(0.635)
Conflicting arguments* Attitude strength (weak)					-0.266
					(0.518)
Confirming cue* Attitude strength (weak)					-1.335
					(0.685)
Conflicting cue* Attitude strength (weak)					-0.362
					(0.579)
Confirming arguments*Confirming cue* Attitude strength (weak)					0.605
					(0.952)
Balanced arguments*Confirming cue* Attitude strength (weak)					0.821
					(1.026)
Conflicting arguments*Confirming cue* Attitude strength (weak)					2.047*
					(0.944)
Confirming arguments*Conflicting cue* Attitude strength (weak)					0.296
					(0.812)
Balanced arguments*Conflicting cue* Attitude strength (weak)					0.436
					(0.894)
Conflicting arguments*Conflicting cue* Attitude strength (weak)					0.385
					(0.757)
Constant	-1.893**	-1.821**	-2.159**	-1.830**	-2.788**
	(0.125)	(0.161)	(0.305)	(0.197)	(0.364)
N	2,626	2,626	2,626	2,626	2,626

Note: In parentheses, standard error.
*p<0.05; **p<0.01

F - Robustness Tests – Figures

Figure F1 Differences in predicted probabilities of vote change between treatment groups and alternative baseline.



Figugre F2 - Differences in predicted probabilities of vote change between treatment groups and control group with restricted sample size.

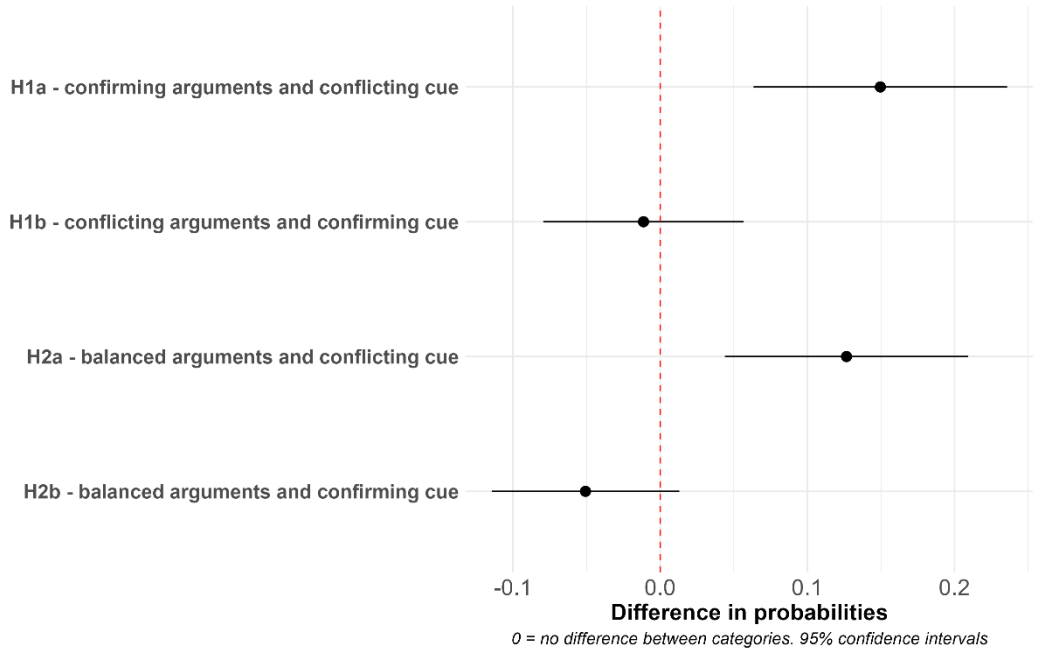
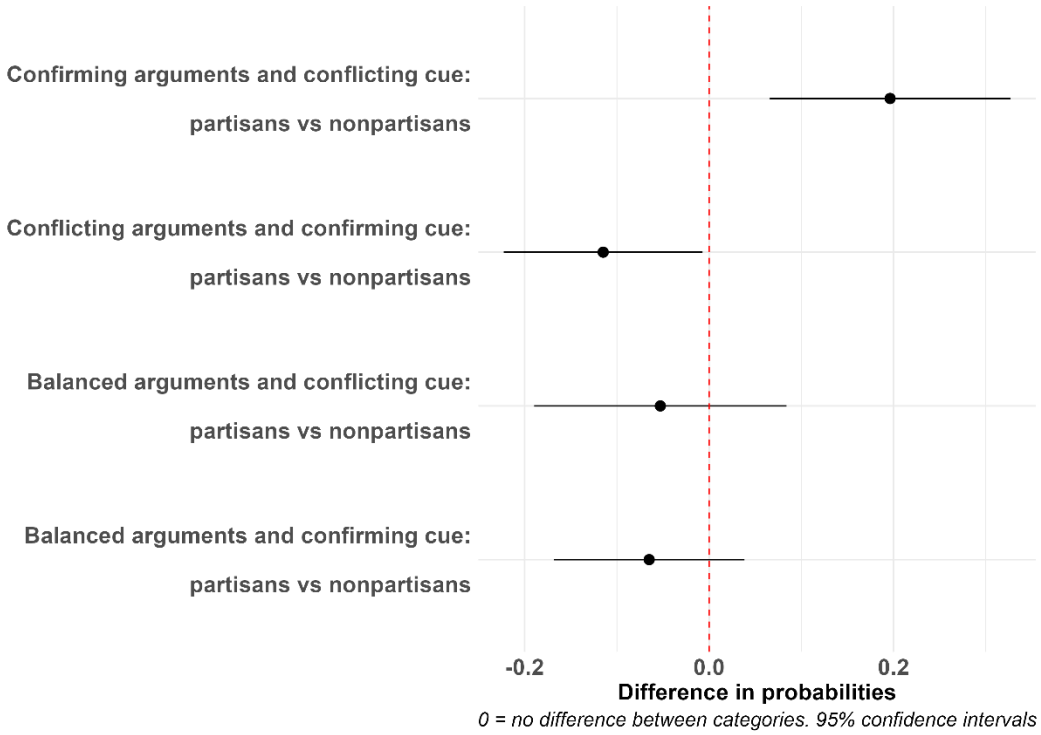


Figure F3 - Differences in predicted probabilities of vote change between partisans and nonpartisans with restrictive measure of partisanship (H3).



Second Paper: Informed or Influenced? Voting Consistently in Direct Democratic Votes

Andrea Barbieri

Abstract

In direct democratic votes, a central concern is whether citizens vote in line with their substantive policy preferences. While citizens often rely on elite cues - such as party, government, or interest group endorsements - existing studies rarely examine how such cues interact with pre-existing policy positions. This article addresses this gap by testing the role of party, interest group, and government cues in shaping consistent voting across four ballot measures in Switzerland and California. Relying on original survey data, I test whether political cues help or hinder the relationship between voters' evaluation of policies and their vote choices. Results show that most citizens vote consistently, and elite cues do matter. When cues are in line with voters' preferences, they increase the likelihood of consistent voting. When they conflict with voters' positions on policies, they reduce it, particularly among those with weak policy preferences. Not all cues operate similarly across contexts. Party cues are effective in both countries, while government cues are more influential in Switzerland and interest group cues in California. These findings advance our understanding of heuristic use in direct democracy by identifying the contexts in which different elite cues matter and the voters most susceptible to their influence.

Introduction

In direct democratic votes, political scientists are often concerned about the coherence of voters' choices. Several studies specifically explored the extent to which vote choices reflect individuals' positions on policies (Lanz & Nai, 2015; Milic, 2012; Colombo & Kriesi, 2017; Slothuus & Bisgaard, 2021).

This is because in an ideal world, vote choices should reflect the will of the people after citizens have gathered information about policies, and the quality of the arguments and evidence presented during political campaigns. However, such a situation hardly occurs. Indeed, while it is widely accepted that citizens need to be well-informed about politics to cast meaningful votes, research indicates that often individuals do not know much about politics (Carpini & Keeter, 1996; Downs, 1957).

The implications of widespread political ignorance for democratic decision-making have sparked considerable scholarly debate. One influential line of research argues that voters can overcome information deficits through cognitive shortcuts. Some studies show that individuals can be uninformed about politics and still make vote choices that accurately represent them, thanks to the use of cognitive shortcuts (e.g., Boudreau & Lupia, 2011; Lau et al., 2008; Lupia, 1994; Lupia & McCubbins, 1998). Importantly, some of this work assumes that cues serve primarily to reinforce choices that voters would make based on their values or predispositions. Yet this assumption may be overly simplistic as several studies found that both policy preferences and party cues shape vote decisions (Barbieri et al., 2025; Colombo & Kriesi, 2017; Kriesi, 2005). Given that both factors influence voting behavior, it becomes crucial to understand how policy preferences interact with political cues. This helps determine whether cognitive shortcuts help voters in making decisions that reflect their preferences, or whether they risk pushing voters toward choices that contradict their underlying policy views.

By relying on original data on four direct democratic votes across Switzerland and California, this article aims to test the moderating effects of party, interest group, and government cues on the relationship between policy preferences and vote choice. I argue that cognitive shortcuts such as party, government, and interest group cues affect this relationship, depending on whether the cue conflicts (or not) with voters' position on policies. That is, cues in line with policy preferences increase consistent voting, while cues conflicting with policy preferences decrease consistent voting.

Literature review

The literature on voting behavior has been interested for several decades in the quality of vote choices. The lack of knowledge highlighted by *The American Voter* (Campbell et al., 1960) has led many scholars to focus on the consequences of such political ignorance on vote choices (Andersen et al., 2005; Barabas et al., 2014; Carpini & Keeter, 1996; Mondak, 2001). Studies tackle this issue from different perspectives.

One line of research examines how varying levels of political information influence vote choices. For some scholars, political ignorance has negative consequences for the representativeness of electoral systems (Carpini & Keeter, 1996), as uninformed voters may struggle to make political decisions. Experimental findings support this idea, showing that when uninformed citizens receive political information, they systematically shift their political preferences (Fowler & Margolis, 2014). Other scholars, however, are more optimistic about the consequences of low political knowledge. Observational evidence suggests that while voters may lack detailed political knowledge, they can still vote like better-informed individuals by relying on heuristics (Bartels, 1996; Christin et al., 2002; Lupia, 1994). Findings regarding the use of heuristics are particularly robust in direct democratic votes, where clear endorsements from political elites, interest groups, and other sources provide accessible decision-making shortcuts (Burnett, 2019; Christin et al., 2002; Milic, 2020; Nicholson, 2011). For instance, by

studying eight different ballot measures across three U.S. states, Burnett (2019) finds that voters rely on endorsement heuristics rather than factual knowledge about the ballots when making voting decisions. This literature, however, has not adequately addressed how heuristic use interacts with voters' pre-existing attitudes towards ballot measures.

For this reason, an alternative approach to assessing the quality of vote choices focuses on whether voters make "correct" decisions. Lau and Redlawsk (1997; see also Lau et al., 2008; Lau et al., 2014) define correct voting as the extent to which individuals, even with limited information, choose the option they would have selected had they been fully informed. In this view, a correct vote reflects voting for a candidate or party that best represents voters' views or interests (Blais et al., 2016, p2; Merolla et al., 2016 for a review of the correct voting literature). However, in direct democratic votes, citizens vote on specific policies rather than for candidates or parties. Measures used in the correct voting literature are therefore not applicable to the evaluation of decision-making abilities in referenda (Milic, 2012, p.403). Scholars studying direct democratic votes instead employ an alternative strategy - *consistent voting* (Lanz & Nai, 2015) - which assesses the strength of the relationship between a voter's position on the main arguments for and against a ballot measure and their subsequent vote choice. A decision is considered consistent when a voter's overall position on the policy aligns with their vote intention or choice.

In Switzerland, despite some limitations related to survey design and measurement accuracy, studies have found a strong link between policy positions and vote choice (Lanz & Nai, 2015; Milic, 2012; Nai, 2014). For instance, Colombo and Kriesi (2017) found that voters rely on argument positions to make voting decisions; however, they often adjust their evaluation of a policy based on their preferred party's position. In other contexts, scholars found similar effects. For instance, through a natural experiment, Slothuus & Bisgaard (2021) found that when the

voting recommendation of the preferred political party is against the policy position of voters, voters with more extreme positions tend to adopt more moderate policy preferences.

While these studies advance our understanding on how cues shapes policies preferences, most studies lack a systematic approach to the study of cues, that is most studies that test the influence of cues on policy positions focus on the effect of a single political cue in one context at a time (e.g. Boudreau & MacKenzie, 2014, 2021; Broockman & Butler, 2017; Colombo & Kriesi, 2017; De Angelis et al., 2020; Peterson, 2019). Moreover, most studies overlook the conflict that the cue can create between policy preferences and vote choices.

This study advances our theoretical understanding of cue effects in direct democracy by addressing two key limitations in existing research. Most importantly, while previous work treats cues as generally helpful shortcuts, this study recognizes that cues can either facilitate or hinder consistent voting depending on their alignment with voters' policy preferences. By systematically testing how party, interest group, and government cues affect the relationship between policy positions and vote choice, this research moves beyond the simple question of whether cues matter to examine when and how they matter. Additionally, the comparative design using data from California and Switzerland allows for testing whether these cue effects operate similarly across different institutional contexts, something largely absent from the single-context studies that dominate this literature.

Hypotheses

The dual process model of opinion formation (Eagly & Chaiken, 1993) posits that individuals utilize two distinct cognitive processes when shaping their political attitudes and making political decisions. On one hand, engaging in systematic processing implies carefully analyzing different political positions and policies, grounding their opinions on the quality of the presented arguments and evidence. This kind of process is cognitively demanding, and it requires high-level cognitive elaboration. On the other hand, heuristic processing entails relying

on superficial decision-making using shortcuts like party endorsements, emotional appeals, or candidate appearance, which requires little cognitive elaboration.

Many different cognitive shortcuts are available for voters during direct democratic campaigns, which makes vote choices easier (Arceneaux & Kolodny, 2009; Bullock, 2011; Lupia, 1994; McConnaughy et al., 2010; Walder & Strijbis, 2022). One of the most important cues comes from people's preferred party (Bullock, 2020). Exposure to party cues that indicate a voting recommendation makes party members more likely to adopt that position (Boudreau & MacKenzie, 2014; Slothuus & de Vreese, 2010; Colombo & Kriesi, 2017). This happens because messages from voters' preferred party lead citizens to reduce uncertainty as to how their partisan predispositions relate to the policy (Selb et al., 2009). Another important cognitive shortcut is the government or governor cue, which can help voters understand whether the executive supports a ballot proposition. This type of shortcut can be particularly influential when voters perceive the government as competent and acting in the public interest. In such cases, trust in the government can make voters more confident in choosing a side without needing to fully engage with complex policy details.

Lastly, voters can also rely on cues from interest groups. This kind of cue helps voters to understand who is backing a ballot measure and consequently to understand who among the different actors in society will benefit the most from passing policies (Boudreau & MacKenzie, 2021; Lupia & McCubbins, 1998). For instance, Lupia (1994) identifies interest group cues as a kind of shortcut that helps voters emulate the vote choice made by those with strong knowledge of the policies. In this specific case, with the use of interest group cues, voters chose a policy that would benefit citizens the most.

Cues inform voters about how political elites position themselves with respect to the policy, regardless of its content. Moreover, elites provide directional information to voters as they recommend voting in favor of or against ballot measures. Thus, relying on cognitive shortcuts

in the decision-making process can enhance consistent voting, but it also holds the risk of steering citizens away from consistent decisions. Indeed, political cues can either reinforce or exert pressure on voters' position on the policy, depending on whether the cue conflicts with or confirms the argument-based position. When the cue aligns with the direction of the argument-based position, the cue reinforces the position on the policy, and it increases the chances of voting consistently. If the cue conflicts with the direction of the argument-based position, it decreases the chances of voting consistently. For instance, if a citizen knows that her preferred party recommends voting No to a policy, but her argument position is in favor of it, she will find herself cross-pressured. In this situation, the person will be less likely to vote consistently.

H1a*: Knowledge of (party – government - interest group) cues in line with the argument-based position increases consistent voting.*

H1b: *Knowledge of (party – government - interest group) cues conflicting the argument-based position decreases consistent voting.*

While many different cues are available to citizens, not all of them are effective in every context. Indeed, contextual variance exists not only in terms of topics covered by the ballot measures, but also in the top-down versus bottom-up logic of direct democratic processes and on the extent of the government's and parliament's involvement. According to Kriesi's (2009, pp. 79-80) categorization, California represents the unmediated variant of direct democracy. This variant is a bottom-up approach that sees interest groups and common citizens proposing new laws and reforms to overpass the role of the government (Bowler & Donovan, 2006). Campaigns are mostly driven by interest groups, while parties and governmental authorities are largely invisible. In this context, we can expect interest groups to take clear stances during direct democratic votes as well as lead campaigns to influence voters' choices on policy propositions.

The Swiss system combines bottom-up and top-down elements being and it is categorized as the "mediated" variant. In Switzerland, different forms of direct votes exist, from popular initiatives (similar to California) to optional and mandatory referenda, where, in the latter, citizens vote on constitutional amendments. When it comes to elites' involvement in the process, direct democracy in Switzerland is more tightly controlled by the government, which takes sides on initiatives and may even respond to them with counter-proposals (Sciarini, 2018). Moreover, it actively campaigns for or against policy projects in order to influence voters' decisions. Political parties play a central role, too. They not only provide voting recommendations, but they also campaign in favor of or against policies as much as the government does. Interest groups have a secondary role. They provide voting recommendations, but they rarely take part in campaigning, if not through the financing of political parties.

Depending on the top-down versus bottom-up logic of direct democratic processes and the extent of government involvement, the knowledge of government interest groups and parties' voting recommendations would produce a different effect on consistent voting. This is given by the relative influence that these actors play in each variant of direct democracy. With the leading role that the government and political parties have in Switzerland, I expect their vote recommendation to have more influence in Switzerland than in California. In the unmediated variant, the predominant role that interest groups play in direct democracy in California (Lupia & Matsusaka, 2004) leads to the expectation that the knowledge of interest group cues influences the likelihood of consistent decision-making more in California than in Switzerland.

H2a: *Knowledge of party cues has a stronger effect on consistent voting in Switzerland than in California.*

H2b: *Knowledge of government cues has a stronger effect on consistent voting in Switzerland than in California.*

H2c*: Knowledge of interest group cues has a stronger effect on consistent voting in California than in Switzerland.*

Case studies

The original data comes from two post-vote surveys fielded in California (November 2022) and Switzerland (June 2023), each covering two policy projects. The number of observations is 1157 in California and 1823 in Switzerland.[19] In California, the survey covered two ballots related to the legalization of sports betting in the state of California. The projects were competing with one another either to introduce in-person sports betting exclusively at American Indian casinos (Proposition 26) or to introduce sports betting exclusively on online platforms (Proposition 27), both through constitutional amendments. Sports betting is a frequently discussed topic, largely due to its widespread presence on television and online advertisements. However, the regulatory reforms behind these initiatives constitute a more complex and less familiar political issue, with limited ideological polarization, making them classic examples of citizen initiatives. The Republican and Democratic parties had a bipartisan position on Proposition 27 and recommended voting No. On Proposition 26, the Republican Party recommended voting No, and the Democratic Party abstained from providing a vote recommendation, while the Governor (Democrat) followed the party lines. The main interest groups involved in the campaign were the California Nation Indian Gaming Association (CNIGA) and a committee sponsored by Draft King/Fan Duels. The first is the association that promoted and financed the campaign in favor of Proposition 26 and recommended vote No to

[19] See Appendix A for information on the survey's representativeness of the population.

Proposition 27. In contrast, the cluster of online betting companies promoted and financed Proposition 27 but abstained from providing a voting recommendation on Proposition 26.

In Switzerland, instead, the OECD law (mandatory referendum), promoted by the Federal Council and the Parliament, proposed a constitutional amendment to implement a minimum tax rate specifically targeting large, globally operating corporate groups. Most political parties supported the measure, with the exception of the Socialist Party, the second-largest party by vote share. The Climate Law (an optional referendum) aimed to reduce environmental pollution and increase energy security by cutting energy imports. It proposed a comprehensive framework to achieve climate neutrality by 2050. While most parties supported the law, strong opposition came from the Swiss People's Party (SVP), the country's largest party by vote share. Regarding other key political actors, the Swiss government supported both referenda and recommended voting Yes. In Switzerland, the two interest groups I considered for the analysis are peak associations, namely Economiesuisse (Swiss corporate union) and the Union Syndical Suisse (Swiss trade union), two major interest groups in the country. For both projects, they recommended voting Yes.[20]

Measures

The main dependent variable is the vote choice. It is a binary variable that takes the value of 1 if the person voted yes and 0 if the person voted no (see Appendix B). The variable includes only respondents who declared to have voted and who reported their vote choice (N = 1271 OECD law; N = 1291 Climate law; N = 932 Prop 26; N = 932 Prop 27). Looking at the descriptive statistics, the two projects in California were rejected, while the two projects in

[20] The selection of interest groups reflects both the nature of the ballot measures and the institutional structure of interest group politics in each context. In California, the initiatives were launched and promoted by specific sectoral groups, making them the most relevant actors. Switzerland, by contrast, is typically dominated by peak associations due to the corporatist nature of its interest group system (Sciarini, 2024). Unlike in the U.S., where the interest group landscape is more pluralist and fragmented, Swiss peak associations act as authoritative umbrella organizations that coordinate positions across sectors. As a result, no single sectoral group played a major role in the campaigns analyzed here, and peak associations were the appropriate focus.

Switzerland were accepted. The vote distribution of the survey follows official statistics (see Appendix B).

The position on campaign arguments follows the empirical approach of past research (Lanz & Nai, 2015; Milic, 2012; Kriesi, 2005; Colombo & Kriesi, 2017). This measure is an index summarizing a person's overall argument position on each project. I asked respondents to evaluate three arguments in favor of the project and three arguments against it. For each argument, voters had to indicate their position on a scale ranging from strong disagreement (-2) to strong agreement (2). Those who answered "do not know" to the argument position question take a score of 0. Then, I measure the agreement with the pro-arguments and the contra-arguments. Both dimensions range from -6 (disagree strongly) to 6 (agree strongly). Finally, I combine the positive and negative dimensions to create an index ranging from -12 to 12. A person fully agreeing with the positive arguments and fully disagreeing with the negative arguments has a score of 12, while a person fully disagreeing with the positive arguments and fully agreeing with the negative arguments has a score of -12 (see Appendix B). All scales range between -12 and 12, except for the OECD law, which ranges from -9 to 12.

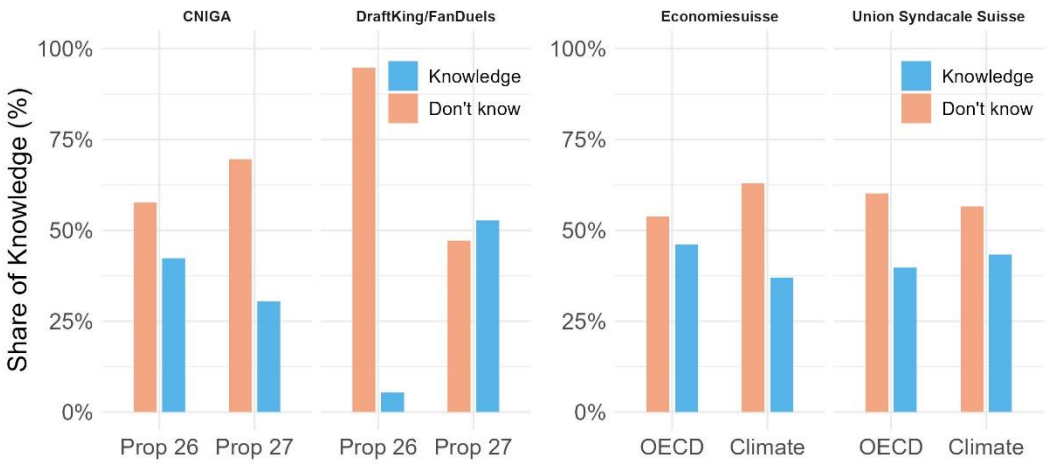
Compared to previous studies (Lanz & Nai, 2015; Milic, 2012; Nai, 2014), I asked about the argument positions before the vote choice question. In this way, I avoid any rationality bias, which would see respondents answer the argument position questions according to their vote choice. Moreover, unlike past research, the formulation used for the arguments does not directly link the vote choice to the arguments. Example: To what extent do you agree or disagree with the following arguments: "Legalizing sports betting will help to raise significant and regular funds to fight gambling problems" (see Appendix B).

To measure consistent voting, I adopt a modeling strategy previously used in the literature (Lanz & Nai, 2015), which indirectly measures consistent voting. By treating vote choice as the outcome and argument position as the predictor, I assess how different levels of the argument

scale influence the likelihood of voting in line with one's argument position. Compared to a direct measure of consistent voting (such as a binary indicator where 1 = consistent vote and 0 = inconsistent), this indirect measure avoids collapsing the full range of argument scale categories. It thus allows us to quantify how the strength of a voter's position influences their likelihood of voting in line with it, which a binary measure would not capture. Indeed, individuals with stronger argument positions are expected to vote more consistently with their views than those whose positions lie closer to the middle of the scale. However, not all voters can vote in line with their argument position. Voters with ambivalent opinions - those who simultaneously endorse key elements of both sides of a political debate (Lavine, 2001) - and voters with undecided opinions - those unable to place themselves on the argument scale - cannot, by definition, vote consistently with a position they do not clearly hold. To empirically account for these groups, I set an arbitrary threshold of a 5-point range on the argument scale: voters with positions between -2 and +2 are considered incapable of voting consistently, as they lack a clear policy preference. These voters are retained in the analytical models but excluded from the interpretation of findings.

Knowledge of interest group vote recommendation measures whether a respondent is aware of the actual position taken by key interest groups (two in California and two in Switzerland) on a given ballot proposition. Figure 1 reports the share of voters who were aware of the interest group recommendations for each policy. In California, about 40% of voters knew the California Nations Indian Gaming Association's recommendation for Proposition 26, while roughly a third were aware of its position on Proposition 27. Approximately half of voters recognized that DraftKings and FanDuel supported Proposition 27, but very few knew that the two gambling corporations had not issued a recommendation on Proposition 26. In Switzerland, more than one-third of voters were aware of the voting recommendations issued by the two peak associations (Economiesuisse and the Swiss Trade Union Federation) for each ballot initiative.

Figure 1 - Share of respondents' knowledge of interest groups' cue by ballot proposition.

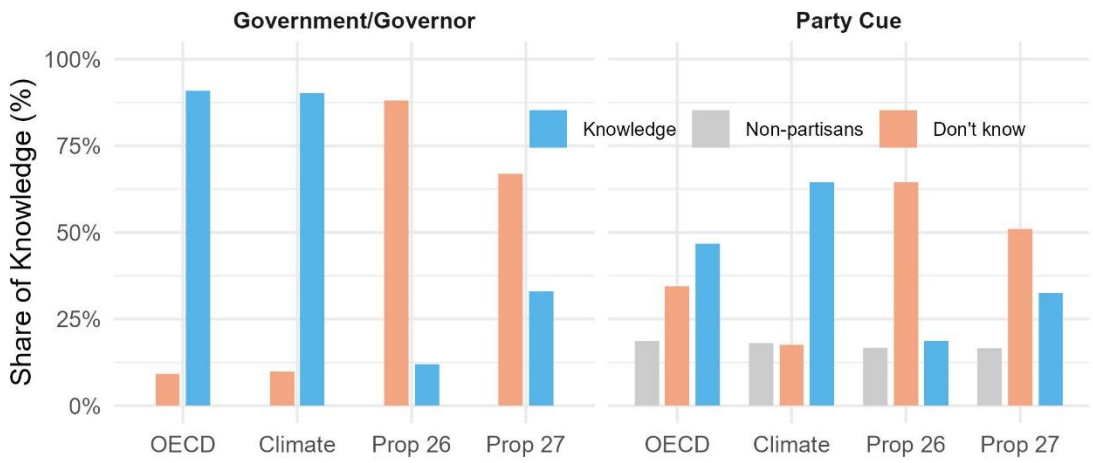


Knowledge of government/governor vote recommendation captures whether a respondent correctly identified the position taken by the national government (in Switzerland) or the governor (in California) on each ballot. A correct answer is coded as 1, while an incorrect or unknown answer is coded as 0. As shown in Figure 2 (left panel), knowledge of the government or the governor's position differs significantly across contexts. In California, only about 30% of voters were aware of the governor's position on Proposition 27, and about 13% knew he did not take a stance on Proposition 26. In contrast, in Switzerland, more than 85% of respondents correctly identified the national government's voting recommendation.

Knowledge of the preferred party's vote recommendation measures whether the person is aware of the correct position the preferred political party took on the project. In the survey, respondents answered the question "What is the voting recommendation of [the preferred party]?". A correct answer takes the value of 1; otherwise, 0. In both contexts, I derived the respondents' preferred party from a battery of questions on party identification (see questions in Appendix C). If the person did not feel close to a party, I considered it nonpartisan. (See Appendix D). In Switzerland, some political parties had divisions in the voting recommendation between National representatives and Cantonal sections. To make sure that I recorded the

correct party recommendation, I also excluded from the analysis those voters who received a conflicting party recommendation between the National party and the Cantonal party (N = 113 OECD law, N = 2 Climate law). As reported in Figure 2 (right panel), levels of party cue awareness vary both within and across contexts. In California, due in part to the Democratic Party not issuing a recommendation on Proposition 26, fewer than 30% of voters knew their preferred party's stance on that proposition. Awareness was somewhat higher for Proposition 27 (31%). In Switzerland, party cue awareness was higher overall: 43% for the OECD law and 61% for the Climate law.

Figure 2 - Share of respondents' knowledge of government/governor cues and knowledge of party cues by ballot proposition.



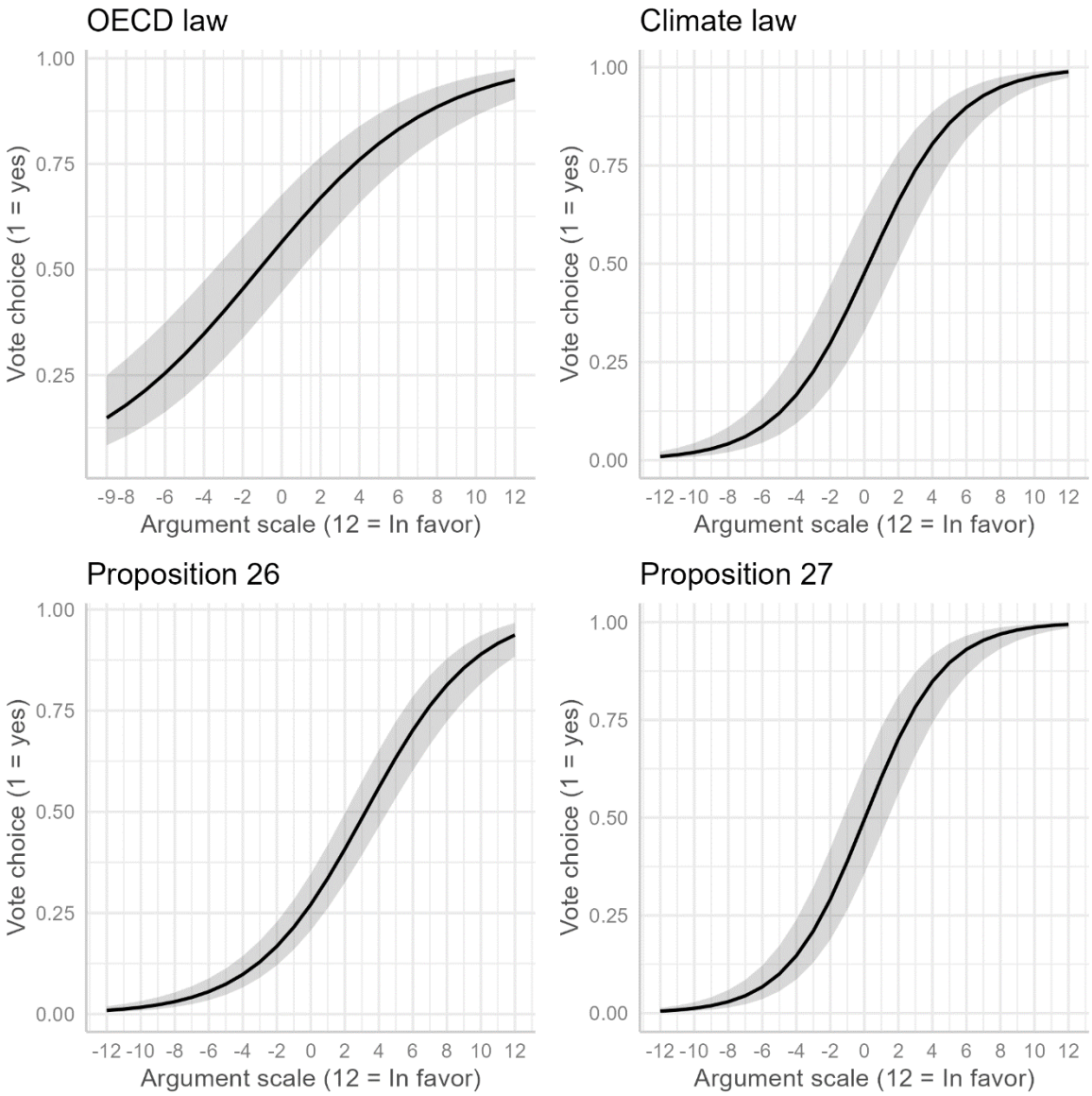
I also control demographics (age and gender) as well as individual characteristics such as level of trust in the government, importance of the policy project, complexity of the policy, and issue-specific knowledge. The final number of observations for each model is the following: N = 1119 for the OECD law, N = 1290 for the Climate law, N = 883 for Prop 26, and N = 896 for Prop 27.

Results

To begin, I estimate a series of logistic regression models for each ballot proposition, using vote choice as the dependent variable and the argument position scale as the main independent

variable. These baseline models test whether vote choices follow theoretical expectations, namely, that the more strongly a respondent supports a policy on the argument scale, the more likely he/she is to vote in favor of it (see models base 1,2,3,4 in Appendix D). Figure 3 presents the results of these initial models. As expected, all four curves display a positive relationship: as support for a policy increases, so does the likelihood of voting Yes.

Figure 3. Predicted probabilities deriving from logistic regression models (base model): effect of argument scale on vote choice. The gray area represents 95% confidence intervals.



Despite this overall pattern, there are notable differences across the cases. For Proposition 27 and the Climate Law, a voter with a score of 0 on the argument position has a predicted probability of voting Yes close to 0.5. In contrast, these voters are less likely to vote Yes on

Proposition 26 (below 0.5) and more likely to do so on the OECD Law (above 0.5). This suggests that people with ambivalent or undecided opinions are more inclined to support the OECD Law, while they are more hesitant about Proposition 26.

Overall, these results indicate a strong association between argument position and vote choice, supporting previous findings that citizens tend to vote in line with their policy positions (Milic, 2012; Lanz & Nai, 2015). Importantly, this pattern also holds in the California context. The variation across cases, however, points to the potential role of moderating factors, such as political cues, in shaping the strength of this relationship.

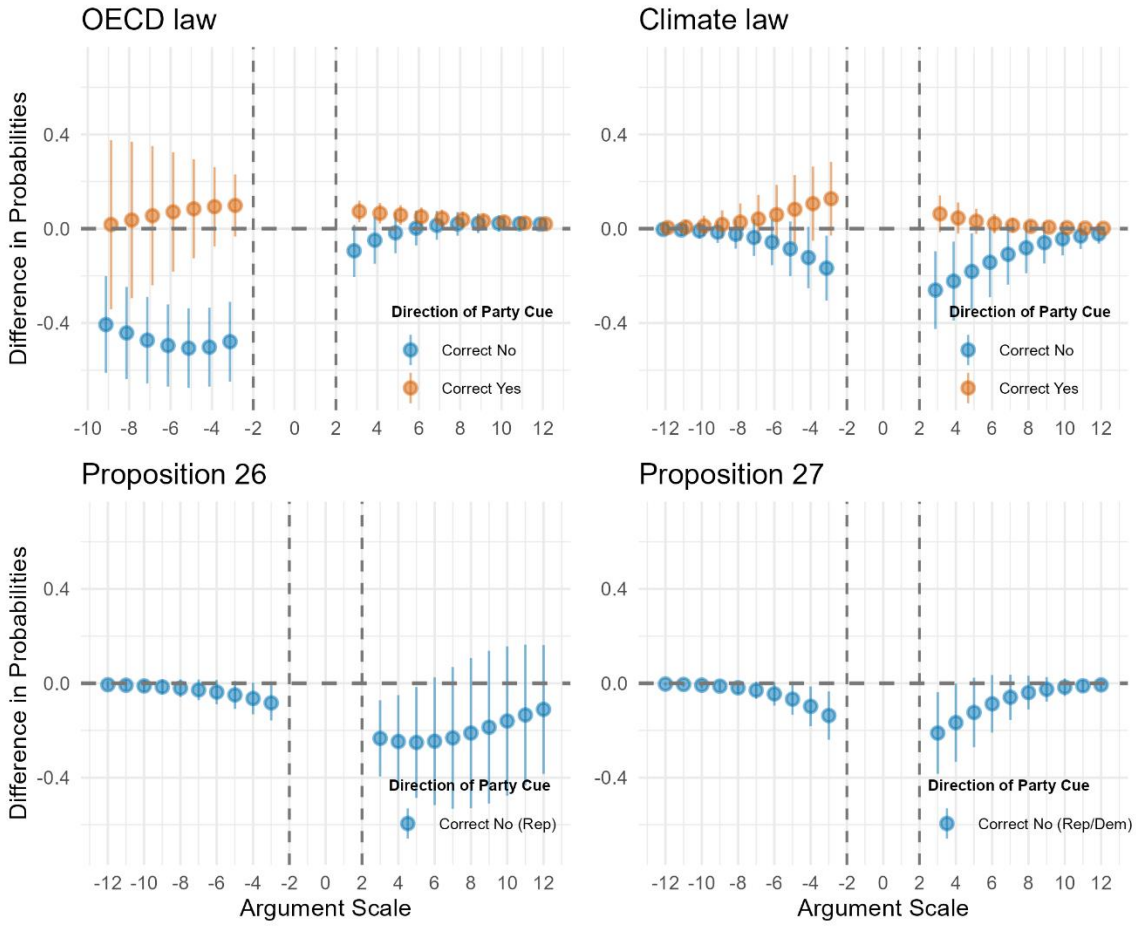
To test the main hypotheses, I estimate a set of logistic regression models with two-way interactions. In each model, the dependent variable is vote choice (1 = voted Yes; 0 = voted No), and I interact the argument position scale with one of the cues (e.g., party, government, or interest group's vote recommendation). Each interaction is modeled separately to isolate the effect of each cue on the relationship between argument position and vote choice.

From these models, I compute predicted probabilities of voting Yes. These predictions are calculated for the political cue of interest tested in the model, with all control variables held at typical values (reference category or at the mean value). Figures 4 through 6 display the differences in predicted probabilities of voting Yes between voters who are aware of the political cue and those who are not, for each value of the argument scale. This approach allows us to assess whether, for a given level of policy support, cue awareness increases the likelihood of voting consistently with one’s argument position. Uncertainty estimates are reported using 95% confidence intervals, calculated as first-order approximate standard errors (R package marginaleffects, version 0.19.0.2).

Figure 4 shows the predictions for knowledge of the party cue (models party 1,2,3,4 in Appendix D). In the figure, the X-axis represents the argument position scale, while the Y-axis shows the difference in the predicted probability of voting Yes between voters who are aware

of their preferred party's voting recommendation (colored dots) and those who are not (horizontal reference line at 0). For each ballot measure, party cue knowledge is coded based on whether the respondent correctly identified their party's position (support or opposition). Since the analysis focuses on consistent voting, predictions for voters with argument positions between -2 and +2 (i.e., those considered ambivalent or undecided) were calculated but are not displayed in the plot. Since they do not have a clear position, they cannot vote consistently. Voters who identify as non-partisans (i.e., those without a party affiliation) are included in the statistical models but are excluded from the predicted probability calculations and figures, as they are not theoretically relevant for testing hypotheses concerning party cue effects.

Figure 4 - Marginal effects of knowledge of party cue on vote choice for different argument positions.



The results show that knowledge of party cues facilitates consistent voting when the cue is in line with voters' policy preferences. In Switzerland, this pattern is evident across both ballot measures. For the OECD Law (top left panel), voters with negative argument positions who know their preferred party recommended voting No show a significantly lower probability of voting Yes than voters without knowledge of the party cue (argument positions -3 to -9). Similarly, voters with positive argument positions who are aware of their party's recommended voting Yes are significantly more likely to vote Yes (argument positions +3 to +9) than their counterparts, though this effect diminishes as argument strength increases. The Climate Law (top-right panel) shows a more limited but consistent pattern, with party cue effects appearing primarily among voters with weak negative positions (-4 to -3 on the argument scale).

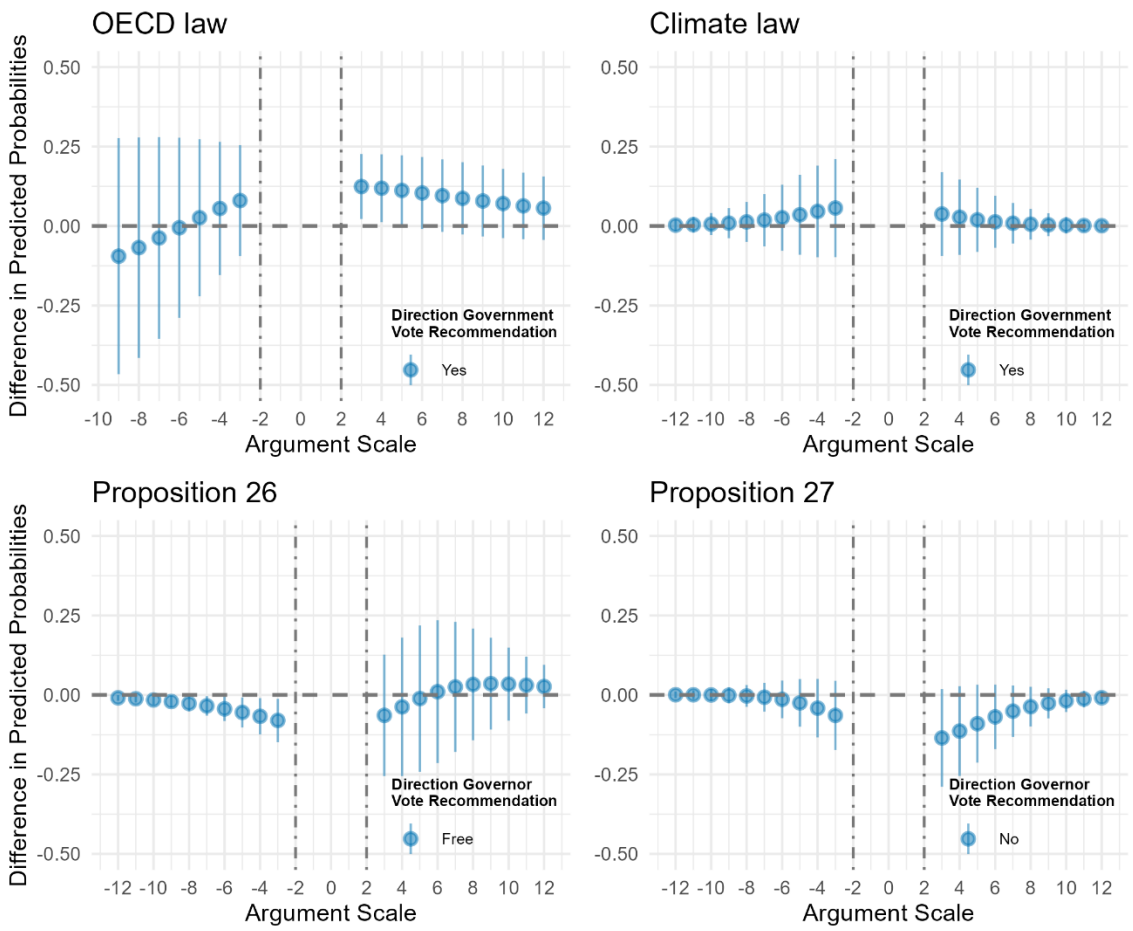
Turning to California, for both Proposition 26 and Proposition 27, awareness that the preferred party recommended voting No increases the likelihood of consistent voting among respondents who hold a negative argument position. However, the effects are statistically significant only among individuals with weak negative positions (e.g., between -3 and -6 on the argument scale). Do party recommendations that conflict with a respondent's argument position reduce the likelihood of consistent voting? Across all four ballot measures, this pattern is observed primarily among voters with weak argument positions. For the Climate Law, respondents with weak support for the policy (argument positions +3 to +6) who learn their preferred party opposed the proposition show decreased likelihood of voting Yes, thus reducing consistent voting. The same pattern appears for Propositions 26 and 27.

Taken together, the results support Hypothesis 1a**,** while Hypothesis 1b receives partial support. Conflicting cues appear to reduce consistent voting primarily among voters with weak argument positions.

Turning to the government or governor cue, Figure 5 shows the predictions for the government (Switzerland) or governor (California) cue (models gov 1,2,3,4, Appendix D). The X-axis

displays the argument position scale, while the Y-axis shows the difference in predicted probability of voting Yes between voters who are aware of the official recommendation of the governor (or government) (colored dots) and those who are not (the horizontal 0-reference line).

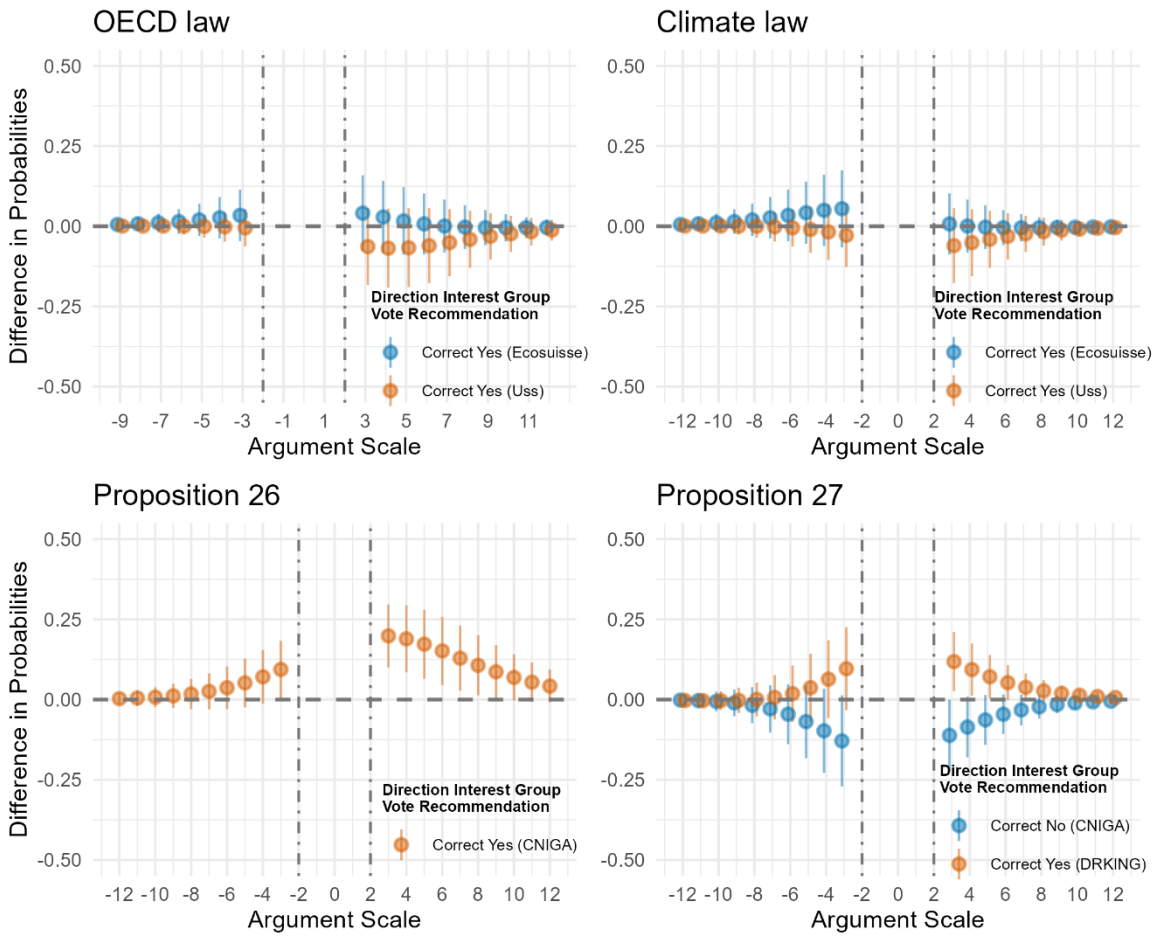
Figure 5 - Marginal effects of knowledge of government/governor cue on vote choice for different argument positions.



In two out of the four ballot measures (Climate Law and Proposition 27), knowledge of the government or governor's position does not significantly moderate the relationship between argument position and vote choice. In Switzerland, for the OECD Law, knowledge of the government's recommendation increases the likelihood of consistent voting among voters who support the policy (argument positions between +3 and +5) compared to those who are not aware of it. In California, for Proposition 26, the governor abstained from providing a voting recommendation, creating a unique scenario. Among voters with negative argument positions

who were aware of this abstention, there was an increased likelihood of voting No, suggesting that the absence of an endorsement may have allowed policy preferences to guide voting decisions more directly. The results provide support for Hypothesis 1a, but not for Hypothesis 1b. This result is likely due to the specific characteristics of the OECD Law, which concerned a complex international tax reform. Given the technical nature of the policy and the absence of strong ideological cues, voters may have been more inclined to rely on the government's recommendation and defer to its expertise.

Figure 6 - Marginal effects of knowledge of the interest group cue on vote choice for different argument positions.



Turning to Figure 6, this presents the predictions for knowledge of the interest group voting

recommendation.[21] As in previous figures, the X-axis represents the argument position scale, while the Y-axis shows the difference in predicted probability of voting Yes between voters who are aware of the interest group recommendation (colored dots) and those who are not (the horizontal 0-reference line).

In Switzerland, interest group cues do not appear to influence consistent voting. In contrast, the findings from California reveal a different pattern. When the interest group cue is in line with the respondent's argument position, it increases the likelihood of consistent voting. For Proposition 26, the difference in predicted probabilities between those aware of CNIGA's recommendation and those unaware is statistically significant (between +3 and +9 on the argument scale). For Proposition 27, a similar effect is found among voters who know the DraftKings/FanDuel recommendation (between +3 and +6 on the argument scale).

Do voting recommendations that conflict with the respondent's argument position reduce consistent voting? For the two California propositions where effects are observed (Propositions 26 and 27), the negative influence of the cue appears only among voters with weak argument positions. Consequently, we can partially accept H1b in these cases.

Hypothesis 2a posits that party cues influence consistent voting more in Switzerland than in California. As shown in Figure 4, this is not the case. When party cues are in line with the respondent's argument position, they increase the likelihood of voting with the argument position across all four ballots. Conversely, when party cues conflict with the argument position, they decrease consistent voting, but only among voters with weak argument positions. Therefore, we do not find support for H2a.

Hypothesis 2b proposes that government voting recommendations have a stronger effect on consistent voting in Switzerland than the governor's cue does in California. This hypothesis is

[21] Predictions for OECD law and Climate law ballots derive from models USS 1,2 Economiesuisse 1,2 and predictions for Proposition 26 and 27 from models CNIGA 1,2 and DRKING 1,2. All models are available in Appendix D.

partially supported by the evidence in Figure 5. In California, the governor's cue for Proposition 27 does not influence the relationship between argument position and vote choice. In Switzerland, although the government cue does not affect consistent voting for the Climate Law, it significantly increases consistent voting for the OECD Law among those who favored the policy. Accordingly, we partially accept H2b.

Finally, Hypothesis 2c suggests that interest group cues have a greater impact on consistent voting in California than in Switzerland. Figure 6 confirms this hypothesis. In California, interest group cues that are in line with the voter's argument position increase the likelihood of consistent voting for both Propositions 26 and 27. In contrast, when cues conflict with the argument position, they reduce consistency, but only among voters with weak argument positions. In Switzerland, however, interest group cues have no significant effect on consistent voting. Thus, we confirm H2c.

Robustness test

To assess the robustness of the main findings, I replicate the analysis presented in Figures 4 to 6 using alternative empirical specifications for the definition of voters with ambivalent or undecided opinions on the policies. In one specification, voters with argument positions between -4 and +4 are considered ambivalent/undecided; in another, only those with an argument position of 0 are treated as such. These voters are included in the estimation to ensure consistency across models, but are excluded from the plots. Since the threshold of -2 to +2 used in the main analysis was somewhat arbitrary, this approach allows testing the sensitivity of the results to different operationalizations of ambivalence. Appendix E reports the plots with the two different operationalizations. In both cases, results from the main analysis are confirmed.

Conclusion

In this article, I tested whether citizens vote consistently, meaning whether they vote in line with their overall argument-position on policies. This question is particularly crucial in a direct democratic context, as citizens' inability to align their opinions with their votes may lead to outcomes that do not accurately reflect their preferences or are inconsistent with their intended results. I focused in particular on whether elite cues help voters (or not) to vote in line with their policy preferences, and whether such cues operate homogeneously across Switzerland and California.

The results validate most hypotheses. First, most citizens do vote in line with their evaluation of the policies. This finding supports previous research (Lanz and Nai 2015; Milic 2012; Colombo and Kriesi 2017). Second, not all political cues work equally well across the two contexts. Contrary to expectations, knowledge of party cues increased consistent voting in both Switzerland and California, though some differences in the level of knowledge of the party recommendation were detected. Voters in Switzerland were more familiar with their preferred party's recommendation than in California. This is likely due to the more proactive role that parties play in Swiss direct democratic campaigns. Furthermore, as anticipated, the government cue proved effective in Switzerland but not in California. However, in Switzerland, this effect was limited to the case of the OECD law, where the government cue increased the likelihood of voting in line with one's policy preferences. This is probably due to the nature of the law itself - voters tend to rely on government recommendations, particularly when the ballot is both complex and not highly salient. As expected, interest group cues affected consistent voting in California but not in Switzerland.

Third, when political cues do influence consistent voting, they tend to help voters align their choices with their policy preferences. In five of the six cases in which cues affected consistent voting, the strength of this effect was more pronounced among voters with weak argument-

positions, while it was smaller among those with strong positions. Conversely, when elite cues conflict with a voter's argument-position, they reduce the likelihood of consistent voting, but again, this occurs exclusively among voters with weak argument positions.

What does this mean? First, when the political cue is in line with the argument position, it reinforces people's policy preference. The cues, therefore, add to the effect of the evaluation of policies to make voting decisions. Second, when the cue conflicts with the argument position, it is only those voters with weak policy preferences who tend to follow the elite cue and vote less consistently. When instead voters have a strong position on substantive policy arguments, they do not discard their policy preference to rely on the political cue. Therefore, for respondents at the extremes of the argument scale, political cues make little difference, as their positions are so strong that such cues no longer influence their voting behavior.

Overall, the article offers an encouraging picture of direct democracy across California and Switzerland. Citizens generally vote in line with their policy preferences, suggesting that they follow their opinions when making voting decisions. Moreover, when party and interest group cues are in line with the argument position, they often reinforce the link between policy preferences and vote choice, helping voters navigate complex decisions. However, when elite cues conflict with citizens' policy preferences, these can reduce vote consistency, especially in the Californian context. This happens only for voters with weak argument positions. Yet this group represents a significant share of the electorate in direct democratic votes, making their susceptibility to elite influence especially relevant. This confirms that political shortcuts, while often helpful, are also powerful tools in the hands of elites, with the potential to steer voters away from choices that fully reflect their preferences. Whether these findings stem from the specific characteristics of the ballot measures studied or from other contextual factors remains an open question. Further research on different ballots is therefore needed to extend the generalizability of the results.

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Appendix

A - Voting-age population vs. sample characteristics (percentages)

Category	Subgroup	California Survey	Targeted demographic quotas (Eurostat 2020)	Switzerland Survey	Targeted demographic quotas (Federal Statistical Office 2021)
Gender	Male	49	49	54	51
	Female	51	51	46	49
Age	18 to 24 years	4	11	5	15
	25 to 34 years	13	20	14	18
	35 to 44 years	20	18	17	17
	45 to 54 years	17	16	19	18
	55 to 65 years	22	17	19	14
	66 years and over	24	18	26	18
Education	Up to university	60	65	60	55
	University and above	40	35	40	45

B - Descriptive statistics, dependent variable and main independent variables

California		Proposition 26	%	Proposition 27	%
Vote choice	No	531	60	664	74
	Yes	352	40	232	26
	Total	883	100	896	100
Issue specific knowledge	0 correct	509	58	242	27
	1 correct	307	35	436	49
	2 correct	67	7	218	24
	Total	883	100	896	100
California Nations Indian Gaming Association	Don't know	509	58	623	70
	Know	374	42	273	30
	Total	883	100	896	100
Draft Kings and Fan Duels	Don't know	936	94	423	47
	Know	47	6	473	53
	Total	883	100	896	100
Governor recommendation	Don't know	777	88	600	67
	Know	106	12	296	33
	Total	883	100	896	100
Party recommendation	Don't know	569	64	457	51
	Non-partisans	148	17	148	17
	Free (Dem)	81	9	/	/
	No (Rep)	85	10	291	32
	Total	883	100	896	100

Switzerland		OECD	%	Climate	%
Vote choice	No	230	21	450	35
	Yes	889	79	840	65
	Total	1119	100	1290	100
Issue specific knowledge	0 correct	183	16	71	6
	1 correct	298	27	273	21
	2 correct	638	57	946	73
	Total	1119	100	1290	100
Economiesuisse	Don't know	603	54	812	63
	Know	516	46	478	37
	Total	1119	100	1290	100
Union Syndacale Suisse	Don't know	674	60	730	57
	Know	445	40	560	43
	Total	1119	100	1290	100
Government cue	Don't know	103	9	127	10
	Know	1016	91	1163	90
	Total	1119	100	1290	100
Party recommendation	Don't know	385	34	226	17
	Non partisans	210	19	233	18
	Yes	112	10	218	17
	No	411	37	613	48
	Total	1119	100	1290	100

C - Battery of questions on party identification and argument positions

California

Liberal-conservative scale

"Liberal" and "Conservative" are two concepts often used to characterize politics. Where would you place yourself on a scale where 0 means liberal, and 10 means conservative?

Party identification

Do you feel close to a party?

3. Yes
4. No
99. Don't know

Which party is it?

4. Democratic Party
5. Republican Party
6. Other Party
99. Don't know

How close do you feel to this party?

1. Very Close
2. Not very close

If “No” or “don’t know” to the first question:

Is there a party that you feel a little closer to than others?

3. Yes
4. No
99. Don't know

Which party is it?

4. Democratic Party
5. Republican Party
6. Other Party
99. Don't know

Switzerland

Left-right scale

"Left" and "Right" are two concepts often used to characterize politics. Where would you place yourself on a scale where 0 means left, and 10 means right?

Party identification

Do you feel close to a party?

1. Yes
2. No
99. Don't know

Which party is it?

1. PLR
2. Le Centre
3. PS
4. UDC
5. PES
6. PVL
7. Lega
8. MCG
9. PCS
10. PEV
11. UDF
12. PST-POP
99. Don't know

How close do you feel to this party?

3. Very Close
4. Not very close

If “No” or “don’t know” to the first question:

Is there a party that you feel a little closer to than others?

1. Yes
2. No
99. Don't know

Which party is it?

1. PLR
2. Le Centre
3. PS
4. UDC
5. PES
6. PVL
7. Lega
8. MCG
9. PCS
10. PEV
11. UDF
12. PST-POP
99. Don't know

<u>Arguments</u>

Climate Law

Pour réduire sa dépendance aux énergies fossiles et au marché mondial, la Suisse doit investir massivement dans les énergies renouvelables.

Investir dans les énergies renouvelables permettra de stimuler l'activité économique et l'innovation, et de créer des nouveaux emplois.

L'Etat doit intervenir pour aider les entreprises à atteindre les objectifs de réduction des gaz à effet de serre.

Renoncer aux énergies fossiles va provoquer des pénuries d'énergie et augmenter les coûts pour les consommateurs et les entreprises.

Renoncer aux énergies fossiles menace la sécurité énergétique de la Suisse, car les énergies renouvelables ne suffiront pas à répondre à la hausse attendue de la demande en électricité.

La transition écologique ne justifie pas que le Conseil fédéral impose des obligations et des interdictions qui menacent les libertés individuelles.

OECD

L'adaptation aux nouvelles normes fiscales internationales est nécessaire pour éviter que d'autres pays puissent taxer des entreprises en Suisse et que l'argent parte ainsi à l'étranger.

Tous les cantons vont bénéficier, de manière directe ou indirecte, de l'augmentation des impôts sur les grandes entreprises multinationales.

Les recettes supplémentaires produites par la nouvelle réglementation fiscale internationale permettront de financer des mesures pour augmenter l'attractivité économique de la Suisse.

La nouvelle réglementation internationale va renforcer la concurrence fiscale entre les cantons et va ainsi menacer le financement des politiques sociales.

Augmenter les impôts des grandes entreprises multinationales va uniquement profiter à quelques cantons riches et va donc accroître les inégalités entre les cantons.

La plus grande part des recettes fiscales générées par la nouvelle réglementation internationale devrait revenir à la Confédération et pas aux cantons.

Proposition 26

Authorizing in-person sports betting creates a safe environment for minors, as age and ID checks will prevent them from gambling.

Legalizing sports betting will help to raise significant and regular funds to fight gambling problems.

Legalizing sports betting in American Indian casinos contributes to Tribes' self-sufficiency and supports the local economy.

Authorizing sports betting only in American Indian casinos threatens the economic viability of cardrooms.

Authorizing sports betting only in American Indian casinos is unfair because other territories will have less revenue (e.g., cities).

Attributing sport wagering rights only to American Indian casinos and horse racetracks creates a monopoly and runs counter to a free market economy.

Proposition 27

Online sports betting is a solution to provide large and permanent funds to fight homelessness.

As is already the case in half of US states, the legalization of online sports betting will create a safe system in California.

Allowing online sports betting is a reasonable measure that will benefit both private businesses and Tribes.

Online sports betting is too easily accessible (smartphone, tablets, etc.). It does not allow for age control, and it will cause severe addiction problems.

Online gambling will not benefit investments and jobs in California because only a few large, out-of-state companies will manage the business.

Opening the online sports betting market to large companies creates unfair competition and threatens the self-sufficiency of Tribes.

D - Logistic regression model - interaction effects plot + tables

The following tables (D1 to D4) show the results of the logistic regression models run for each ballot measure. The figures (D1 to D4) show the predicted probabilities deriving from the logistic regression. The gray lines show the category of reference for the marginal effects plots shown in the main text.

Table D1 - Logistic regression models OECD law.

	Dependent variable: Vote Choice *Ref. Cat. (No)*				
Variable	Base 1	Gov 1	Party 1	USS 1	Economiesuisse 1
Argument Scale	0.255***	0.143*	0.187***	0.278***	0.256**
	(0.027)	(0.070)	(0.037)	(0.033)	(0.030)
Knowledge Government/Governor recommendation (Know)	0.849	0.750**	0.860**	0.839**	0.848**
	(0.268)	(0.269)	(0.267)	(0.270)	(0.209)
Knowledge Party recommendation (Non-partisans)	0.546*	0.546*	0.490	0.554*	0.546*
	(0.252)	(0.251)	(0.257)	(0.253)	(0.252)
Knowledge Party recommendation (Correct No)	-1.185***	-1.166***	-1.394***	-1.209***	-1.186***
	(0.284)	(0.286)	(0.314)	(0.284)	(0.284)
Knowledge Party recommendation (Correct Yes)	0.810***	0.801**	0.752**	0.821**	0.810**
	(0.252)	(0.253)	(0.259)	(0.253)	(0.253)
Issue Specific Knowledge – Mid	0.280	0.289	0.276	0.277	0.280
	(0.251)	(0.258)	(0.257)	(0.259)	(0.258)
Issue Specific Knowledge - High	0.407	0.405	0.427	0.407	0.408
	(0.268)	(0.250)	(0.249)	(0.251)	(0.251)
Knowledge Economiesuisse recommendation (Know)	-0.089	-0.092	0.085	0.086	-0.087
	(0.270)	(0.271)	(0.273)	(0.270)	(0.273)
Knowledge USS recommendation (Know)	-0.018	-0.016	-0.016	-0.016	-0.018
	(0.270)	(0.270)	(0.273)	(0.229)	(0.269)
Complexity	-0.218*	-0.219*	-0.230*	-0.223*	-0.218**
	(0.109)	(0.109)	(0.110)	(0.095)	(0.109)
Importance of policy	0.140***	0.140***	0.140***	0.141***	0.140***
	(0.034)	(0.034)	(0.035)	(0.034)	(0.034)
Government/Governor trust	0.199***	0.195***	0.201***	0.199***	0.190***
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Age	0.003	0.003	0.003	0.003	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Gender (female)	-0.194	-0.193	-0.195	-0.190	-0.194
	(0.188)	(0.160)	(0.188)	(0.188)	(0.188)
Argument Scale×Knowledge Government Cue (Know = Yes)		0.129			
		(0.076)			

Variable	Dependent variable: Vote Choice Ref. Cat. (No)				
	Base 1	Gov 1	Party 1	USS 1	Economiesuisse 1
Argument Scale×Knowledge Party (Non-partisans)			0.109		
			(0.078)		
Argument Scale×Knowledge Party (Correct No)			0.238*		
			(0.094)		
Argument Scale×Knowledge Party (Correct Yes)			0.075		
			(0.070)		
Argument Scale×Knowledge USS (Know = Yes)				-0.053	
				(0.054)	
Argument Scale×Knowledge Economisuisse (Know = Yes)					0.002
					(0.054)
Constant	-1.681**	-1.572**	-1.642**	-1.685**	-1.682**
	(0.554)	(0.554)	(0.558)	(0.554)	(0.554)
Observations	1119	1119	1119	1119	1119

Note: In parenthesis standard error * p<0.05 **p<0.01; ***p<0.001

Table D2 - Logistic regression models Climate law.

Variable	Dependent variable: Vote Choice Ref. Cat. (No)				
	Base 2	Gov 2	Party 2	USS 2	Economiesuisse 2
Argument Scale	0.417***	0.423***	0.429***	0.430***	0.433***
	(0.030)	(0.097)	(0.068)	(0.040)	(0.039)
Knowledge Government/Governor recommendation (Know)	0.273	0.272	0.258	0.272	0.269
	(0.289)	(0.289)	(0.290)	(0.290)	(0.290)
Knowledge Party recommendation (Non-partisans)	0.399	0.398	0.387	0.402	0.403
	(0.267)	(0.267)	(0.270)	(0.267)	(0.267)
Knowledge Party recommendation (Correct No)	-1.182***	-1.183***	-1.190***	-1.186***	-1.180***
	(0.304)	(0.304)	(0.299)	(0.304)	(0.304)
Knowledge Party recommendation (Correct Yes)	0.586*	0.586*	0.594*	0.591*	0.587*
	(0.254)	(0.254)	(0.257)	(0.255)	(0.254)
Issue Specific Knowledge – Mid	0.136	0.136	0.143	0.139	0.135
	(0.371)	(0.371)	(0.371)	(0.372)	(0.372)
Issue Specific Knowledge - High	0.106	0.106	0.118	0.109	0.108
	(0.351)	(0.351)	(0.352)	(0.353)	(0.353)
Knowledge Economiesuisse recommendation (Know)	0.175	0.174	0.192	0.170	0.165
	(0.246)	(0.246)	(0.247)	(0.246)	(0.246)
Knowledge USS recommendation (Know)	-0.249	-0.248	-0.269	-0.254	-0.252
	(0.246)	(0.246)	(0.248)	(0.246)	(0.246)
Complexity	-0.118	-0.117	-0.110	-0.119	-0.119
	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)

Variable	Dependent variable: Vote Choice Ref. Cat. (No)				
	Base 2	Gov 2	Party 2	USS 2	Economiesuisse 2
Importance of policy	0.179***	0.179***	0.180***	0.180***	0.180***
	(0.040)	(0.039)	(0.040)	(0.040)	(0.040)
Government/Governor trust	0.233***	0.232***	0.236***	0.232***	0.232***
	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
Age	-0.013*	-0.012*	-0.013*	-0.013*	-0.013*
	(0.006)	(0.005)	(0.006)	(0.006)	(0.006)
Gender (female)	0.053	0.053	0.045	0.054	0.053
	(0.193)	(0.192)	(0.193)	(0.193)	(0.193)
Argument Scale×Knowledge Government Cue (Know = Yes)		0.005			
		(0.101)			
Argument Scale×Knowledge Party (Non-partisans)			-0.027		
			(0.096)		
Argument Scale×Knowledge Party (Correct No)			-0.067		
			(0.095)		
Argument Scale×Knowledge Party (Correct Yes)			0.016		
			(0.083)		
Argument Scale×Knowledge USS (Know = Yes)				-0.030	
				(0.061)	
Argument Scale×Knowledge Economisuisse (Know = Yes)					-0.040
					(0.061)
Constant	-1.742***	-1.572**	-1.763***	-1.737***	-1.734***
	(0.622)	(0.554)	(0.622)	(0.623)	(0.622)
Observations	1290	1290	1290	1290	1290

Note: In parenthesis standard error * p<0.05 **p<0.01; ***p<0.001

Table D3 - Logistic regression models Proposition 26.

Variable	Dependent variable: Vote Choice Ref. Cat. (No)				
	Base 3	Gov 3	Party 3	CNIGA 1	DRKING 1
Argument Scale	0.317***	0.306***	0.298***	0.298***	0.322***
	(0.027)	(0.028)	(0.032)	(0.036)	(0.028)
Knowledge Government/Governor recommendation (Know)	-0.497	-0.568	-0.532	-0.497	-0.506
	(0.316)	(0.338)	(0.329)	(0.316)	(0.315)
Knowledge Party recommendation (Non-partisans)	0.094	0.103	0.086	0.097	0.092
	(0.252)	(0.253)	(0.255)	(0.252)	(0.253)
Knowledge Party recommendation (Correct Free - Dem)	-0.307	-0.355	-0.858	-0.304	-0.274
	(0.356)	(0.364)	(0.490)	(0.357)	(0.356)
Knowledge Party recommendation (Correct No - Rep)	-0.964**	-0.960**	-0.931**	-0.956**	-0.960**
	(0.350)	(0.348)	(0.353)	(0.353)	(0.351)

	Dependent variable: Vote Choice Ref. Cat. (No)				
Variable	Base 3	Gov 3	Party 3	CNIGA 1	DRKING 1
Issue Specific Knowledge - Low	0.326	0.331	0.301	0.323	0.322
	(0.192)	(0.192)	(0.193)	(0.192)	(0.192)
Issue Specific Knowledge - High	0.228	0.237	0.242	0.230	0.227
	(0.343)	(0.345)	(0.345)	(0.345)	(0.344)
Knowledge Draft King recommendation (Know)	0.630	0.640	0.637	0.633	0.689
	(0.382)	(0.388)	(0.394)	(0.381)	(0.377)
Knowledge CNIGA recommendation (Know)	0.759***	0.763***	0.766***	0.727***	0.754***
	(0.184)	(0.184)	(0.185)	(0.189)	(0.184)
Complexity	-0.055	-0.056	-0.055	-0.055	-0.055
	(0.109)	(0.109)	(0.110)	(0.109)	(0.109)
Importance of policy	0.148***	0.146***	0.142***	0.147***	0.149***
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Government/Governor trust	-0.056	-0.057	-0.054	-0.056	-0.055
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Age	-0.028***	-0.028***	-0.029***	-0.028***	-0.029***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Gender (female)	-0.310	-0.310	-0.339	-0.310	-0.309
	(0.180)	(0.180)	(0.181)	(0.180)	(0.180)
Argument Scale×Knowledge Governor Cue (Know = Freedom)		0.103			
		(0.094)			
Argument Scale×Knowledge Party (Non-partisans)			0.009		
			(0.074)		
Argument Scale×Knowledge Party (Correct Free - Dem)			0.372*		
			(0.170)		
Argument Scale×Knowledge Party (Correct No - Rep)			-0.021		
			(0.090)		
Argument Scale×Knowledge CNIGA (Know = Yes)				0.042	
				(0.054)	
Argument Scale×Knowledge DRKING (Know = Yes)					-0.109
					(0.118)
Constant	0.282	0.305	0.353	0.302	0.276
	(0.500)	(0.500)	(0.502)	(0.500)	(0.501)
Observations		883	883	883	883

Note: In parenthesis standard error * p<0.05 **p<0.01; ***p<0.001

Table D4 - Logistic regression models Proposition 27.

Variable	Dependent variable: Vote Choice Ref. Cat. (No)				
	Base 4	Gov 4	Party 4	CNIGA 2	DRKING 2
Argument Scale	0.436***	0.455***	0.457***	0.452***	0.390***
	(0.035)	(0.043)	(0.047)	(0.043)	(0.048)
Knowledge Government/Governor recommendation (Know)	-0.579	-0.576	-0.547	-0.575	-0.563
	(0.314)	(0.308)	(0.314)	(0.313)	(0.316)
Knowledge Party recommendation (Non-partisans)	-0.201	-0.202	-0.225	-0.208	-0.200
	(0.327)	(0.327)	(0.317)	(0.327)	(0.325)
Knowledge Party recommendation (Correct No - Dem/Rep)	-1.024**	-1.033**	-1.077**	-1.036**	-1.042**
	(0.327)	(0.325)	(0.336)	(0.327)	(0.329)
Issue Specific Knowledge - Low	-0.196	-0.199	-0.179	-0.196	-0.189
	(0.277)	(0.278)	(0.278)	(0.277)	(0.277)
Issue Specific Knowledge - High	-0.471	-0.457	-0.442	-0.471	-0.477
	(0.350)	(0.350)	(0.352)	(0.350)	(0.351)
Knowledge CNIGA recommendation (Know)	-0.748*	-0.748*	-0.754*	-0.747*	-0.743*
	(0.298)	(0.297)	(0.299)	(0.292)	(0.303)
Knowledge Draft King recommendation (Know)	0.685**	0.681**	0.683**	0.685**	0.711**
	(0.248)	(0.249)	(0.249)	(0.249)	(0.249)
Complexity	-0.275	-0.280	-0.272	-0.277	-0.277
	(0.151)	(0.151)	(0.151)	(0.151)	(0.151)
Importance of policy	0.159***	0.160***	0.160***	0.158***	0.158***
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
Government/Governor trust	-0.016	-0.019	-0.015	-0.016	-0.013
	(0.039)	(0.040)	(0.040)	(0.039)	(0.039)
Age	-0.022**	-0.022**	-0.023**	-0.022**	-0.022**
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Gender (female)	-0.629*	-0.638*	-0.620*	-0.630*	-0.637*
	(0.249)	(0.250)	(0.250)	(0.250)	(0.250)
Argument Scale×Knowledge Governor Cue (Know = No)		-0.058			
		(0.070)			
Argument Scale×Knowledge Party (Non-partisans)			-0.112		
			(0.085)		
Argument Scale×Knowledge Party (Correct No - Dem/Rep)			0.000		
			(0.086)		
Argument Scale×Knowledge CNIGA (Know = No)				-0.047	
				(0.069)	
Argument Scale×Knowledge DRKING (Know = Free)					0.087
					(0.067)
Constant	1.079	1.114	1.092	1.096	1.069
	(0.698)	(0.701)	(0.697)	(0.700)	(0.698)
Observations		896	896	896	896

Note: In parenthesis standard error * p<0.05 **p<0.01; ***p<0.001

E - Robustness tests

Figure E1 - Marginal effects of party cues on vote choice across argument positions, excluding predictions for voters with ambivalent opinion (-4 to +4) – Replication Figure 2 main text.

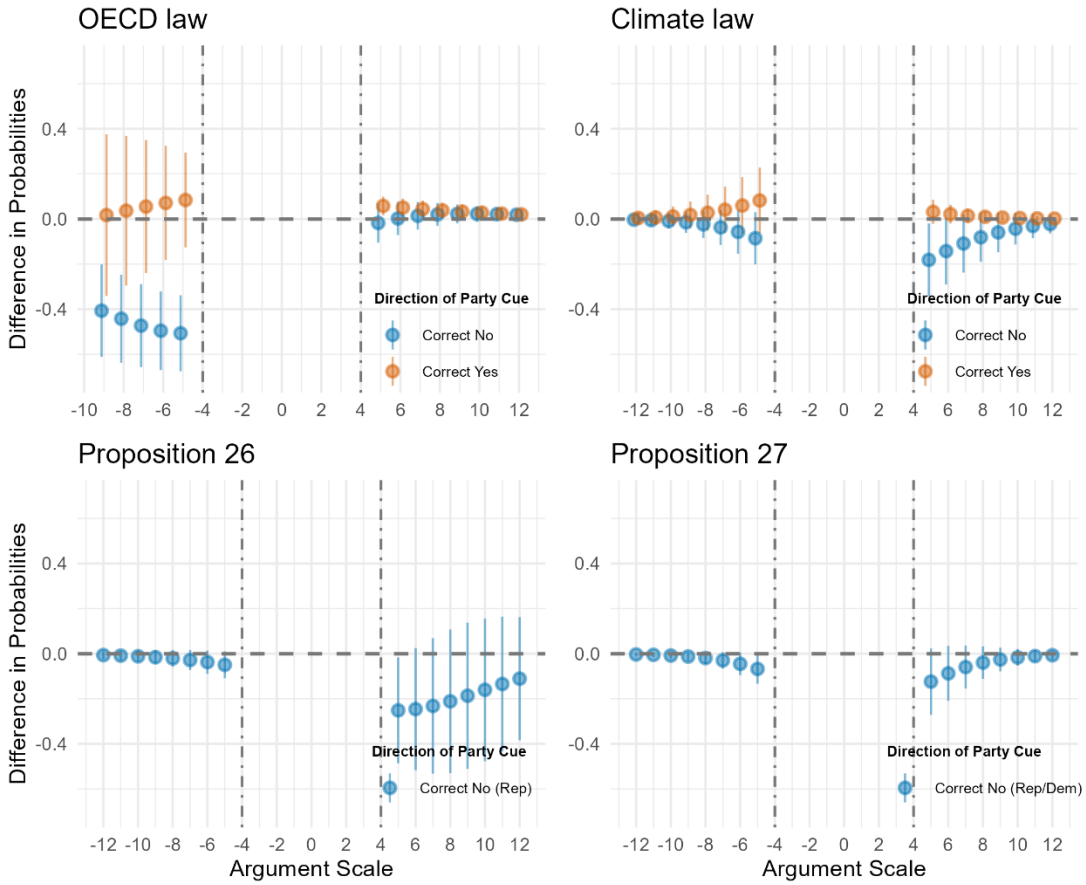


Figure E2 - Marginal effects of party cues on vote choice across argument positions, excluding predictions for voters with ambivalent opinion (0) – Replication Figure 2 main text.

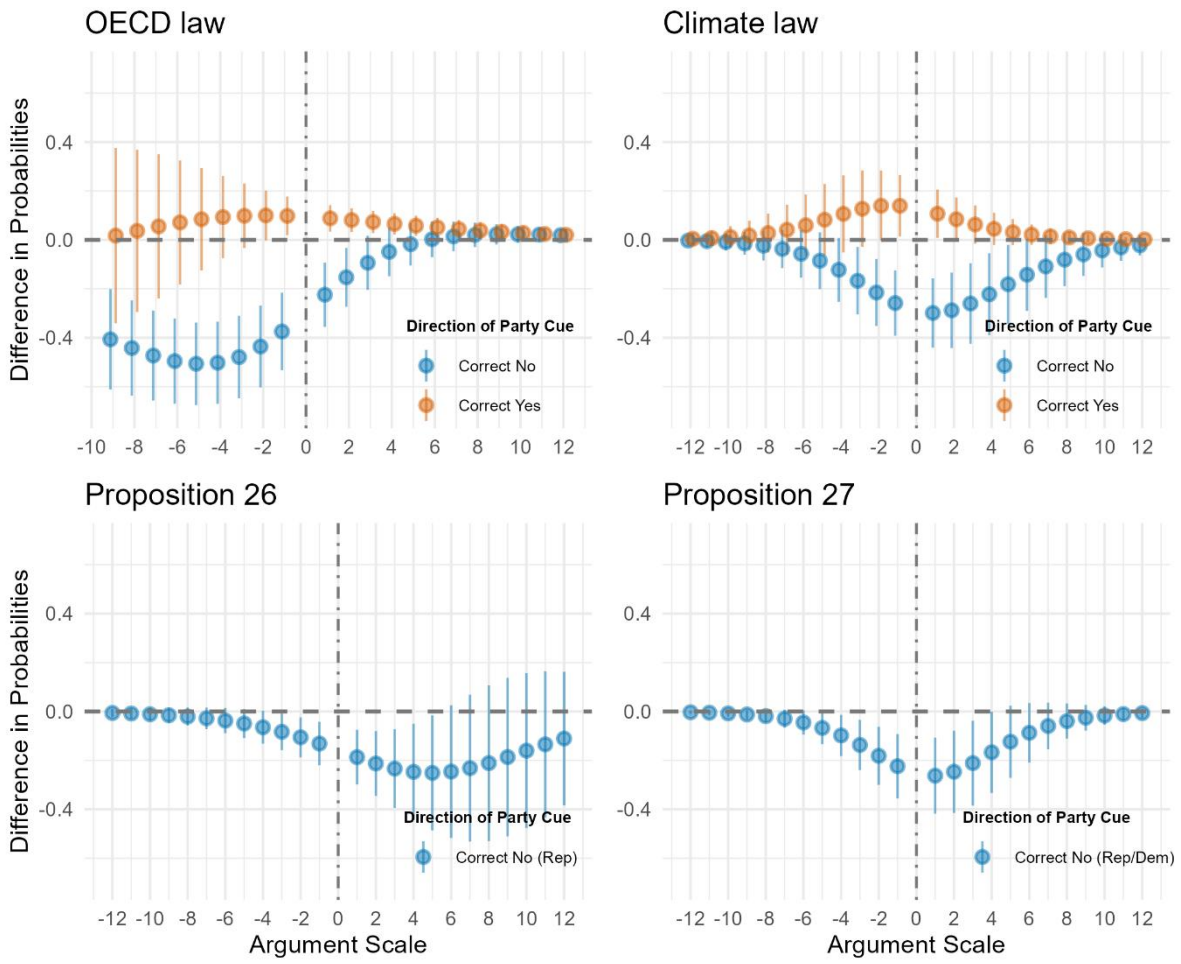


Figure E3 - Marginal effects of government/governor cue on vote choice across argument positions, excluding predictions for voters with ambivalent opinion (-4 to +4) – Replication Figure 3 main text.

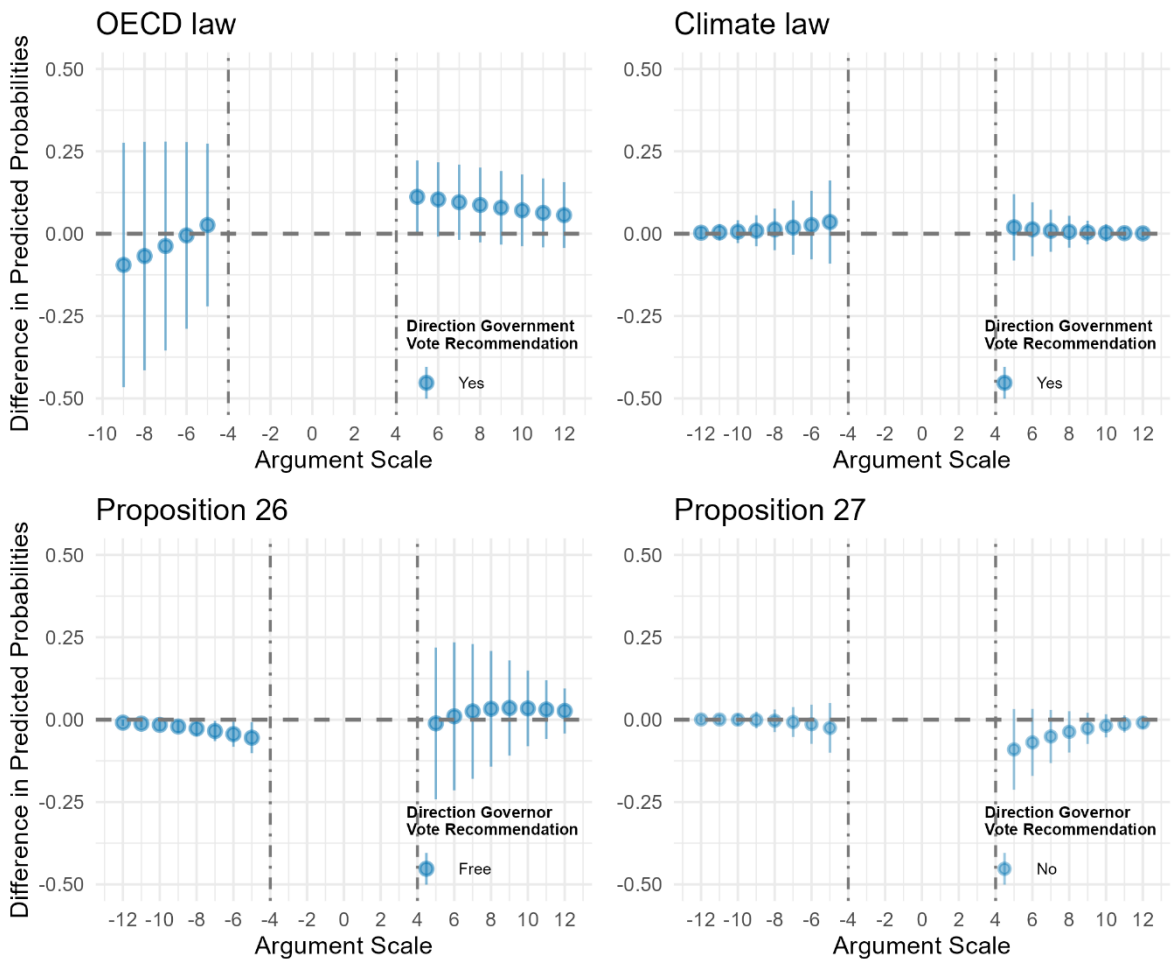


Figure E4 - Marginal effects of government/governor cue on vote choice across argument positions, excluding predictions for voters with ambivalent opinion (0) – Replication Figure 3 main text.

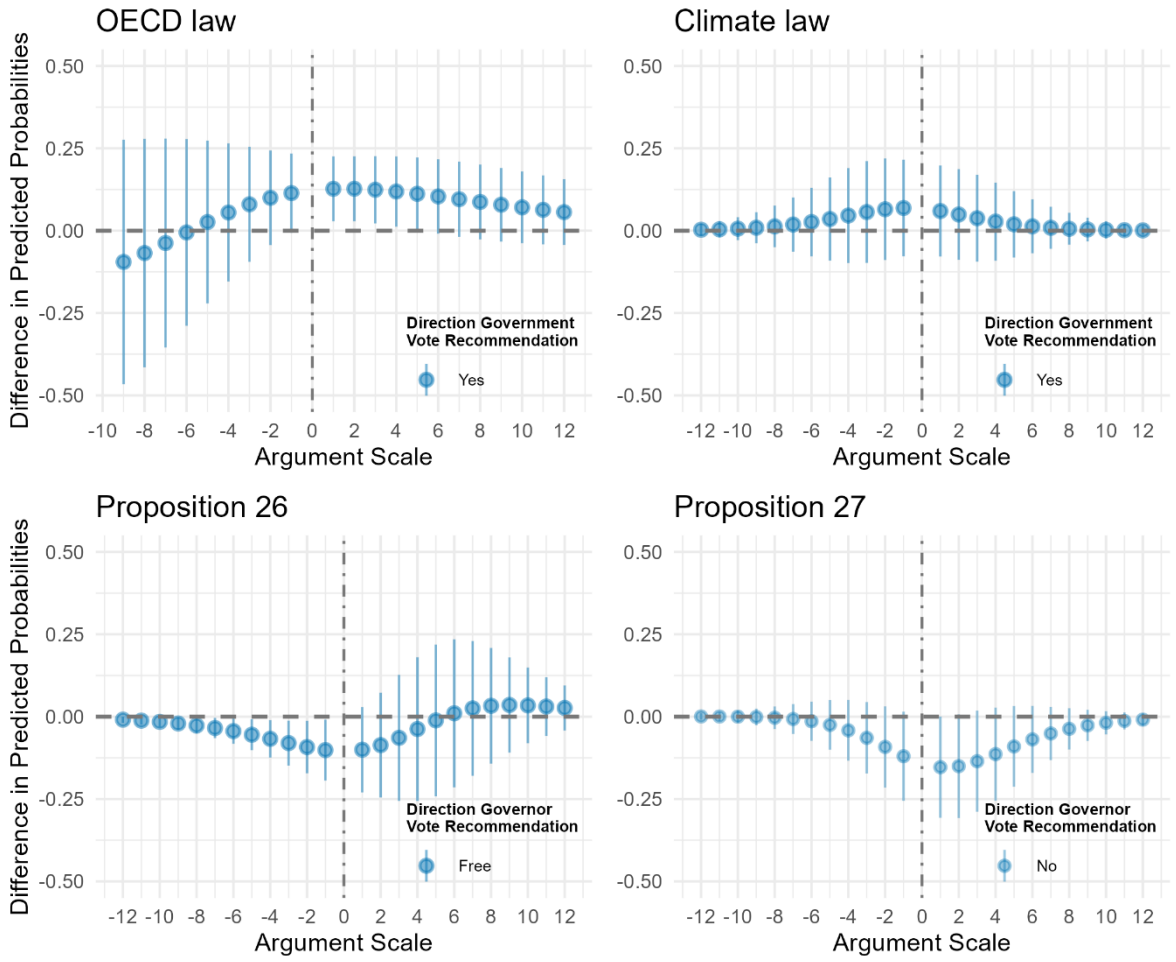


Figure E5 - Marginal effects of interest group cue on vote choice across argument positions, excluding predictions for voters with ambivalent opinion (-4 to +4) – Replication Figure 4 main text.

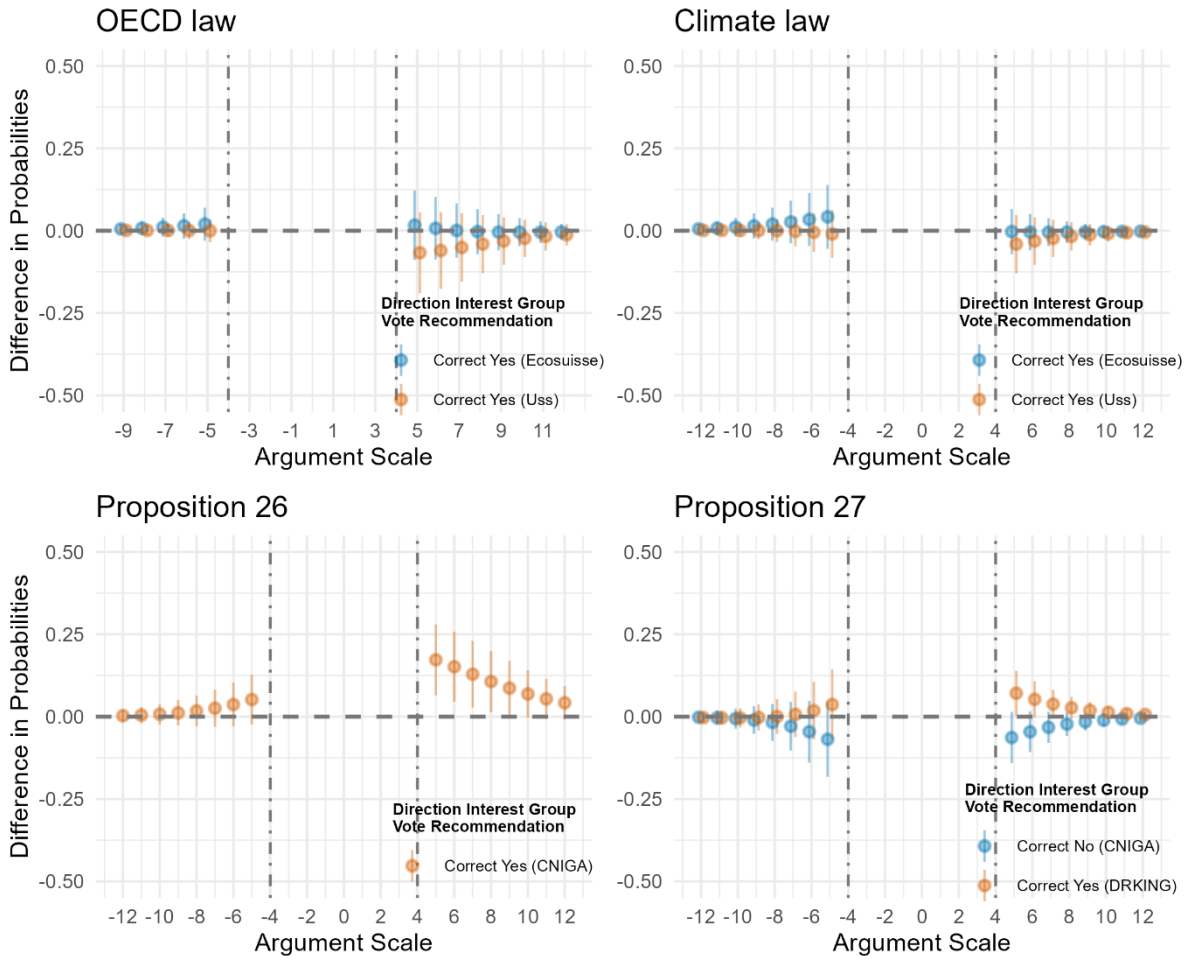
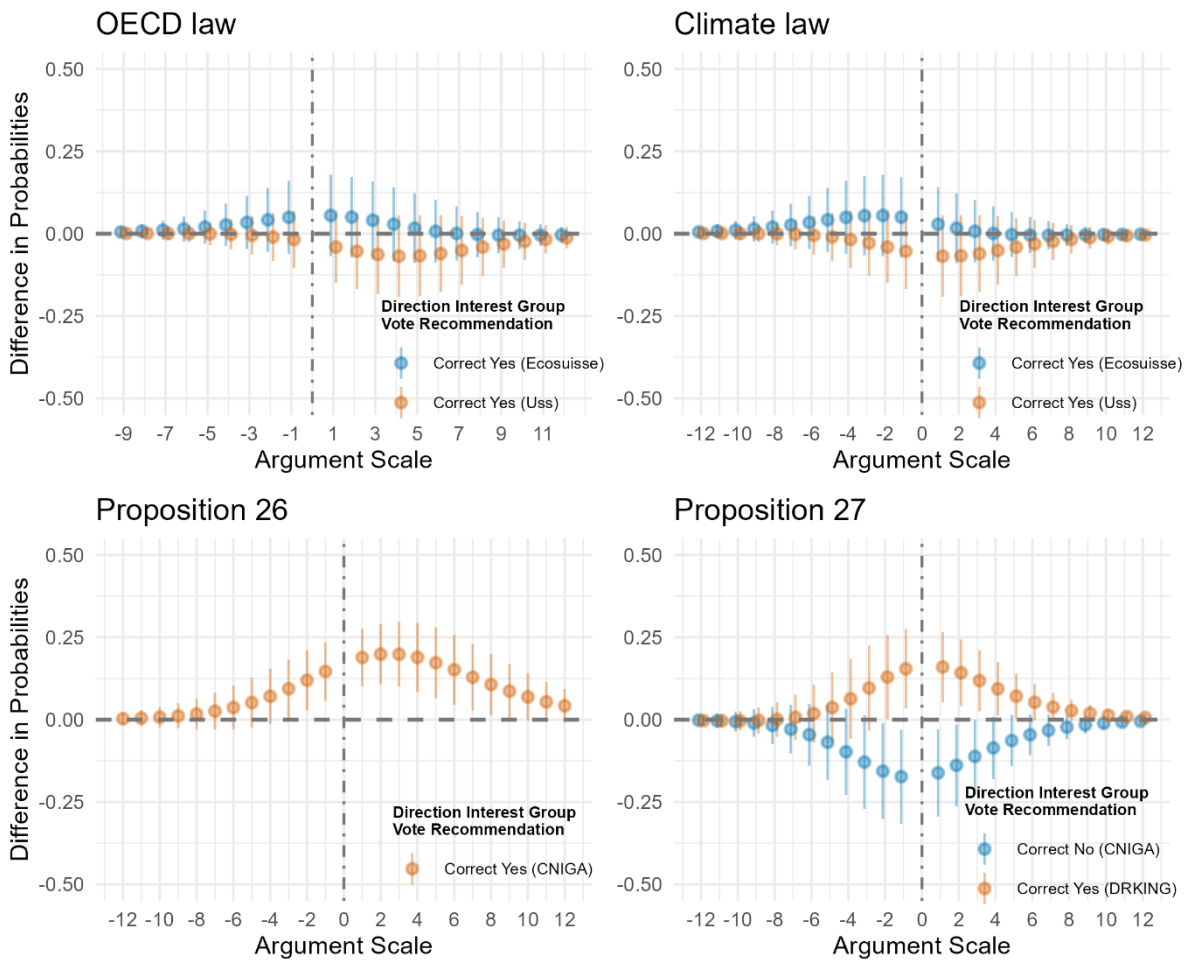


Figure E6 - Marginal effects of interest group cue on vote choice across argument positions, excluding predictions for voters with ambivalent opinion (0) – Replication Figure 4 main text.



Third Paper: When Party Cues Collide with Policy Preferences: Voter Decision-Making in Direct Democracy

Adrien Petitpas, Pascal Sciarini, Andrea Barbieri

Abstract

Research on direct democratic choices often assumes a simplistic competition between party cues and substantive evaluations of policy information. However, these factors are not independent from each other – they interact and jointly shape voting behavior. A key question arises when voters experience *cross-pressure* – when their personal policy preference conflicts with their preferred party's vote recommendation. Drawing on information processing theories, we develop hypotheses about the conditions under which one factor prevails over the other. We test these hypotheses using three-wave panel data from two direct democratic votes in California and two in Switzerland. Our findings offer a richly layered perspective: substantive policy preferences outweigh party cues, which prevail only when voters lack strong positions on the arguments for or against the ballot measure. These results challenge conventional wisdom and provide important insights into opinion formation and decision-making in direct democracy.

Introduction

In direct democracy, where citizens vote directly on policy proposals, party cues and policy information help voters to access distinct cognitive mechanisms. Party cues act as heuristic shortcuts, enabling voters to align with their preferred party's recommendation and reach a decision with minimal cognitive effort (Bartels, 1996; Lupia, 1994). By contrast, substantive evaluations of arguments for and against a ballot measure – that is, policy information – require voters to engage in more systematic processing and deliberation (Eagly & Chaiken, 1993), and are therefore likely to produce more informed and considered decisions (Goodwin et al., 2020; Guess & Coppock, 2020).

Much of the existing literature has examined the relative influence of party cues and policy information on voter choice in direct democratic elections. The theory of partisan motivated reasoning holds that individuals process information in a biased manner, privileging their party position and ignoring policy arguments (Leeper & Slothuus, 2014). However, several studies show that substantive policy evaluations significantly shape vote choice, at times rivaling or even surpassing the effect of party cues (Boudreau & MacKenzie, 2014; Bullock, 2011; Colombo & Kriesi, 2017; Kriesi, 2005).

Despite these insights, prior work has generally treated party cues and policy arguments as independent or competing forces, overlooking how they might interact and jointly shape political behavior. A central question remains: What happens when these two types of information collide, creating cross-pressures for voters – for example, when their evaluation of a ballot measure's pro and con arguments inclines them towards a No vote, while they believe their preferred party advocates a Yes? Do voters resolve this tension by reverting to partisan loyalty, or by privileging their own substantive evaluations of the policy proposal? And under what conditions does one factor dominate the other? Addressing these questions might help

explain the mixed findings that characterize research on the interplay of party cues and policy information.

To address this gap, we analyze original three-wave panel data collected during initiative and referendum campaigns in California and Switzerland. Both contexts share a rich tradition of direct democracy but show consistent differences in terms of political institutions and campaign environments, allowing us to study how voters form their vote choice in two different settings. The panel design helps to trace the dynamic process of opinion formation by observing how voters adjust their vote intention to both policy preferences and party cues over the course of campaigns (Colombo & Kriesi, 2017; Selb et al., 2009).

Our findings advance our understanding of voter decision-making by demonstrating that when voters face cross-pressures but hold strong positions on the substantive arguments surrounding a ballot measure, they tend to resolve conflicts in favor of policy information rather than party cues. Only when voters lack firm opinions about these arguments do they tend to align their choices with the stance of their preferred party. These results carry important implications for how we understand voter behavior and decision-making in direct democratic contexts.

Theoretical framework

In direct democracy, citizens face a binary choice: to accept or reject a specific policy proposal. Political elites seek to influence this decision primarily through two channels: party cues and policy information (Hänggli & Kriesi, 2010; Petitpas et al., 2024). A cue is a message that individuals can use to infer additional information and, by extension, make decisions (Bullock, 2020). In the context of direct democracy, party cues link a political party to a particular position on an issue. They act as heuristic shortcuts, enabling voters to make choices with minimal cognitive effort (Bartels, 1996; Christin et al., 2002; Lupia, 1994). By signaling how a trusted party views a proposal, cues help bridge information gaps and reduce the costs of acquiring policy knowledge. At the same time, overreliance on cues has raised normative concerns, as it

may render voters more vulnerable to elite manipulation, by steering them toward party positions regardless of the substantive merits of the policy (Bäck et al., 2021; Bolsen et al., 2014; Burnett, 2019; Hobolt, 2007).

In contrast, policy information – arguments for or against a proposal – requires more systematic and deliberative engagement. Processing policy arguments is cognitively demanding, as arguments are often more complex than cues, but this effort can produce more informed and considered judgments (Goodwin et al., 2020; Guess & Coppock, 2020). Empirical work shows that substantive arguments are persuasive and closely related to vote choice in referendums (Kriesi, 2005; Lanz & Nai, 2015).

Two theoretical perspectives help explain how party cues and policy information shape voter behavior. Dual-process models of opinion formation (Eagly & Chaiken, 1993) distinguish between a heuristic pathway, which lead voters to rely on shortcuts such as party endorsements, and a systematic pathway, which requires greater cognitive effort and involves carefully evaluating detailed policy arguments. From this perspective, party cues and policy information are competing routes to decision-making.

By contrast, the theory of partisan motivated reasoning (Leeper & Slothuus, 2014; Taber & Lodge, 2006) suggests that cues affect how voters evaluate policy arguments. Motivated reasoning posits that citizens' goals shape how they process information. Accuracy goals drive individuals to weigh pros and cons carefully in order to reach a well-informed decision, whereas directional goals lead them to defend their pre-existing identity, beliefs, and attitudes. In practice, most citizens pursue directional goals. Within this framework, voters process information through a perceptual screen (Campbell et al., 1960): Party cues lead them to align their choice with their partisan identity and discount policy information (Bäck et al., 2021; Leeper & Slothuus, 2014; Petersen et al., 2013).

However, empirical results remain inconclusive. Confirming the partisan bias perspective, some studies find that voters follow their preferred party's cue (Cohen, 2003; Pannico, 2020). Yet other studies highlight the significant role of policy arguments. Experimental and observational evidence demonstrates that the persuasive power of substantive information can rival or even exceed that of party cues (Bullock, 2011; Colombo & Kriesi, 2017; Boudreau & MacKenzie, 2014).

Despite this extensive research, key questions remain unresolved. Much of the existing literature focuses on the independent effects of these two factors, often treating them as competing influences. Therefore, they overlook the possibility that they may jointly influence voters' choices, either complementing or contradicting each other. If voters' policy preferences coincide with their preferred party's recommendation, there is no conflict, and voters are likely to vote in line with both. But what happens when these positions diverge, creating cross-pressures between party cues and policy information? Do voters stand by their substantive evaluations or conform to partisan guidance? Such situations are inherently unstable and create psychological tension that voters seek to resolve (Festinger, 1962).

Boudreau and MacKenzie's (2014) experimental study of citizen-sponsored initiatives provide rare evidence of an interactive effect. They show that policy information can counteract partisan cues: When exposed to strong arguments that contradict their party's position, voters tend to shift away from their party's stance. Their study also suggests that how voters resolve such tensions likely depends on the strength of their underlying policy attitudes.[22] A central insight from political psychology is that attitude strength moderates the susceptibility to external influence. Strong attitudes are stable, resistant to counterarguments and predictive of behavior (Converse 1984; Eagly & Chaiken 1993). Weak attitudes, by contrast, are more malleable and

[22] Boudreau and MacKenzie's (2014) analysis infers attitude strength from ballot characteristics rather than directly measuring it at the individual level, leaving open the question of how firmly held preferences shape responsiveness to cues and arguments.

unstable, often rooted in situational considerations rather than deeply held beliefs (Schuman & Presser, 1981). Consequently, strong attitudes are more reliable predictors of behavior than weak ones (Petty & Krosnick, 1995).

Building on the distinction between weak and strong attitudes, and applying it to direct democracy, we formulate differentiated expectations about whether party cues or substantive arguments exert greater influence on voters, depending on the strength of their positions on a ballot measure. When voters hold strong policy attitudes that conflict with party cues, these attitudes are likely to dominate, leading voters to prioritize their policy positions. By contrast, voters with weak policy attitudes – those lacking firm views on policy arguments – experience little or no cross-pressure. Because their policy positions are weak, they do not conflict with party cues, which are then likely to guide their reasoning and lead them to align their vote to expected group norms (Leeper & Slothuus, 2014). In such cases, voters are therefore inclined to follow what they perceive to be the party line (Milic, 2020).

H1: *Voters with a strong argument position that conflicts with their perception of their preferred party's recommendation are likely to align their vote choice with their argument position.*[23]

H2*: Voters with a weak argument position are likely to vote in line with their perception of their preferred party's recommendation*.

Finally, we account for the dynamic nature of opinion formation and hypothesize how the resolution of cross-pressure situations unfolds over the course of campaigns. Direct democratic campaigns are information-rich events that provide voters with opportunities to learn about

[23] A similar expectation obviously holds for voters who lack a preferred party, who are compelled to rely on substantive information from the campaign to inform their decision. For these voters, the evaluation of policies becomes far more important than it does for those with partisan affinities (Jerit et al., 2009). In the absence of party cues, we expect that voters will base their vote choice on their evaluation of policy arguments.

ballot measures and reduce attitudinal uncertainty (Bowler et al., 2020; Dermont & Stadelmann-Steffen, 2020; Hobolt, 2005; Selb et al., 2009). At the outset, uncertainty about party stances and policy arguments may blur cross-pressures. As campaigns progress, however, both party cues and policy information become more visible, forcing voters to confront potential inconsistencies. Under these conditions, the mechanisms proposed in H1 and H2 are likely to be accentuated: voters with strong policy attitudes that collide with their party's vote recommendation will increasingly anchor their choices in those attitudes, whereas voters with weak attitudes – who therefore do not experience cross-pressure – will increasingly rely on partisan cues.

H3: *The effects postulated in H1 and H2 are stronger towards the end of the campaign.*

Methodology

Panel data

This study draws on a three-wave panel survey conducted in California and Switzerland. The first wave occurred before the campaign, the second during the campaign, and the third after the vote. This structure allows us to examine how voters resolve potential conflicts between their policy positions on ballot measures and party cues at different stages of the campaign. The initial samples were selected from an online panel, using quotas to ensure balanced representation based on gender, age, education, and geographic location (see Appendix A).

Cases

In California, the focus is on two "combined initiated constitutional amendments and state statutes" related to the legalization of sports betting, presented to voters alongside the November 2022 midterm elections. These two competing ballot measures sought to establish control over a significant future market. Proposition 26 proposed legalizing *in-person* sports betting in Native American casinos, whereas Proposition 27 aimed to legalize *online* sports

betting, while also creating a fund for homelessness prevention. The campaign became a battleground for competing interest groups seeking dominance over a potentially lucrative market involving tens of millions of consumers. It turned into the most expensive initiative campaign in California's history, with spending exceeding $400 million.

Supporters of Proposition 26 contributed significantly more than opponents, accounting for 73.9% of the total spending compared to 26.1%. Proposition 27, on the other hand, reflected a more balanced spending pattern, with 40.7% in favor and 59.3% against[24]. Despite addressing similar policy issues, the two propositions differed in terms of political alignment. The Republican Party opposed both measures, while the Democratic Party opposed Proposition 27 but remained neutral on Proposition 26 (i.e., no endorsement). Ultimately, voters rejected both measures by significant margins, with 67% voting against Proposition 26 and 82.3% against Proposition 27.

In Switzerland, the study examines two referendums held in June 2023. The first concerned a constitutional amendment subject to a mandatory referendum. Promoted by both the government and parliament, the amendment sought to implement a global tax reform backed by the OECD and the G20, introducing a minimum tax rate of 15% on large multinational corporations. The reform received broad political support, with only the Socialist Party opposing it, while the Greens did not take a stance and hence let the "freedom of vote". The

[24] See https://ballotpedia.org/California_Proposition_26,_Legalize_Sports_Betting_on_American_Indian_Lands_Initiative_(2022) and https://ballotpedia.org/California_Proposition_27,_Legalize_Sports_Betting_and_Revenue_for_Homelessness_Prevention_Fund_Initiative_(2022). After spending tens of millions of dollars, the promoters of Proposition 27 stopped campaigning in the final weeks of the campaign, based on polls that predicted an overwhelming defeat. See https://abc7news.com/prop-27-california-sports-betting-proposition-tv-ads-yes-on/12248218 and https://www.npr.org/2022/11/09/1133986282/california-gambling-prop-26-27-midterm-results.

wide-ranging political consensus and the technical nature of the proposal led to a low-profile, one-sided campaign, where 94% of newspaper advertisements supported the reform.[25]

The second vote stemmed from an optional referendum initiated by the Swiss People's Party, opposing revisions to the Climate Law. The proposed revisions aimed to establish a framework for achieving climate neutrality by 2050 and enhancing energy security through various incentives and measures, such as reducing fossil fuel use, improving building insulation, and promoting renewable energy sources. Among the six major political parties, only the Swiss People's Party opposed the law, but it invested significant resources in the referendum campaign, which reached a high level of intensity by Swiss standards. Despite these investments, the balance of the campaign was clearly skewed towards the Yes side, with 65% of advertisements placed by supporters and 35% by opponents.[26] In the end, both proposals were approved by voters, with the OECD tax reform receiving overwhelming support (78.5% in favor) and the Climate Law passing with a clear majority (59.1% in favor).

We leverage differences across ballot measures and related contexts (institutional type, campaign dynamics, and the configuration of party cues) to assess how voters' attitudes evolve in diverse situations and how they manage potential cross-pressures.

Measures

The outcome is measured using vote intention (wave 1 and 2) and vote choice (wave 2 or 3),[27] capturing whether respondents intended to vote – or actually voted – Yes, No, or were "undecided". Table 1 presents descriptive statistics for voting intentions (or vote choice) across

[25] https://swissvotes.ch/vote/662.00

[26] https://swissvotes.ch/vote/663.00

[27] Because of the possibility of early voting by mail, respondents of wave 2 were first asked if they had already received their voting materials and, if yes, if they had already voted. If so, they were asked about their vote choice. If not, they were asked about their voting intention.

each ballot measure and survey waves. The results reveal distinct patterns of opinion change during the campaign period.

Table 1 - Vote intention/choice, descriptive statistics (in %)

		W1	W2	W3
Climate (N=931)	Yes	63.5	64.6	64.9
	No	28.5	32.4	35.1
	Undecided	8.0	3.0	-
OECD (N=931)	Yes	63.9	74.3	79.0
	No	21.1	19.9	21.0
	Undecided	15.0	5.8	-
Proposition 26 (N=709)	Yes	52.1	43.7	39.2
	No	38.8	49.0	60.8
	Undecided	9.2	7.3	-
Proposition 27 (N=709)	Yes	38.5	27.8	25.7
	No	52.5	66.3	74.3
	Undecided	9.0	6.0	-

Across all four ballot measures, the share of undecided voters declined consistently, indicating potential learning effects occurring during the political campaigns. For the Climate Law, there is a slight upward trend in the share of voters intending to vote No as the campaign progresses, while the share of Yes votes remained relatively stable. This pattern suggests that, at the aggregate level, voter activation, defined as the extent to which voters move from an undecided position to a vote choice, primarily benefited the opposition. The OECD Law shows the opposite trajectory, with activation predominantly favoring support to the measure. The Yes vote steadily increased throughout the campaign, ultimately reaching nearly 80% of votes, while rejection rates remained constant across waves.

California's ballot measures demonstrate a different dynamic, with opposition to both propositions growing substantially – and support decreasing markedly – over the course of the campaign: both measures experienced approximately 13 percentage point drops in support

between Wave 1 and Wave 3, while voters intending to vote No increased by approximately 22 percentage points during the same period.[28]

The first independent variable captures respondents' positions on policy arguments, measured by the question: "To what extent do you agree or disagree with the following arguments regarding [name of ballot measure]?" For each ballot measure, we developed six campaign arguments – three supporting and three opposing – with response options ranging from "strongly disagree" (–2), "rather disagree" (–1), and "rather agree" (+1) to "strongly agree" (+2), along with an intermediate "don't know" option (0) (see Appendix B for the full set of argument questions). Summing these six items results in a scale from -12 (extremely opposed to the ballot measure) to +12 (extremely supportive) for each wave.[29] For the Swiss ballots, arguments were derived from parliamentary debates, while for Proposition 26 and Proposition 27, they were based on the official statements of proponents and opponents.

Table 2 shows descriptive statistics for each ballot and each wave.

Table 2 - Position on arguments, descriptive statistics

		W1	W2	W3
Climate (N=931)	Mean	2.0	2.0	2.1
	Sd	5.5	5.9	5.7
OECD (N=931)	Mean	2.2	2.4	2.7
	Sd	3.8	4.2	4.2
Proposition 26 (N=709)	Mean	1.0	0.4	0.1
	Sd	4.0	4.4	4.4
Proposition 27 (N=709)	Mean	-2.3	-3.2	-3.3

[28] These descriptive statistics capture net changes in vote intentions across the sample but do not reveal the underlying individual-level dynamics, which are likely to exhibit even greater volatility.

[29] A respondent with a score of +12 "extremely agrees" with the three arguments in favor of the ballot measure and "extremely disagrees" with the three arguments against the ballot measure. The argument questions were asked at the beginning of the questionnaire before the vote intention/choice questions to avoid the risk of rationalization (i.e., simply reporting positions in line with vote intention). Moreover, the arguments were formulated in a general way, avoiding a clear indication of the side of the argument (see appendix B). To make sure that arguments weighted similarly in voters' decision-making process, we tested Cronbach's Alpha among positive and negative arguments for each ballot measure and wave (see appendix B for more details).

Sd	5.3	5.7	5.7

For the Climate Law, the mean scores indicate that argument positions remained relatively stable over the course of the campaign, with a slight tendency in favor of the ballot measure. However, the relatively high and stable standard deviation suggests that opinions remained highly diverse throughout the campaign. The OECD Law shows a moderate upward trajectory in mean scores over time, reflecting growing support for the ballot throughout the campaign. This result is consistent with the one-sided nature of the campaign messages in favor of the law. The standard deviation shows a moderate upward trend – as support grew, so did the diversity of opinions.

In California, both propositions experienced a decline in support during the campaign. While average argument positions on Proposition 26 moved towards the neutral point (0 on the -12 to 12 scale), evaluations of Proposition 27 became increasingly negative. Although for both propositions the diversity of opinions increased as the campaign progressed, the range of opinions remained more moderate for Proposition 26 than for Proposition 27.

The second independent variable is the respondents' perception of their preferred party's voting recommendation. It is based on two questions. In the first wave of the panel, respondents were asked which party they felt closest to (see Appendix B for the battery of questions measuring party closeness). In each wave, respondents were then asked if they knew the cue of their preferred party: "To your knowledge, what is the [preferred party's] vote recommendation for the following ballot measures?" Respondents could answer Yes, No, "freedom of vote", or "don't know". For simplicity, we collapse the latter two categories, noting that for each ballot measure and across all three waves, the proportion of respondents selecting "don't know" (10 to 54%) markedly exceeds those selecting "freedom of vote" (3 to 15%). As respondents who

did not feel close to any party could not be asked about the voting recommendation of their "preferred party", we exclude them from the analysis[30].

It is important to note that this variable is about the perception of the party cue, rather than the accuracy of that perception. Party cues function as heuristics precisely because voters rely on their beliefs about party positions to guide their choices. Therefore, for our purpose here, what matters is that respondents *believe* their party recommends a Yes or No vote, regardless of whether that belief is correct. Table 3 shows descriptive statistics for each ballot and each wave. The four ballot measures reveal both notable differences and similarities between the Swiss and California contexts. On the one hand, Swiss citizens demonstrate substantially higher levels of perceived party positioning compared to their California counterparts. In Switzerland, by Wave 3, no more than 20% of voters failed to report the vote recommendation of their preferred party on either the Climate Law or the OECD Act. In contrast, California voters exhibited substantially lower levels of party cue perception, with nearly half of respondents indicating that they did not perceive their party as providing a voting recommendation. This disparity likely reflects differences in party involvement across the two contexts: Swiss parties actively participated in both ballot campaigns, while neither the Republican nor Democratic parties engaged substantially in the two direct democratic campaigns.[31] On the other hand, all four ballot measures show similar temporal dynamics. Across both contexts, the proportion of voters who did not perceive their preferred party as taking a position on the policies consistently declined across waves.

[30] In Switzerland we removed 921 respondents out of 3555 of the initial sample. In California we removed 1020 respondents out of 3795.

[31] As already noted, the Democrats did not issue a voting recommendation on Proposition 26, but this hardly explains the large share of voters who did not perceive their party as providing one. In this case as well, "don't know" responses far outweighed perceptions of a "free vote."

Table 3 - Perception of party cue, descriptive statistics (in %)

		W1	W2	W3
Climate (N=931)	Perception Yes	48.9	58.0	62.5
	Perception No	19.1	24.0	24.5
	Don't know/Free vote	32.0	18.2	13.0
OECD (N=931)	Perception Yes	41.1	51.1	56.1
	Perception No	16.0	21.6	23.5
	Don't know/Free vote	42.8	27.3	20.4
Proposition 26 (N=709)	Perception Yes	19.5	20.0	20.0
	Perception No	12.0	26.4	31.3
	Don't know/Free vote	68.6	53.6	48.7
Proposition 27 (N=709)	Perception Yes	18.6	16.0	13.7
	Perception No	15.0	32.6	40.1
	Don't know/Free vote	66.4	51.5	46.3

As control variables, we first include a measure of respondents' issue-specific knowledge based on factual knowledge questions about each ballot proposition – two questions in California and three in Switzerland. This issue-specific knowledge scale represents the number of correct answers given by the respondent in each wave. Second, we measure the importance that respondents assign to each proposition in each wave on a 0 to 10 scale, where 0 is "not at all" and 10 is "very important". Third, we include age, gender, education, and ideology – as measure on a 0-10 left-right scale in Switzerland and a 0-10 liberal-conservative scale in California – as standard controls (all measured in wave 1).

Our analysis focuses on how voters resolve conflicts between party cues and their evaluations of policy arguments. We define cross pressured voters as individuals who score between -3 and -12 on the argument scale but believe their preferred party recommends a Yes, or who score between +3 and +12 but believe their party recommends a No. We contrast these with voters whose argument positions align with their perception of party cues, as well as with voters who

hold weak argument positions (between -2 and +2 on the scale) and/or do not perceive their party as having issued a voting recommendation.[32]

The data reveals substantial variation in the proportion of cross-pressured voters across ballot measures and over time (see Tables B2 and B3 in Appendix B for more details). In Switzerland, cross-pressure affects a sizable share of voters and rises markedly over the course of the campaign. For the Climate Law, the share of cross-pressured voters increases from 23% in Wave 1 to 36% in Wave 3. The OECD Law shows an even stronger pattern, with cross-pressured voters growing from 37% at the start of the campaign to 50% by its conclusion. The California ballot measures show similar dynamics. The share of cross-pressured voters increases from 14% to 32% on Proposition 26 and from 11% to 34% on Proposition 27.[33]

These patterns reveal two important findings. First, at the end of the campaign cross-pressure affects between one-third and one-half of voters across ballot measures. Second, the consistent increase in cross-pressure across all ballot measures supports our expectation that campaign information helps clarify both party positions and policy arguments in voters' minds, thereby making conflicts between them more apparent.

Empirical strategy

Because the outcome variable is categorical, we use hierarchical multinomial logit models. We stacked the data for ballots and waves so that each observation corresponds to a respondent-

[32] While the threshold separating strong from weak argument positions involves some degree of arbitrariness, we selected ±3 as the cutoff because we believe that voters at this level have sufficiently clear policy preferences to experience cross-pressure. In contrast, voters scoring ±2 or below are more likely to be ambivalent or uncertain about their policy preferences. To address this potential limitation, we will also conduct an additional analysis examining the interaction between perceived party endorsement and policy preferences at each point along the argument scale.

[33] A closer look at Tables B2 and B3 in Appendix B reveals a contextual difference: In Switzerland, across both ballot measures and all three waves, conflicts between a negative policy position and a perceived Yes cue are far more frequent than conflicts between a positive policy position and a perceived No cue; in California, the reverse holds, particularly toward the end of the campaign.

ballot-wave combination. The generic form of the model is represented by the following equation:

$$\eta_{ijt}^{k} = \beta_0^k + \beta_1^k argument_{ijt} + \beta_2^k cue_{ijt} + \beta_3^k wave_{ijt} + \beta_4^k ballot_{ijt} + \beta^k X_{ijt}^k + \mu_i^k \quad [1]$$

Where η_{ijt}^{k} is the probability for each respondent i at wave t on ballot j being in category k (vote intention/choice Yes, No, or "undecided"). β_0^k represents the intercept. The matrix X_{ijt} includes control variables. μ_i represents the varying intercept for each respondent to account for repeated measures within respondents. The model includes two main predictors – voters' positions on arguments and their perceptions of their preferred party's cue – as well as ballot and wave variables to capture systematic differences across ballot measures and survey waves.

To test H1 and H2, we estimated a two-way interaction model derived from equation [1]:

$$\eta_{ijt}^{k} = \cdots + \beta_5^k (argument \times cue) \quad [2]$$

To test H3, we estimated a three-way interaction model derived from equation [2]:

$$\eta_{ijt}^{k} = \cdots + \beta_6^k (argument \times cue \times wave) \quad [3]$$

The former model tests the interaction between the position on arguments and the cues across all three waves combined, while the latter examines whether these effects vary over time, i.e. across waves. It should be noted, however, that the latter model analyzes variations of vote intention between waves, but does not estimate within-individual changes over time.

To interpret the results, we rely on predicted probabilities and partial derivatives, holding other covariates at typical values (reference category or mean value). Predicted probabilities show the likelihood of each outcome, while average marginal effects reveal how those probabilities change as a function of cues and position on arguments. The statistical details and full results are available in Appendix C.

Results

Figure 1 shows the predicted probability of each vote outcome (Yes, No, excluding the "undecided" category for clarity) based on different combinations of policy argument positions and party cue perceptions, as specified in Equation 2. To simplify the presentation, we focus on representative values of the argument positions, namely positions -6, 0, and 6 on the -12 to +12 scale. These values capture individuals who, based on their policy position – that is, their placement on the argument scale – are strongly opposed to, undecided about, or strongly in favor of the ballot measure.[34] Each symbol represents the predicted probability of voting Yes (triangles) or No (squares), for a given combination of argument position and cue perception.

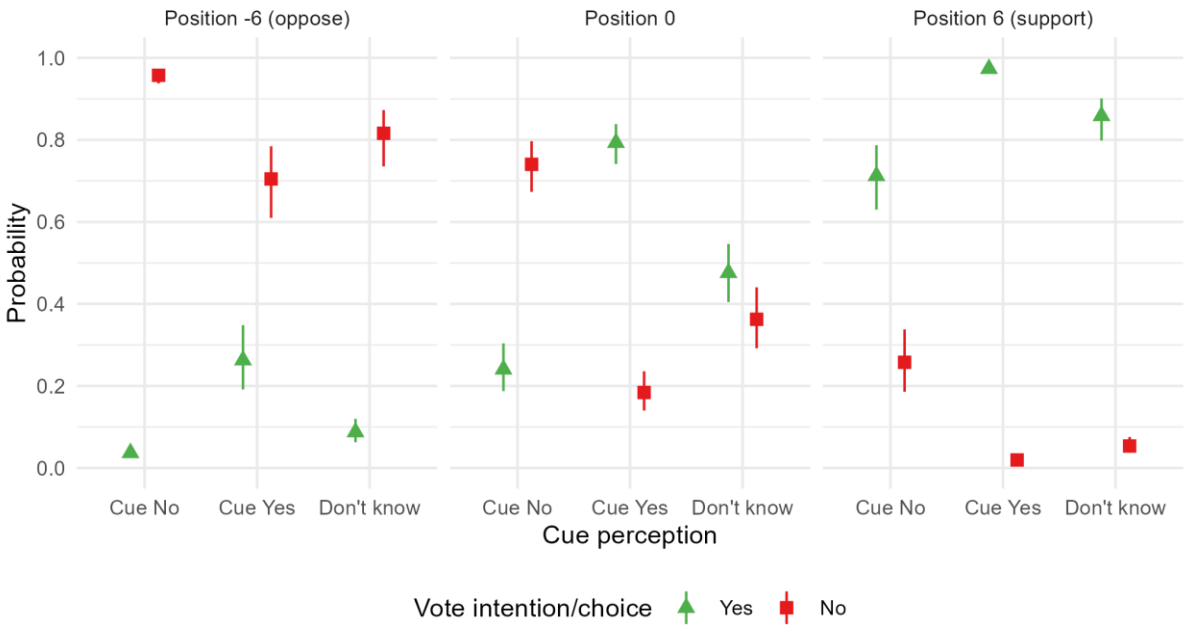
We begin by analyzing cross-pressured voters. Hypothesis 1 (H1) predicts that voters with a strong argument-based positions will follow their own evaluation of the policy, even when it conflicts with their party's stance. Our results confirm this expectation. Voters who hold a strongly negative position on the argument scale but perceive their party as recommending a Yes vote are more likely to vote No than Yes (position = -6, cue = Yes, square). Similarly, voters who have a positive evaluation of the ballot measure but believe their party recommends a No vote are more likely to vote Yes than No (position = 6, cue = No, triangle). Thus, in cases of conflict between argument position and cue, voters who have a clear position on the policy follow the latter and not their party's cue. In other words, personal policy evaluations override partisan cues, confirming H1.[35]

[34] We refrain from considering more extreme positions such as -12 or +12, which account for a very few share of cases (3%). Therefore, those attitudes are more "extreme" than "strong", and not representative of an average voter.

[35] Not surprisingly, strong argument-based positions also shape the choices of voters who do not perceive any party cue (cue = DK). These voters follow closely their own evaluation of the policy – whether supportive (position = 6) or opposed (position = –6).

Next, we evaluate Hypothesis 2 (H2), which concerns voters with weak policy evaluations. We take as an example an extreme but indicative case, those voters who place themselves in the middle of the argument scale (position = 0). Figure 1 shows that these individuals – lacking a clear position on the pro and con of the ballot measure – are likely to rely on their party's recommendation when forming a vote decision. For instance, voters at position 0 who perceive their party recommending a No vote have a high probability of voting No, whereas those perceiving a Yes cue have a high probability of voting Yes. Consistent with H2, these results indicate that voters with weak or no policy preferences rely on their party for guidance.

Figure 1 – Predicted probabilities of vote intention/choice for different party cues perceptions, and argument positions.

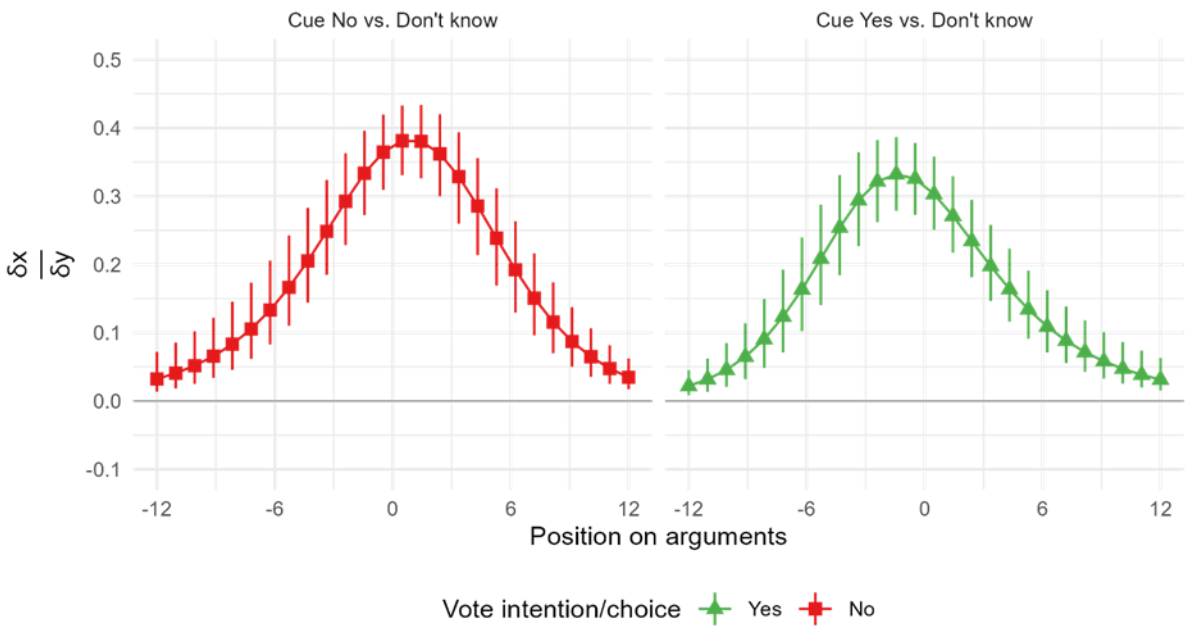


Commenting briefly on cases where the argument position and party cue align, citizens who evaluate the ballot measure negatively and perceive their preferred party as recommending a No vote (position = –6, cue = No) are highly likely to vote No. Conversely, those who view the measure positively and perceive their party as supporting it (position = 6, cue = Yes) are highly likely to vote Yes. In such cases, party cues and policy evaluations reinforce one another.

Figure 2 complements the test of H1 and H2 by showing the marginal effect of perceived party endorsement at each position on the arguments' scale. For each value of the scale, we compare voters who perceive their party to have a vote recommendation with those who do not. The left side of the figure shows voters who perceive their party as recommending a No vote, the right side reflects those voters who perceive a Yes recommendation.

The marginal effect of perceived party cues is strongest among voters positioned near the middle of the arguments' scale. This pattern holds for both Yes and No cues. In other words, voters with weak opinions on the ballot measure rely heavily on their party's recommendation when making a decision. By contrast, voters with stronger attitudes are far less affected by cues: The marginal effects approach zero at the extremes of the scale, indicating that a clear policy position renders party endorsements largely irrelevant to vote choice. In sum, this broader analysis reinforces the findings from Figure 1 and confirms both H1 and H2.

Figure 2 – Marginal effects of perceptions of cue on vote intention/choice for different argument positions.



To evaluate Hypothesis 3 (H3), we examine how the relationship between argument positions and cue perceptions evolves over the course of the campaign. Figure 3 presents the combinations of argument position and party cue perception – mirroring the setup in Figure 1 – but plotted across the panel waves, as specified in Equation 3, and excluding voters who do not perceive their party as issuing a vote recommendation. The X-axis represents the survey wave, capturing the campaign's temporal progression. The top panels of the figure show combinations of argument positions when voters perceive their preferred party as recommending a No vote, while the bottom panels display combinations for a perceived Yes recommendation.

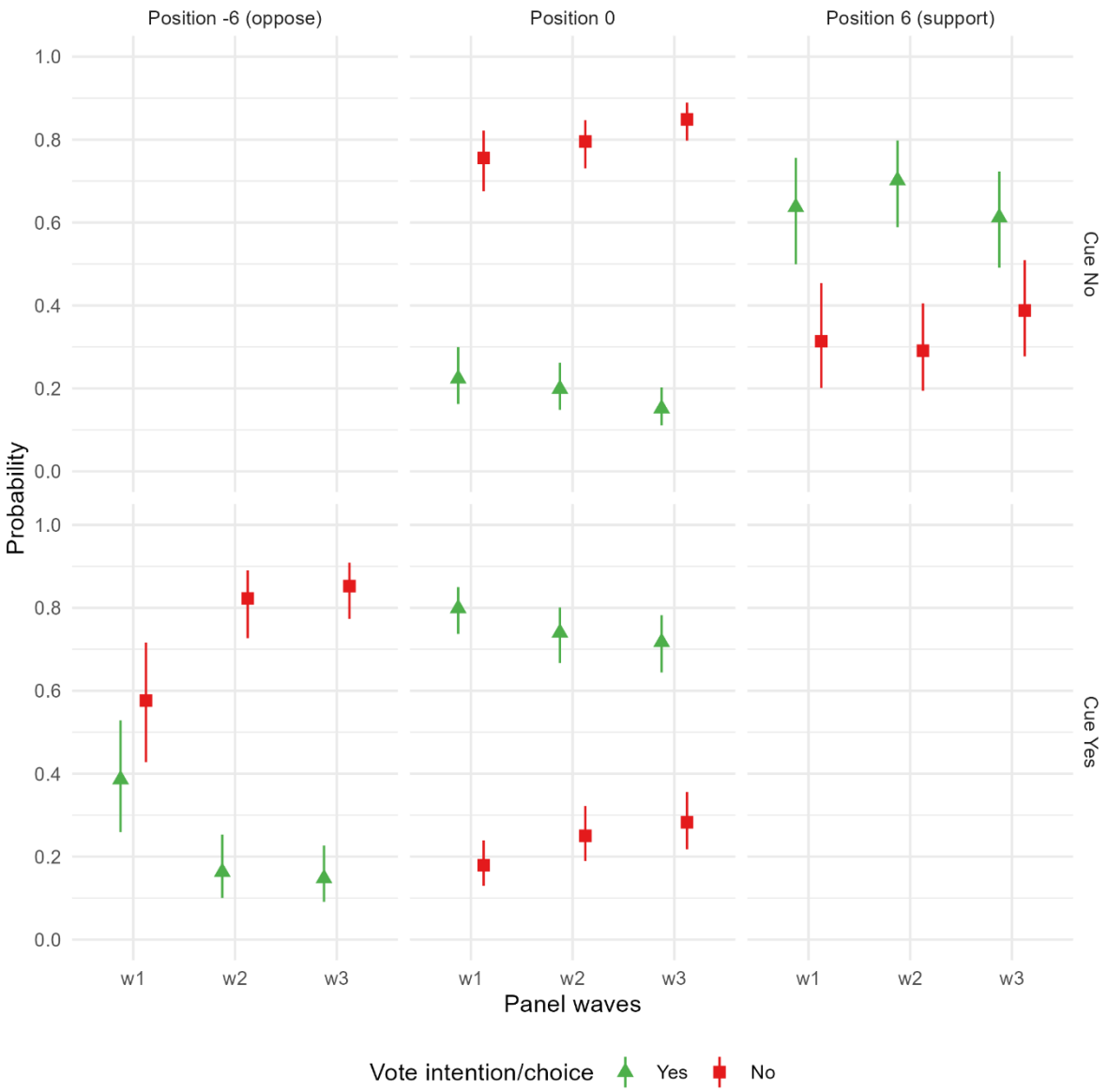
Consider first the top right panel, which includes voters who positively evaluate the ballot measure (argument position = 6) but perceive their party as recommending a No vote. These voters are consistently more likely to vote Yes, indicating that they follow their policy evaluation rather than their perceived party's cue. Contrary to expectations, however, this

pattern remains stable across waves, suggesting that the dominance of policy positions does not intensify over the course of the campaign – voters with strong policy positions that conflict with party cues consistently prioritize their own policy evaluations. That said, it is worth noting that this effect applies to a growing share of voters toward the end of the campaign. In this sense, the dominance of policy arguments becomes increasingly consequential.

The bottom left panel shows the opposite configuration – voters who evaluate the ballot measure negatively (position = -6) but perceive their party as recommending a Yes vote. These voters also tend to follow their own policy evaluation, being more likely to vote No. Unlike the previous case, however, a dynamic effect emerges: In wave 1, probabilities of voting Yes and No are relatively close, but by waves 2 and 3, they diverge sharply, with the likelihood of a No vote rising substantially. For these voters, the campaign plays a clarifying role, enabling them to resolve conflicts with party cues in favor of their own evaluations.

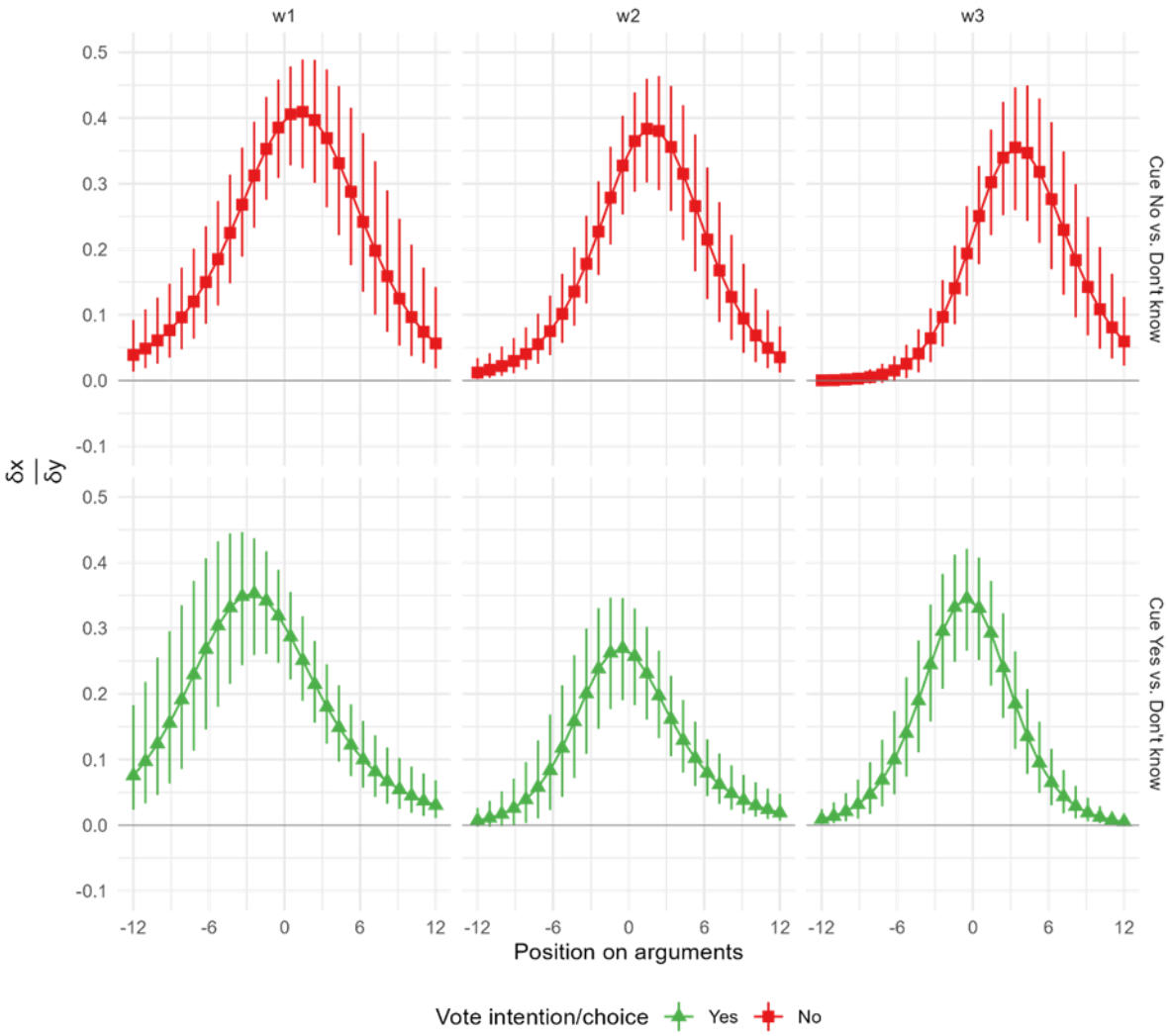
Finally, when considering the dynamic effects of argument position and party cue perception among voters with weak policy evaluations (argument position = 0) – as outlined in Hypothesis 2 – the results are mixed and reveal asymmetries depending on cue direction. In the top middle panel, the likelihood that voters with a weak argument position follow their party's No recommendation increases across waves, suggesting that the campaign reinforces their reliance on party cues. By contrast, in the bottom middle panel, the effect of a (perceived) Yes recommendation diminishes slightly over time, indicating either a reduced weight of party cues in this context or growing uncertainty as the campaign unfolds.

Figure 3 – Predicted probabilities of vote intention/choice for different party cues perceptions and arguments position, varying through panel waves.



As an additional test of H3, Figure 4 displays the marginal effects of party cue perception for each value of the argument position across waves, comparing voters who perceive their party as issuing a voting recommendation with those who do not. Once again, the results confirm H1 and H2 throughout the campaign but do not indicate that the magnitude of these effects increases over time. Taken together, the findings from Figures 3 and 4 provide mixed support for H3.

Figure 4 – Marginal effects of perceptions of cue on vote intention/choice for different argument positions, varying through panel waves.



Robustness tests

We conduct two robustness tests. Because our data structure collapses all ballots, the first test examines whether the observed effects are ballot-dependent. To do so, we include the "ballot" variable to the interaction in Equation 2. Figure D1 in Appendix D shows the results by ballot. For the case of cross-pressured voters (H1), represented in the top-right and bottom-left panels, the results are largely consistent across all ballot measures. Voters holding strong argument positions that conflict with their perceived party's recommendation tend to follow their own policy evaluations rather than the party cue. This pattern holds across ballots and supports H1,

with the exception of the OECD law. Here, voters who negatively evaluate the ballot measure but perceive their party as recommending a Yes vote are more likely to vote Yes than No. In this specific case, the party cue appears to carry as much – or even more – weight than voters' policy evaluations. This deviation can likely be explained by the highly consensual, one-sided campaign in favor of the OECD reform, which may have strengthened the persuasiveness of the party's message even among voters with a negative argument position.

Turning to voters with weak policy positions (H2), shown in the top and bottom middle panels, the results again support the hypothesis with the exception of the OECD ballot. Voters lacking strong policy opinions tend to rely heavily on perceived party recommendations when making voting decisions, confirming H2: In the absence of a firm policy position, party cues fill the informational gap and guide voter choice. For the OECD law, however, voters with weak policy positions who perceive their party as recommending a No vote show nearly identical probabilities of voting Yes or No – likely another consequence of the one-sided campaign. In sum, the results strongly support H1 and H2 across the ballot measures, with only two out of sixteen outcomes deviating from expectations, both involving the OECD ballot.

The second robustness test focuses on voters located in the middle of the argument scale (scores between -2 and +2). In our main models, we treated them as a homogeneous group of voters with weak argument positions. In reality, however, this group comprises two distinct profiles: voters with ambivalent and undecided evaluation of policies. Ambivalent respondents agree with arguments from both sides, reflecting a mixed position on the policy, whereas undecided respondents frequently respond "don't know" when evaluating arguments. We distinguish between the two using the following classification rule. Ambivalent respondents are those with scores between -2 and +2 on the argument scale and fewer than three "don't know" responses, while undecided respondents are those with scores between -2 and +2 and three or more "don't know" responses. To assess robustness, we re-estimate the models from Figure 1, excluding

each group in turn. Figures D2 and D3 in Appendix D show that the main results remain unchanged regardless of which voter type is excluded. This indicates that combining ambivalent and undecided voters into a single category does not affect our findings.

Conclusion

When voters face the dilemma of choosing between their party's recommendation and their own policy evaluation, which factor prevails? This study advances understanding of how party cues and policy arguments interact in shaping voter behavior during direct democratic campaigns. We show that the relationship between these two factors is interdependent: both matter but their influence varies across different groups of voters.

Our study shows that the resolution of cross-pressure depends critically on the strength of voters' policy positions: The stronger voters' position on policy arguments, the more likely it is to outweigh party cues. Voters with strong policy positions prioritize substantive policy evaluations, even when these conflict with the perceived voting recommendation of their preferred party. By contrast, voters with weak policy positions experience little cross-pressure and tend to follow the party cue, using it as a heuristic shortcut to guide their vote choice.

The robustness test has shown that the patterns hold across both California and Switzerland. Despite substantial differences in institutions of direct democracy, campaign environments, partisan structures, and content of ballot measures, voters' decision-making process operates in similar ways in the two contexts. As policy positions strengthen, the influence of party cues diminished, indicating that once voters form clear opinions on ballot measures, personal evaluations override partisan recommendations.

Our analysis of campaign dynamics over time yields mixed results. Among cross-pressured voters with strongly negative argument positions, the likelihood of resolving cross-pressure in favor of policy evaluations increases over the course of the campaign. No such increase is observed among voters with strongly positive policy evaluations, which consistently dominate

party cues throughout the campaign. Yet even in this latter case, the stable dominance of policy positions coincides with a growing share of voters for whom this pattern applies – thereby indirectly showing the expected campaign effects.

These findings have important implications across scientific, normative, and practical dimensions. From a scientific perspective, our results contribute to dual-process models by confirming that heuristics and systematic information processing are not merely competing routes but may jointly shape decision-making, for instance, when both policy positions and party cues point towards a Yes (or No) vote. Likewise, our results inform the debate between the "party over policy" (Cohen, 2003) and the "policy over party" (Boudreau & MacKenzie, 2014), by highlighting the conditions under which each exerts greater influence. We show that both party cues and policy arguments play a role, but for different segments of voters depending on the strength of their policy positions. This conditional relationship explains the mixed and often inconclusive findings of previous research and suggests that future studies should account for voters' argument strength when examining information processing in direct democracy.

From a democratic theory perspective, citizens should use campaign information – provided it accurately describes the policy content and is not distorted by misinformation – to develop informed preferences and cast votes that reflect their policy views. Encouragingly, our results demonstrate that when voters are cross-pressured, they tend to prioritize their own policy evaluations at the expense of their perceived party's position. This pattern holds in both California and Switzerland, providing robust evidence for the central role of argument-based reasoning in vote choice. Party cues, for their part, tend to act as substitutes when strong views on policy arguments are absent. The complementary relationship between party cues and policy arguments suggests that direct democracy can function effectively when voters have access to both partisan guidance and substantive policy information.

From a practical standpoint, campaign practitioners should recognize that voters do not uniformly respond to the same information and should therefore invest in both party mobilization and substantive policy messaging. For voters with weak policy positions, clear party endorsements can be decisive, making partisan messaging particularly effective. By contrast, voters with strong policy positions prioritize substantive arguments over partisan loyalty, requiring campaigns to highlight policy merits and drawbacks. Strategic resource allocation should thus emphasize party-based appeals when targeting uncertain voters and policy-based arguments when engaging those with established positions.

Two limitations constrain our findings and suggest avenues for future research. First, we did not test how additional individual characteristics – such as political sophistication or strength of partisanship – affect the weight voters assign to policy evaluations versus party cues. Future research should investigate whether these traits moderate the relationship between argument position, party recommendations and information processing. Second, although our study employs panel data, our analysis focuses on between-voter dynamics rather than within-voter changes over time. Tracking individual-level opinion shifts across waves would yield additional insights into the mechanisms underlying cross-pressure resolution and campaign learning effects.

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Appendix

Appendix A – Representativeness of the sample for each context.

Switzerland		Target %	Wave 1 %
Gender	Male	51	51
	Female	49	49
Age	18-24	15	9
	25-34	18	18
	35-44	17	17
	45-54	18	18
	55-65	14	18
	66+	18	21
Education	Up to university	55	58
	University and above	45	42

Note: Targets provided by IPSOS and based on Federal Statistical Office.

California		Target %	Wave 1 %
Gender	Male	49	46
	Female	51	54
Age	18-24	11	12
	25-34	20	21
	35-44	18	20
	45-54	16	15
	55-65	17	17
	66+	18	16
Education	Up to university	65	64
	University and above	35	36

Note: Targets provided by IPSOS and based on Eurostat.

Appendix B - Survey questions

Party closeness

Switzerland (Questions were asked in French, German and Italian depending on the respondents' canton)

De manière générale, vous sentez-vous proche d'un parti politique ?

5. Oui
6. Non
99. Ne sais pas

De quel parti s'agit-il ?

1. PLR - Les libéraux-radicaux
2. Le Centre (anciennement PDC - Parti démocrate-chrétien ou PBD - Parti bourgeois démocratique)
3. PS - Parti socialiste
4. UDC - Union démocratique du centre
5. PES - Les Verts / Parti écologiste suisse
6. PVL - Parti vert'libéral
7. Lega - Lega dei Ticinesi
8. MCG - Mouvement citoyens genevois
9. PCS - Parti chrétien-social
10. PEV - Parti évangélique suisse
11. UDF - Union démocratique fédérale
12. PST-POP - Parti Suisse du Travail/Parti Ouvrier Populaire/SolidaritéS/Ensemble à Gauche
99. Ne sais pas

Y a-t-il tout de même un parti dont vous vous sentez un peu plus proche que des autres ?

5. Oui
6. Non
99. Ne sais pas

De quel parti s'agit-il ?

1. PLR - Les libéraux-radicaux
2. Le Centre (anciennement PDC - Parti démocrate-chrétien ou PBD - Parti bourgeois démocratique)
3. PS - Parti socialiste
4. UDC - Union démocratique du centre
5. PES - Les Verts / Parti écologiste suisse
6. PVL - Parti vert'libéral
7. Lega - Lega dei Ticinesi
8. MCG - Mouvement citoyens genevois
9. PCS - Parti chrétien-social
10. PEV - Parti évangélique suisse
11. UDF - Union démocratique fédérale
12. PST-POP - Parti Suisse du Travail/Parti Ouvrier Populaire/SolidaritéS/Ensemble à Gauche
99. Ne sais pas

California

Do you feel close to a party?

1. Yes
2. No
99. Don't know

Which party is it?

7. Democratic Party
8. Republican Party
9. Other Party
99. Don't know

How close do you feel to [Party]?

3. Very close
4. Not very close
99. Don't know

Is there a party that you feel a little closer to than others?

7. Yes
8. No
99. Don't know

Which party is it?

7. Democratic Party
8. Republican Party
9. Other Party
99. Don't know

<u>Arguments</u>

Climate Law

To reduce its dependence on fossil fuels and the global market, Switzerland needs to invest massively in renewable energies.

Investing in renewable energies will stimulate economic activity and innovation, and create new jobs.

The state must intervene to help companies meet their greenhouse gas reduction targets.

Moving away from fossil fuels will lead to energy shortages and higher costs for consumers and businesses.

Giving up fossil fuels threatens Switzerland's energy security, as renewable energies will not be sufficient to meet the expected rise in demand for electricity.

The ecological transition does not justify the Federal Council imposing obligations and prohibitions that threaten individual freedoms.

OECD

Adaptation to new international tax standards is necessary to prevent other countries from being able to tax companies in Switzerland, and the money thus going abroad.

All cantons will benefit, directly or indirectly, from higher taxes on large multinational companies.

The additional revenue generated by the new international tax regulations will be used to finance measures to increase Switzerland's economic attractiveness.

The new international regulations will increase tax competition between cantons, thus threatening the financing of social policies.

Raising taxes on large multinational corporations will only benefit a few wealthy cantons, and will therefore increase inequalities between cantons.

The largest share of tax revenues generated by the new international regulations should flow to the Confederation, not to the cantons.

Proposition 26

Authorizing in-person sports betting creates a safe environment for minors, as age and ID checks will prevent them from gambling.

Legalizing sports betting will help to raise significant and regular funds to fight gambling problems.

Legalizing sports betting in American Indian casinos contributes to Tribes' self-sufficiency and supports the local economy.

Authorizing sports betting only in American Indian casinos threatens the economic viability of cardrooms.

Authorizing sports betting only in American Indian casinos is unfair because other territories will have less revenue (e.g., cities).

Attributing sport wagering rights only to American Indian casinos and horse racetracks creates a monopoly and runs counter to a free market economy.

Proposition 27

Online sports betting is a solution to provide large and permanent funds to fight homelessness.

As is already the case in half of US states, the legalization of online sports betting will create a safe system in California.

Allowing online sports betting is a reasonable measure that will benefit both private businesses and Tribes.

Online sports betting is too easily accessible (smartphone, tablets, etc.). It does not allow for age control, and it will cause severe addiction problems.

Online gambling will not benefit investments and jobs in California because only a few large, out-of-state companies will manage the business.

Opening the online sports betting market to large companies creates unfair competition and threatens the self-sufficiency of Tribes.

Table B1 – Cronbach's Alpha test for arguments in favour and against each ballot measure.

Ballot/side	**W1**	**W2**	**W3**
Climate pro	0.70	0.70	0.70
Climate contra	0.75	0.80	0.83
OECD pro	0.57	0.62	0.65
OECD contra	0.49	0.55	0.58
Proposition 26 pro	0.67	0.67	0.70
Proposition 26 contra	0.70	0.75	0.72
Proposition 27 pro	0.81	0.85	0.85
Proposition 27 contra	0.65	0.71	0.70

Table B1 reports the intercorrelation tests between the items of the argument scale divided according to whether they are in favor or against the policy. Three of the four ballots demonstrate strong correlations above 0.65 at the beginning of the campaign, increasing to above 0.7 by the end of the campaign. The OECD law represents the only exception, with correlations for negative arguments ranging between 0.49 and 0.58. This lower correlation is not surprising for two reasons. First, the OECD law featured a highly consensual and one-sided campaign that promoted support for the reform. Second, it was also the most complex ballot among the four, potentially leading to more heterogeneous argument evaluations. Importantly, correlations among arguments increased across all four ballots as campaigns progressed. This

pattern supports the theoretical expectation that citizens learn information throughout the campaign period and become better able to relate the arguments to their own attitudes towards the ballot.

Table B2 – Descriptive statistics, share of cross-pressured voters between argument position and perception of party cues – Switzerland

Climate law												
Party Perception	**Wave 1** Argument Position				**Wave 2** Argument Position				**Wave 3** Argument Position			
	Oppose	**Middle**	**Support**	**All**	**Oppose**	**Middle**	**Support**	**All**	**Oppose**	**Middle**	**Support**	**All**
Perception No	47.4	22.8	**5.7**	19.1	55.8	26.8	**7.1**	24.0	58.1	28.6	**6.4**	24.5
Don't Know	35.4	38.1	26.7	32.0	15.0	25.4	14.8	18.2	12.1	16.8	10.8	13.0
Perception Yes	**17.1**	39.1	67.6	48.9	**29.1**	47.7	78.1	57.9	**29.8**	54.5	82.8	62.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
OECD Law												
Party Perception	**Wave 1** Argument Position				**Wave 2** Argument Position				**Wave 3** Argument Position			
	Oppose	**Middle**	**Support**	**All**	**Oppose**	**Middle**	**Support**	**All**	**Oppose**	**Middle**	**Support**	**All**
Perception No	37.0	17.7	**10.0**	16.1	32.8	25.0	**16.0**	21.6	37.5	28.4	**17.0**	23.5
Don't Know	35.9	48.7	38.4	42.7	31.0	33.9	21.1	27.3	29.5	25.7	14.5	20.4
Perception Yes	**27.2**	33.6	51.7	41.1	**36.2**	41.1	62.9	51.1	**33.0**	45.8	68.5	56.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Values represent percentages. "Oppose," "Middle," and "Support" refer to argument positions on the ballot measure. The middle category for the argument position represents those voters with a position between -2 and 2 on the scale. Party perception categories are: "Perception No" (perceives party opposes the measure), "Don't Know" (uncertain about party position), and "Perception Yes" (perceives party supports the measure). In **bold,** share of voters who are cross-pressured.

Table B3 – Descriptive statistics, share of cross-pressured voters between argument position and perception of party cues – California

Proposition 26												
Party Perception	**Wave 1** Argument Position				**Wave 2** Argument Position				**Wave 3** Argument Position			
	Oppose	**Middle**	**Support**	**All**	**Oppose**	**Middle**	**Support**	**All**	**Oppose**	**Middle**	**Support**	**All**
Perception No	20.0	12.3	**7.3**	12.0	38.9	24.5	**19.5**	26.4	39.0	32.4	**21.9**	31.3
Don't Know	72.3	67.8	67.6	68.5	58.0	51.0	54.5	53.6	50.5	44.7	54.0	48.7
Perception Yes	**7.7**	19.9	25.1	19.5	**3.1**	24.5	26.0	20.0	**10.4**	22.9	24.1	20.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Proposition 27												
Party Perception	**Wave 1** Argument Position				**Wave 2** Argument Position				**Wave 3** Argument Position			
	Oppose	**Middle**	**Support**	**All**	**Oppose**	**Middle**	**Support**	**All**	**Oppose**	**Middle**	**Support**	**All**
Perception No	22.4	10.3	**5.3**	15.0	40.5	21.8	**25.7**	32.6	44.5	37.8	**27.5**	40.1
Don't Know	71.8	66.7	52.7	66.4	54.6	52.3	38.1	51.5	48.9	38.9	49.5	46.3
Perception Yes	**5.8**	23.0	42.0	18.6	**4.9**	25.9	36.2	15.9	**6.6**	23.3	22.9	13.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Values represent percentages. "Oppose," "Middle," and "Support" refer to argument positions on the ballot measure. The middle category for the argument position represents those voters with a position between -2 and 2 on the scale. Party perception categories are: "Perception No" (perceives party opposes the measure), "Don't Know" (uncertain about party position), and "Perception Yes" (perceives party supports the measure). In **bold,** share of voters who are cross-pressured.

Appendix C – Regression models

The models are estimated in a Bayesian framework relying on the No-U-Turn Sampler, based on Hamiltonian Monte Carlo through *Stan* and *brms* (Bürkner 2017a, 2017b, Carpenter et al. 2017). We specify weakly informative priors to regularize the estimation and avoid overfitting. For the (varying) intercepts, we use Student's t-distributions ($v = 3, \mu = 0, \sigma = 2.5$), while normal priors are used for the regression coefficients ($\mu = 0, \sigma = 5$). All models are based on 4 chains, each running 4000 iterations, of which 2000 are used for warm-up, with a thinning rate of 1. This leads to a total of 8000 post-warmup samples.

We assessed model convergence using the R-hat statistic, with all parameters having R<1.01, and effective sample sizes exceeding 400 (minimum bulk ESS is 1055 and minimum tail ESS is 1995, see Vehtari et al. 2021). Trace plots also visually confirmed mixing and stationarity of the Markov chains. Posterior predictive checks demonstrate a good fit between observed and simulated data. Pareto k diagnostic values are good and only 0.5% of the values are higher than 0.7 (but lower than 1, see Vehtari et al. 2017). Finally, model diagnostics indicate no divergent transitions and no saturation of the maximum tree depth.

Table C1 – Hierarchical multinomial logit models with no interaction.

	Vote Intention/Choice : Undecided				Vote Intention/Choice : No			
	estimate	std.error	conf.low	conf.high	estimate	std.error	conf.low	conf.high
Intercept	4,95	0,55	3,9	6,05	4,96	0,3	4,39	5,56
Position argument	-4,59	0,51	-5,6	-3,59	-9,55	0,3	-10,15	-8,97
Cue perception = No (ref=DK)	-1,43	0,27	-1,97	-0,91	1,42	0,12	1,19	1,65
Cue perception = Yes	-2,52	0,23	-2,99	-2,08	-1,2	0,11	-1,42	-0,98
Wave 2 (ref=wave 1)	-0,73	0,15	-1,02	-0,45	0,28	0,09	0,1	0,45
Wave 3	-9,03	1,9	-13,57	-6,23	0,64	0,1	0,46	0,83
Issue-specific knowledge	-1,73	0,26	-2,24	-1,23	-0,55	0,13	-0,8	-0,31
Importance	-3,26	0,35	-3,97	-2,59	-2,23	0,18	-2,58	-1,88
Age	-0,78	0,49	-1,77	0,18	1,59	0,27	1,05	2,13
Gender = male	-1,31	0,23	-1,76	-0,86	-0,36	0,12	-0,59	-0,12
Education	-0,22	0,24	-0,69	0,25	-0,25	0,14	-0,52	0,01
Ideology	-1,1	0,41	-1,9	-0,31	0,81	0,21	0,4	1,23
Ballot: OECD (ref=climate)	-0,44	0,2	-0,82	-0,06	-1,06	0,11	-1,29	-0,84

Ballot: Prop. 26	-1,2	0,3	-1,79	-0,59	0,41	0,17	0,09	0,75
Ballot: Prop. 27	-0,78	0,32	-1,39	-0,15	0,75	0,17	0,43	1,1
sd__mudk_(Intercept)	2,54	0,17	2,21	2,89	1,74	0,08	1,6	1,89

Total observations N = 9840 ; Respondents N = 1640

Table C2 – Support for Figure 1 and 2 main text. Hierarchical multinomial logit models with two-way interaction between argument position and perception of the cue (H1-H2).

	Vote Intention/Choice : Undecided				Vote Intention/Choice : No			
	estimate	std.error	conf.low	conf.high	estimate	std.error	conf.low	conf.high
Intercept	5,08	0,59	3,93	6,29	5,21	0,35	4,54	5,88
Position argument	-4,74	0,62	-5,96	-3,54	-10,01	0,43	-10,85	-9,16
Cue perception = No (ref=DK)	-2,49	0,75	-3,99	-1,06	0,67	0,35	0,01	1,38
Cue perception = Yes	-2,03	0,7	-3,4	-0,65	-1,3	0,36	-2,03	-0,61
Wave 2 (ref=wave 1)	-0,74	0,14	-1,02	-0,45	0,27	0,09	0,09	0,45
Wave 3	-9,07	1,88	-13,46	-6,23	0,63	0,1	0,44	0,82
Issue-specific knowledge	-1,73	0,25	-2,22	-1,24	-0,55	0,13	-0,8	-0,3
Importance	-3,29	0,36	-4	-2,59	-2,23	0,17	-2,57	-1,9
Age	-0,78	0,5	-1,79	0,17	1,6	0,27	1,07	2,13
Gender = male	-1,31	0,23	-1,77	-0,86	-0,36	0,12	-0,6	-0,12
Education	-0,21	0,24	-0,69	0,27	-0,25	0,13	-0,52	0,01
Ideology	-1,14	0,4	-1,96	-0,37	0,79	0,21	0,37	1,21
Ballot: OECD (ref=climate)	-0,46	0,2	-0,87	-0,06	-1,07	0,11	-1,3	-0,85
Ballot: Prop. 26	-1,22	0,31	-1,83	-0,61	0,41	0,17	0,09	0,74
Ballot: Prop. 27	-0,79	0,32	-1,41	-0,18	0,73	0,17	0,39	1,06
sd__mudk_(Intercept)	2,56	0,18	2,23	2,92	1,74	0,08	1,59	1,89
Position argument*Cue perception = No (ref=DK)	2,02	1,39	-0,67	4,78	1,44	0,65	0,14	2,67
Position argument*Cue perception = Yes	-0,89	1,2	-3,22	1,44	0,21	0,66	-1,07	1,53

Total observations N = 9840 ; Respondents N = 1640

Table C3 – Support for Figure 3 and 4 main text. Hierarchical multinomial logit models with three-way interaction between argument position, perception of the cue, and wave (H3).

	Vote Intention/Choice : Undecided				Vote Intention/Choice : No			
	estimate	std.error	conf.low	conf.high	estimate	std.error	conf.low	conf.high
Intercept	4,81	0,61	3,64	6,03	4,81	0,4	4,03	5,58
Position argument	-4,41	0,71	-5,79	-3	-9,3	0,58	-10,44	-8,2
Cue perception = No (ref=DK)	-2,87	0,93	-4,76	-1,08	0,74	0,55	-0,33	1,82
Cue perception = Yes	-2,33	0,83	-3,96	-0,67	-2,02	0,55	-3,09	-0,96
Wave 2 (ref=wave 1)	-0,45	0,6	-1,65	0,71	0,81	0,45	-0,06	1,7
Wave 3	-8,18	2,78	-14,13	-3,3	1,65	0,49	0,7	2,61
Issue-specific knowledge	-1,71	0,26	-2,22	-1,21	-0,55	0,13	-0,79	-0,29
Importance	-3,32	0,36	-4,02	-2,63	-2,25	0,17	-2,58	-1,92
Age	-0,77	0,5	-1,77	0,19	1,61	0,27	1,09	2,15
Gender = male	-1,32	0,23	-1,8	-0,88	-0,36	0,12	-0,6	-0,12

Education	-0,22	0,25	-0,7	0,27	-0,26	0,14	-0,52	0
Ideology	-1,14	0,41	-1,94	-0,35	0,8	0,22	0,39	1,22
Ballot: OECD (ref=climate)	-0,44	0,2	-0,83	-0,04	-1,07	0,11	-1,3	-0,86
Ballot: Prop. 26	-1,21	0,31	-1,82	-0,61	0,41	0,16	0,1	0,72
Ballot: Prop. 27	-0,77	0,32	-1,42	-0,16	0,74	0,17	0,42	1,07
sd__mudk_(Intercept)	2,57	0,18	2,23	2,94	1,75	0,08	1,6	1,9
Position argument*Cue perception = No (ref=DK)	3,28	1,69	-0,03	6,71	1,61	1,02	-0,37	3,63
Position argument*Cue perception = Yes	-0,18	1,39	-2,95	2,53	1,7	0,99	-0,2	3,6
Position argument*Wave 2 (ref=wave 1)	-0,27	1,09	-2,37	1,91	-1,09	0,86	-2,79	0,58
Position argument*Wave 3	-3,81	4,28	-12,23	4,47	-1,62	0,92	-3,45	0,17
Cue perception = No (ref=DK)*Wave 2 (ref=wave 1)	1,08	1,29	-1,45	3,6	0,06	0,74	-1,39	1,51
Cue perception = Yes*Wave 2 (ref=wave 1)	0,99	1,22	-1,42	3,39	1,21	0,76	-0,27	2,7
Cue perception = No (ref=DK)*Wave 3	-1,22	4,01	-9,65	6,08	-0,63	0,76	-2,15	0,88
Cue perception = Yes:Wave 3	-1,12	3,98	-9,5	6,04	0,49	0,78	-1,05	2,01
Position argument*Cue perception = No (ref=DK)*Wave 2 (ref=wave 1)	-3,25	2,4	-8,04	1,39	-0,3	1,39	-3,05	2,43
Position argument*Cue perception = Yes*Wave 2 (ref=wave 1)	-2,3	2,14	-6,45	1,91	-2,12	1,42	-4,94	0,67
Position argument*Cue perception = No (ref=DK)*Wave 3	-0,63	4,6	-9,76	8,26	0,59	1,41	-2,16	3,39
Position argument*Cue perception = Yes*Wave 3	-0,34	4,66	-9,71	8,56	-1,53	1,43	-4,34	1,32

Total observations N = 9840 ; Respondents N = 1640

Table C4 – Support Figure 5 Appendix Hierarchical multinomial logit models with three-way interaction between argument position,perception of the cue, and ballot (Robustness test)

	Vote Intention/Choice : Undecided				Vote Intention/Choice : No			
	estimate	std.error	conf.low	conf.high	estimate	std.error	conf.low	conf.high
Intercept	4,75	0,8	3,19	6,3	5,05	0,52	4,02	6,06
Position argument	-4,46	1,08	-6,58	-2,35	-10,34	0,89	-12,04	-8,61
Cue perception = No (ref=DK)	-2	1,04	-4,06	0,01	0,85	0,6	-0,31	2,07
Cue perception = Yes	-1,58	1	-3,58	0,37	0,15	0,59	-1,01	1,32
Wave 2 (ref=wave 1)	0,21	0,85	-1,44	1,87	-2,5	0,62	-3,71	-1,27
Wave 3	-0,95	0,88	-2,66	0,73	0,38	0,59	-0,77	1,55
Issue-specific knowledge	0,1	0,84	-1,58	1,75	2,34	0,6	1,19	3,54
Importance	-0,77	0,15	-1,07	-0,48	0,25	0,09	0,06	0,43
Age	-9,25	1,9	-13,75	-6,4	0,61	0,1	0,42	0,8
Gender = male	-1,76	0,26	-2,29	-1,26	-0,59	0,13	-0,84	-0,34
Education	-3,33	0,37	-4,05	-2,62	-2,16	0,18	-2,51	-1,81
Ideology	-0,8	0,52	-1,84	0,21	1,46	0,27	0,93	1,99

Ballot: OECD (ref=climate)	-1,34	0,24	-1,83	-0,87	-0,35	0,12	-0,59	-0,11
Ballot: Prop. 26	-0,24	0,26	-0,73	0,28	-0,27	0,13	-0,53	0
Ballot: Prop. 27	-1,18	0,43	-2,05	-0,34	0,84	0,22	0,42	1,27
sd__mudk_(Intercept)	2,66	0,18	2,32	3,03	1,7	0,08	1,55	1,85
Position argument*Cue perception = No (ref=DK)	2,29	1,89	-1,37	6,08	1,57	1,16	-0,74	3,81
Position argument*Cue perception = Yes	-1,52	1,63	-4,73	1,68	-1,24	1,12	-3,44	0,94
Position argument*Ballot OECD (ref=climate)	-0,75	1,46	-3,6	2,09	3,34	1,16	1,03	5,56
Position argument*Ballot Prop. 26	-0,3	1,5	-3,15	2,62	0,96	1,08	-1,18	3,09
Position argument*Ballot Prop. 27	-0,96	1,49	-3,82	2,01	-2,41	1,17	-4,76	-0,19
Cue perception = No (ref=DK)*Ballot OECD (ref=climate)	-1,17	1,54	-4,18	1,77	1,11	0,84	-0,58	2,76
Cue perception = Yes*Ballot OECD (ref=climate)	-0,71	1,35	-3,38	1,94	-0,32	0,84	-1,96	1,35
Cue perception = No (ref=DK)*Ballot Prop. 26	-0,25	1,61	-3,43	2,86	-0,55	0,86	-2,28	1,14
Cue perception = Yes*Ballot Prop. 26	-1,88	1,76	-5,38	1,64	-2,41	0,96	-4,28	-0,5
Cue perception = No (ref=DK)*Ballot Prop. 27	-1,97	1,65	-5,26	1,22	-0,4	0,89	-2,15	1,3
Cue perception = Yes*Ballot Prop. 27	0,28	1,81	-3,35	3,79	-3,96	0,9	-5,7	-2,16
Position argument*Cue perception = No (ref=DK)*Ballot OECD (ref=climate)	-0,59	2,73	-5,92	4,72	-2,41	1,56	-5,49	0,71
Position argument*Cue perception = Yes*Ballot OECD (ref=climate)	1,02	2,27	-3,32	5,41	-0,62	1,56	-3,69	2,36
Position argument*Cue perception = No (ref=DK)*Ballot Prop. 26	0,19	3	-5,67	6,08	0,35	1,6	-2,75	3,48
Position argument*Cue perception = Yes*Ballot Prop. 26	3,45	2,95	-2,46	9,18	2,46	1,78	-1,08	5,88
Position argument*Cue perception = No (ref=DK)*Ballot Prop. 27	2,19	3,05	-3,78	8,07	0,21	1,73	-3,13	3,63
Position argument*Cue perception = Yes*Ballot Prop. 27	-2,86	3,43	-9,79	3,74	5,49	1,79	1,92	8,92

Total observations N = 9840 ; Respondents N = 1640

Appendix D – Robustness Test

Figure D1 – Predicted probabilities of vote intention/choice for different party cues perceptions, and arguments position, across ballot measures.

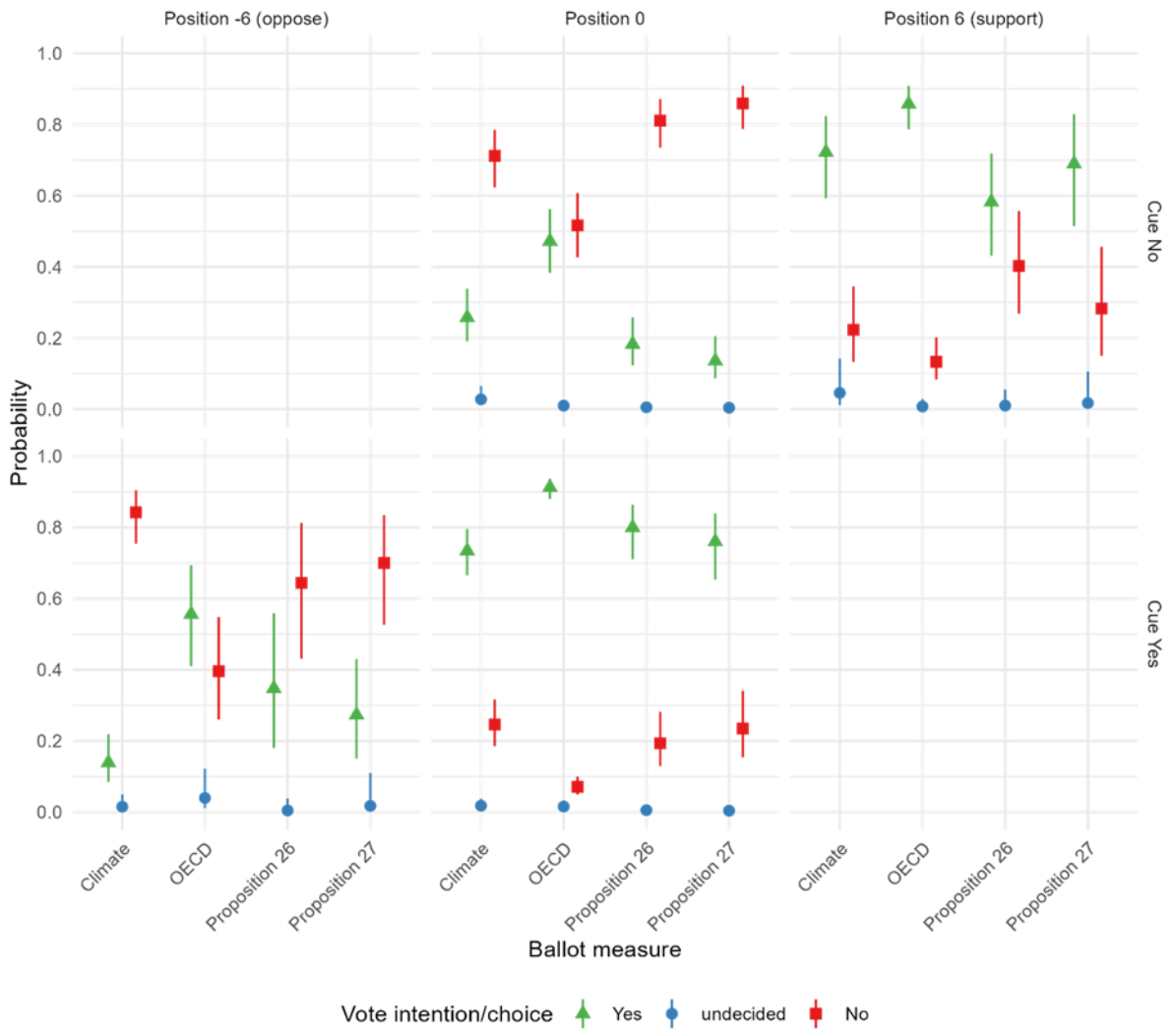


Figure D2 – Predicted probabilities of vote intention/choice for different party cues perceptions, and arguments position across ballot measures when we exclude ambivalent voters.

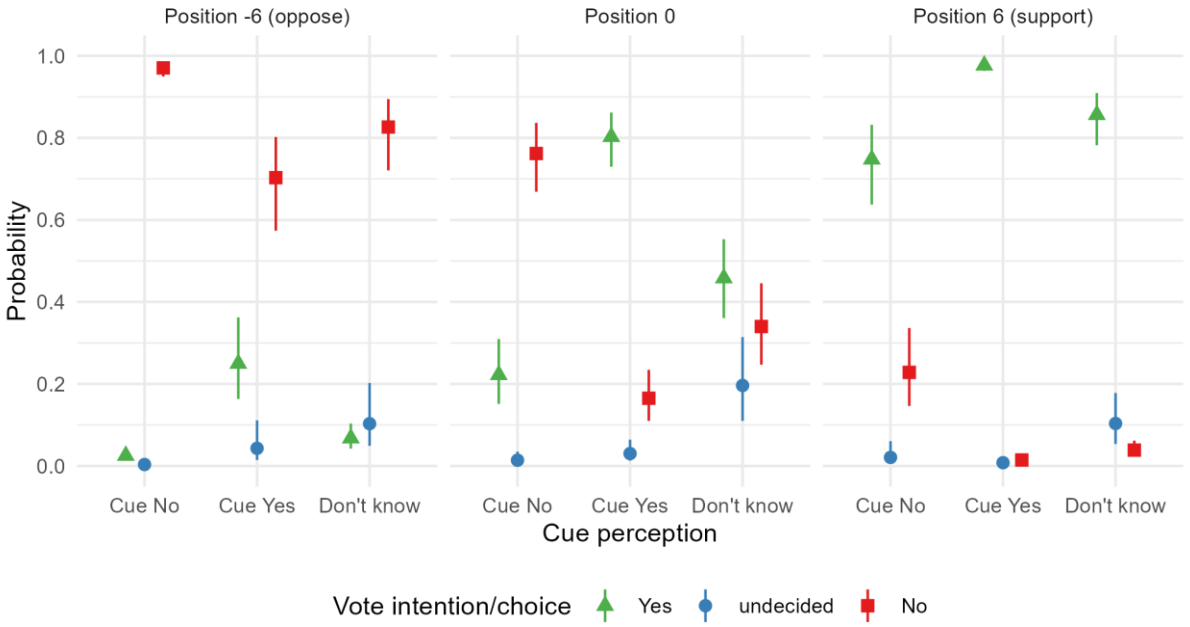
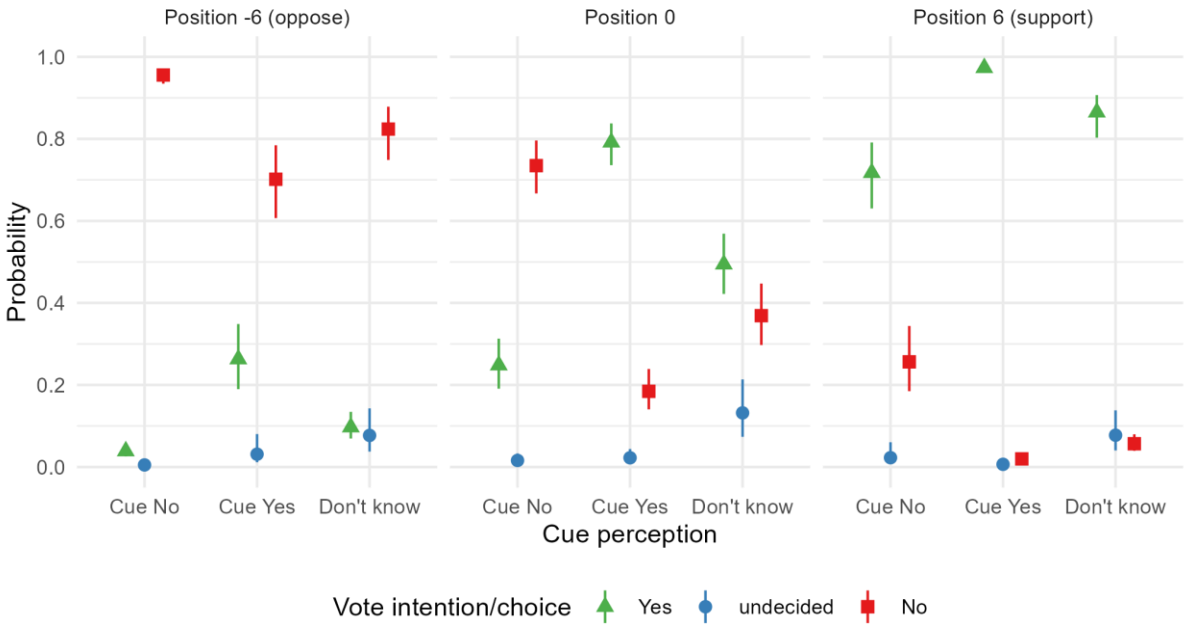


Figure D3 – Predicted probabilities of vote intention/choice for different party cues perceptions, and arguments position across ballot measures when we exclude undecided voters.



Fourth Paper: Do ads persuade voters in direct democratic campaigns?

Andrea Barbieri

Abstract

One of the primary goals of political campaigns is to shape voters' decisions. Despite elites spending money on advertising, its effectiveness in persuading voters remains a subject of debate. Based on theories of attitude change, I argue that increased exposure to advertising persuades voters to change their vote intention in the direction of the ads. Moreover, this study examines the moderating effect of sophistication on the relationship between ad exposure and vote choice. To test the effect of print and online advertisements on vote change, I link detailed campaign advertisement data to individual-level rolling cross-section panel data from the 2023 Climate Law referendum in Switzerland. The findings show that exposure to advertisements influences vote change. Importantly, this persuasive effect varies significantly across voters with different levels of political sophistication. Contrary to conventional wisdom, when political sophistication interacts with campaign exposure, highly sophisticated voters are more susceptible to persuasion.

Introduction

One of the central goals of political campaigns is to shape voters' decisions, and one of the most heavily used tools to do so is campaign advertising. Political elites routinely invest millions in print, digital, televised, and out-of-home advertisements to sway public opinion. Yet despite this massive investment, research on the persuasive power of campaign advertising has produced mixed and often underwhelming results. While several studies find that advertisements influence voters' attitudes (e.g., Petitpas, 2024a, 2024b), their persuasive effect is rather small (Coppock et al., 2020) or negligible (Kalla & Broockman, 2018). If campaign ads are ineffective, why do political actors continue to invest so heavily in them?

This study addresses the paradox by challenging the prevailing view that political advertising has little or no effect on vote choice. I argue that two main limitations in the existing literature mask the persuasive power of campaign advertising. First, most studies focus on candidate elections, where strong partisan attachment and stable political identities often reduce the persuasive effects of ads. In contrast, direct democratic votes are less structured by strong partisan loyalties and social cleavages, leading to greater volatility in voter preferences (Farrell & Schmitt-Beck, 2002; Leduc, 2002). Given this unpredictability, campaign advertisements may exert a stronger influence on voters in referenda compared to candidate elections.

Second, prior research often suffers from methodological constraints. Experimental studies that expose respondents to a single ad may underestimate real-world effects due to the artificiality and limited exposure of the treatment. Observational studies, meanwhile, frequently rely on aggregate measures of campaign exposure, overlooking the individual-level variation in exposure to ads.

To address these limitations, I analyze the persuasive impact of political advertising in a recent Swiss referendum campaign on a Climate bill using a novel research design. I integrate two complementary datasets: the first dataset includes advertisement materials published online and

print media outlets, as well as out-of-home advertising (ads in public spaces) on the political campaign under investigation. This dataset provides details such as the outlet where each advertisement appeared, the date of publication, the amount of money spent on ads, and the direction of the advertisement (whether it supported or opposed the ballot). The second dataset consists of a three-wave panel survey, with the second wave implemented as a Rolling Cross Section (RCS). By linking the advertisement data with the daily responses from the rolling cross-section survey, this design enables me to track and to assess short-term persuasion effects in a direct democratic context.

This innovative approach allows me to investigate multiple dimensions of campaign influence. I test whether exposure to campaign ads contributes to reinforcement (maintaining vote choice), activation, or conversion (changing vote intention), all key mechanisms of political persuasion. More importantly, I make a theoretical contribution by testing whether political sophistication moderates the relationship between ad exposure and vote change, thereby challenging the widely held assumption that more politically sophisticated voters are less susceptible to campaign persuasion.

Literature Review

Persuasion, often defined as the ability of a message to alter political beliefs, attitudes, or values (Franz & Ridout, 2007), is a central concept across various domains. In political science, the study of persuasion has garnered significant scholarly attention, particularly in the context of electoral campaigns, where candidates and parties aim to influence voter decisions. Given its importance in understanding democratic processes, an extensive body of literature has explored the persuasive effect of campaign advertisements on voting behavior.

A substantial portion of this literature relies on experimental methods to isolate the impact of political advertisements. Typically, these studies expose respondents to a single advertisement - often in the form of a video or image - and assess persuasion by comparing outcomes between

a treatment and a control group. The results from such experiments are not clear cut. Some experimental studies demonstrate that advertisements can influence vote choice and candidate preferability (Hager, 2019; Hewitt et al., 2024; Meirick, 2002; Valentino et al., 2004). However, meta-analyses produce mixed results. Some (e.g., Kalla & Broockman, 2018) show that, on average, ads do not influence voters. Other meta-analyses demonstrate that when advertising effects are observed, they tend to decay rapidly (Coppock et al., 2020; Gerber et al., 2011; Hill et al., 2013). Importantly, findings from experimental designs suggest that the type of vote might alter the influence of advertising on voting decisions. For example, Kalla and Broockman (2018) analyzed 49 different experiments and found that the persuasive impact of direct political advertising on voting behavior is minimal, but the effects differ according to the type of vote. While for general elections, these experiments showed no significant effect, advertising affects vote choices in primary and ballot measure campaigns, therefore, in contexts in which partisanship has less influence on the vote. While experimental designs offer strong internal validity, they are limited in one key respect: they typically assess the effect of exposure to one advertisement, rather than capturing the cumulative effect of exposure to an entire campaign. As a result, they may systematically underestimate the real-world persuasive potential of political advertising, which often relies on repeated messaging displayed over time (Coppock et al., 2020).

To better understand the overall impact of advertising campaigns, scholars have turned to observational studies. Several studies suggest that advertising, as part of the broader information environment, influences voting behavior (Huber & Arceneaux, 2007; Sides et al., 2022; Spenkuch & Toniatti, 2018; Zumofen & Gerber, 2018). However, these effects are not uniform and vary according to the characteristics of the vote. In particular, studies on referendum campaigns suggest that advertising has a stronger effect on voter behavior compared to candidate elections (de Vreese, 2007; Farrell & Schmitt-Beck, 2002).

Switzerland provides a rich setting for research on campaign effects in direct democracy (e.g., Kriesi, 2005; Nai, 2014; Sciarini & Tresch, 2011). Much of this work builds on foundational models, such as Zaller's (1992) opinion formation theory or the elaboration likelihood model (Cacioppo et al., 1986), which posit that persuasion effects are contingent on both the information environment and voter characteristics. Researchers have examined various factors, including campaign intensity (Kriesi, 2005) and the presence of competing messages within campaigns (Kriesi, 2005; Sciarini & Tresch, 2011). However, most studies on the persuasive effects of advertisements in direct democratic votes fail to directly link campaign exposure to individual voting behavior. Such a link is necessary to refine measures of advertisement exposure that account for the fact that voters are not uniformly exposed to campaign messages. For instance, Sciarini and Tresch (2011) analyzed the influence of the direction and intensity of direct democratic campaigns on vote choice. While they used campaign data (e.g., ads in newspapers), they did not link this data to panel surveys.

Other studies, both in Switzerland and elsewhere, have employed such linkages but focused primarily on news coverage rather than advertisements (de Vreese, 2007; Rinscheid & Udris, 2022; Schuck & De Vreese, 2011). For example, de Vreese and Semetko (2004) used a two-wave panel survey and content analysis of news coverage to study the influence of TV news exposure during a Danish referendum. They found that the cumulative exposure to predominantly pro-vote television news predicted votes in favor of the referendum. Further studies (e.g., Geers et al., 2017; Johann et al., 2018; Petitpas 2024a) also apply linkages between media coverage and surveys to study vote change, but they do so on election campaigns and not on referenda.

To effectively assess the persuasive impact of advertisements on voting behavior in direct democratic campaigns, studies must directly link exposure to campaign messaging with panel survey data. This linkage is essential to measure how real-world ad exposure influences within-

individual changes in attitudes and behavior over time. Yet despite progress in this area, most existing studies either rely on aggregate indicators of exposure, focus on news coverage rather than advertisements, or fail to capture short-term effects with sufficient precision.

The present study addresses these gaps by introducing a novel empirical design that directly links a rich dataset of campaign advertisements - spanning print, online, and out-of-home platforms - to a three-wave panel survey, with the second wave fielded as a RCS. This integrated approach allows for a more precise test of the short-term persuasive effects of political advertising in the context of a Swiss referendum campaign. Unlike previous studies, it captures individual-level variation in exposure over time and provides evidence on how ads reinforce, activate, or convert voting intentions. In doing so, the study contributes to the literature in three important ways: it brings individual-level exposure into the analysis of referendum campaigns, it captures the cumulative and temporal dynamics of persuasion, and it applies persuasion theory in a context where partisan cues are weak and voter preferences more volatile, making it an ideal setting to detect persuasive effects.

Hypotheses

Throughout political campaigns, voters are exposed to a variety of advertising materials aimed at influencing their opinions and ultimately shaping their vote choices. However, the impact of such advertisements is not uniform across voters. Campaigns may have a strong influence on some citizens while leaving others unaffected, depending on how individuals encounter and process campaign messages.

When voters are exposed to an equal volume of advertisements supporting and opposing a ballot proposition, they experience competing stimuli. Research on framing suggests that such competing policy considerations tend to cancel each other out, resulting in little to no opinion change (Chong & Druckman, 2007). In contrast, when voters are predominantly exposed to messages favoring one side, opinion change is expected in the direction of the message.

Processing fluency theory (Schwarz, 2012; Shulman & Bullock, 2019), which refers to the ease or difficulty individuals experience when processing information, suggests that repeated exposure to messages enhances familiarity. Repetition of similar messages makes individuals increasingly familiar with a stimulus (Moons et al., 2009), reducing uncertainty about the topic and improving comprehension. For example, repeated exposure to advertisements in favor of a ballot proposition helps voters internalize the message. As familiarity with the content grows through repetition, attitudes toward the message tend to become more favorable. Therefore, I expect that greater exposure to advertisements supporting the "yes" camp increases the likelihood of persuasion toward the "yes" side. In other words, individuals predominantly exposed to advertisements in favor of (against) a ballot proposition are more likely to change their opinion toward supporting (rejecting) it.

H1: *Voters who are exposed to a higher frequency of ads supporting (rejecting) a policy will be more likely to change their vote in favor of (against) the policy.*

While these dynamics highlight the potential influence of political advertising, its impact is not uniform and depends on voter characteristics. Zaller's (1992) influential model of persuasion provides a valuable framework for understanding how political advertising interacts with voter characteristics to shape electoral outcomes. Political sophistication plays a crucial role in how voters process campaign information and, consequently, in determining the extent to which political advertising influences vote intentions. The relationship between political sophistication and persuasion susceptibility follows a curvilinear pattern, creating distinct dynamics for different groups of voters.

Highly sophisticated voters tend to be more receptive to political messages as they are better equipped to understand them. However, these voters typically possess strong prior beliefs and extensive political knowledge, making them resistant to persuasion. As they are already

equipped with the necessary information to make a voting decision, further information will then have less impact on their vote choice. Moreover, highly sophisticated voters are those who tend to have stronger predispositions on an issue, which, in turn, makes them more resistant to political messages. Therefore, these voters are less likely to be persuaded and change their vote intention when exposed to advertising.

At the other end of the spectrum, voters with lower levels of political sophistication, when they encounter political messages, are more susceptible to persuasion, as they lack the cognitive tools to critically evaluate the information in relation to their existing beliefs. In other words, less sophisticated voters are more likely to accept messages uncritically, regardless of their content (Sciarini & Tresch, 2011, p. 336). However, low politically sophisticated voters are also those who will be less likely to encounter or pay attention to political messages.

Voters who are moderately sophisticated represent the optimal target for persuasion. These voters have sufficient cognitive capacity to receive and understand political messages but lack the strong predispositions that characterize highly sophisticated voters. This combination makes them both accessible to campaign messages and susceptible to their influence. Therefore, these voters are more likely to be persuaded and change their vote intention when exposed to advertising.

H2: *Voters with low or high political sophistication are less likely to change their vote intention in response to political advertising compared to those with moderate political sophistication.*

Methodological framework

This study employs a research design that combines advertising data from a referendum campaign in Switzerland with a three-wave panel survey on a ballot measure. Political advertising data were collected through the company *Media Focus GmbH*. The dataset covers the advertising materials published in online and printed media outlets, as well as out-of-home advertising during the political campaign for the ballot under study. This data set provides information on the outlet in which each advertisement was published, the publishing date, the cost of the advertisement, and its direction (whether in favor of or against the ballot). Advertisements are analytically relevant in the Swiss context because they serve as one of the main sources of information on ballot measures during direct democratic campaigns (Sciarini and Tresch 2024). Interest groups and other actors use ads to communicate arguments directly to voters, and given that television advertising is not permitted, exposure in newspapers and online outlets plays a particularly central role compared to other countries.

For the three-wave panel survey conducted in Switzerland, the first wave took place before the campaign, the second during the campaign, and the third after the vote. The initial sample was drawn from an online panel with quotas on gender, age, education, and geographic residence. Crucially, the second wave employed a rolling cross-section design. With this design, on each day during the 40 days before the election day, a random sample of wave 1 respondents was drawn. To link the panel data to the advertisement data, during the RCS, respondents were asked to report the newspaper and online media source they had read the most in the past week, as well as the frequency of their reading (see Appendix A). To identify respondents' preferred news outlets, survey questions asked them to select the outlet they read most frequently, both print and online formats. If respondents could not find their most frequently read outlet on the list, they had the option to add it manually.[36] For those who accessed foreign news websites, an

[36] This linkage strategy raises concerns about potential self-selection bias. Specifically, if respondents are assumed to read only one online and one print media source, they may be exposed to ads from only one side of the campaign. To address this concern, Appendix B presents a table showing the distribution of ads by campaign across a sample of Swiss media outlets. While there is naturally some imbalance between the number of ads from each camp, the

additional option was included to indicate that preference (see Appendix B for the list of news outlets).[37]

The combination of the two - the RCS design of wave 2 and the linkage questions - provides a robust estimate of how each respondent was potentially exposed to advertisements in favor of or against the ballot during the campaign and whether this exposure influenced individual voting behavior.

The data collection followed the referendum campaign on the "Climate Law," which took place from April to June 2023. The Climate Law aimed to reduce environmental pollution and enhance energy security by reducing energy imports, subsidizing building insulation, and promoting renewable energy, thereby establishing a comprehensive framework to achieve climate neutrality by 2050. The referendum itself was an optional vote initiated by the Swiss People's Party - the largest party in terms of vote share -to oppose the revision of the law. Among the six most prominent parties, the Swiss People's Party was the only one that recommended a "No" vote. The party invested significant resources into the campaign, resulting in a rather intense electoral contest. To provide context for the intensity of this campaign, I rely on Heidelberger and Gerber's work (2023), who ranked this political campaign 26th in terms of intensity out of 107 voting campaigns from 2013 to 2023. Approximately 52% of the advertisements favored a "Yes" vote, while 48% opposed the ballot measure. Ultimately, the referendum was accepted, with 59 % of voters supporting the "Yes" vote.

Measures

data show that most media outlets published ads from both sides. Furthermore, the modeling strategy (see the measures section) is designed to mitigate this issue. The measure of ad exposure combines, for each respondent, information from both the online and the print media sources they report using. This approach reduces the likelihood that respondents were exposed exclusively to one-sided advertising content.

[37] Respondents could select only one outlet for both print and online formats. The list of newspapers (print and online) replicated the list use by past surveys (Selects) and covered the majority of newspapers read in Switzerland.

The dependent variable in this study is vote intention/choice in wave 2.[38] It is a binary variable that records whether voters support the ballot (1) or reject the ballot (0). I analyzed vote intention/choice during the campaign because questions that linked the advertisement data to the survey were asked during the second wave. Therefore, the modeling strategy by controlling for the vote intention in wave 1 allows testing the effect of exposure to campaign advertisements on changes in vote intention/choice in wave 2.

As some respondents voted by mail during the campaign, the binary measure derives from the combination of vote intention and vote choice. The vote intention was measured on a five-point categorical scale ranging from "certainly in favor" to "certainly against," with the middle category being "undecided". To turn to a binary measure, I collapsed the "certainly" and "rather in favor" (or "against") categories and dropped those respondents who were still undecided. The vote choice measure included three categories: voted yes, voted no, and don't know/undecided. To turn to a binary measure, I excluded the latter respondents. The choice of excluding undecided respondents was taken because I am interested in the persuasion effect of advertising in terms of reinforcement, activation, and conversion; therefore, respondents who are undecided during the campaign fall out of the scope of the study. Out of the original sample (N= 2408), I excluded 348 respondents, leaving the study with 2060 respondents.

Vote intention in wave 1 was measured on a five-point categorical scale as well. The scale was turned into a three-point categorical scale by collapsing the "certainly" and "rather in favor" (or "against") categories.

Figure 1 presents the descriptive statistics of vote intention/choice in Wave 1 and Wave 2. The majority of voters did not shift their vote intention/choice between the two waves, indicating that once an opinion on a policy is formed, voters are not easily swayed. For the Climate law,

[38] Because of the possibility of early voting by mail, respondents of wave 2 were first asked if they had already received their voting materials and, if yes, if they had already voted. If so, they were asked about their vote choice. If not, they were asked about their voting intention.

20% of voters changed opinion from rejecting to supporting the ballot, and 13% changed vote choice from Yes to No.

Table 1 – Distribution of vote intention/choice between wave 1 and wave 2 across ballots.

	Climate Vote intention w1		
	No	Undecided	Yes
Vote Choice W2			
No	443	100	158
	80%	38%	13%
Yes	106	158	1095
	20%	61%	87%
Total		N = 2060	

To measure exposure to advertisements, the article makes use of the linkage variables within the panel survey and matches them with the advertisement dataset to create two measures of exposure to political advertising. The first is an individual measure that looks at exposure to the number of advertisements in printed newspaper outlets and online media outlets. The second is an aggregate measure that looks at campaigning spending on out-of-home advertising, which is a proxy for the campaign environment in which voters were surrounded.

For the individual-level measure, I employed the operationalization developed by De Vreese and colleagues (2017):

$$Exposure\ (online\ or\ print)_{i,j,t} = \sum_{j} frequency_{i,j,t} * number\ of\ ads\ (in\ favor\ or\ against)_{\ j,t}$$

This measure takes into account the number of ads in favor (or against) of the ballot each individual encountered in the 14 days prior to the interview and the frequency of reading.[39] Frequency (see Appendix A) is defined as the number of days respondent i reported using outlet

[39] The choice of 14 days was guided by the objective of selecting a period that was long enough to identify repetition effects and short enough to ensure that very old campaign messages would not significantly impact respondents.

j in a typical week at time t (the day of the interview in wave 2), while the number of ads represents the ads in favor (or against) in outlet j during the period preceding time point t.

For each individual, I therefore estimated a measure of exposure to online and print advertising (see Appendix A), for ads in favor and ads against the ballots. At first, exposure was calculated separately for advertisements in print and online media outlets. Since no specific hypothesis was made regarding whether the nature of the source (online versus print media) would influence the dependent variable, I then summed the exposure to print and online media outlets. These create two measures: exposure to advertising in favor of the ballot and exposure to advertising against the ballot. This was done to isolate the effect of exposure to ads in favor of and against the dependent variable. The resulting scale runs from 0 to 1, where 0 indicates no exposure and 1 represents maximum potential exposure to ads in favor of (against) the ballot.

To provide context on the share of voters potentially exposed to ads in the sample, among the 2,060 respondents, 907 (44%) were potentially exposed to at least one advertisement against the ballot and 795 (39%) to at least one advertisement in favor of the ballot. In total, 1,187 (58%) respondents were exposed to at least one advertisement from either side of the campaign. This means that more than half of the sample were matched to campaign advertisements in the 14-day period prior to their interview date, providing sufficient variation to test the hypothesized persuasion effects.

The second independent variable is a measure of campaign spending on out-of-home advertising made by each camp. While this measure does not reflect the direct exposure of respondents to out-of-home advertising, it provides a proxy for the general saliency and environment of the campaign at the time of the interview. For each individual, I estimated a measure of campaign spending based on the money spent by each camp in the 14 days prior to respondents' interview in wave 2. The linkage between respondents and the measure of

campaign environment was done by matching the language of the advertisement with the respondent's geographical residence.

Therefore, I created separate measures of campaign spending for money spent on advertising in favor of the ballot and for money spent on advertising against the ballot. For modeling purposes, each variable is scaled from 0 to 1, where the highest value means higher exposure to a campaign environment in favor (against) the ballot, while 0 means no exposure to a campaign environment in favor (against) the ballot.

The moderator is political sophistication. It is based on an additive scale comprising two variables – motivation (interest in politics) and resources (issue-specific knowledge). Interest in politics is measured on a four-point scale ranging from not interested at all to very interested (see Appendix C). To measure issue-specific knowledge, the survey asked three factual knowledge questions about the Climate law. Respondents answering all questions correctly received the highest score, while those answering all questions incorrectly scored 0 (see Appendix C). To construct the sophistication variable, I added up the scales of political interest and issue-specific knowledge, which range from 0–6. In each, I categorized the scale into low/mid/high to capture relative political sophistication among respondents within each context. While interest in politics was measured during the first wave of the study, the issue-specific knowledge scale derives from the second wave.

As a control variable to account for the influence of party cues on individual vote choice, I construct a three-category measure of conditional partisanship (voting recommendation coming from the preferred party). In wave 1, the survey asked respondents to indicate their favorite party. In case they did not identify with one specific party, respondents were asked whether they felt a little closer to one party than the others. If a respondent answered one of the two questions, I considered the person a partisan. Those who did not indicate to have a preferred party are considered non-partisans. After dividing respondents according to their partisan

affiliation, I split partisans' respondents into two categories according to whether their preferred party suggested voting in favor or against each ballot measure. This leaves us with a measure of partisanship with three categories: partisans, whose preferred party is recommended to vote yes, to vote no, and non-partisans. The study controls also for demographics (age and gender) as well as the day between interviews.

The empirical section is divided into two parts. First, I present a descriptive analysis of the advertising campaign around the Climate law. Second, I test the hypotheses by running a series of logistic regression models with the dependent variable the vote intention/choice (vote Yes = 1, vote No = 0) reported during wave 2 of the study. To test H1, I run a logistic regression with the independent variables of exposure to ads and campaign environment and the control variables. To test H2, I add to the model a two-way interaction term between the independent variables and political sophistication. The figures show the predictions deriving from the models (model specification in Appendix D). I estimated each model for a male voter with age and days of interview at their means, who has a low level of political sophistication. For H1 and H2, I therefore test vote change indirectly by looking at how the effects of the predictors vary the likelihood of voting yes for respondents who had a specific vote intention during wave 1.

Results

Figure 1 shows the moving average on a seven-day span of the number of ads in the dataset on online and print media outlets during the political campaign. The choice of separating the two for this figure was made to show how the campaign evolved differently on the two outlets. The dotted line corresponds to the advertising published in newspapers, while the continuous line represents the ads published on online media outlets. For each type of media outlet, the figure shows the advertising in favor (blue lines) or against (red lines) the ballots. The campaign around the Climate law was rather intense, with an overall number of advertisements on online

and print media outlets of 1828. Both camps started the campaign about 40 days before the day of the vote. The No camp had a higher presence on online media outlets than on print media outlets, while the Yes camp had more presence in the traditional media (Appendix C).

Figure 1 – Number of advertisements by media platform and direction of advertising.

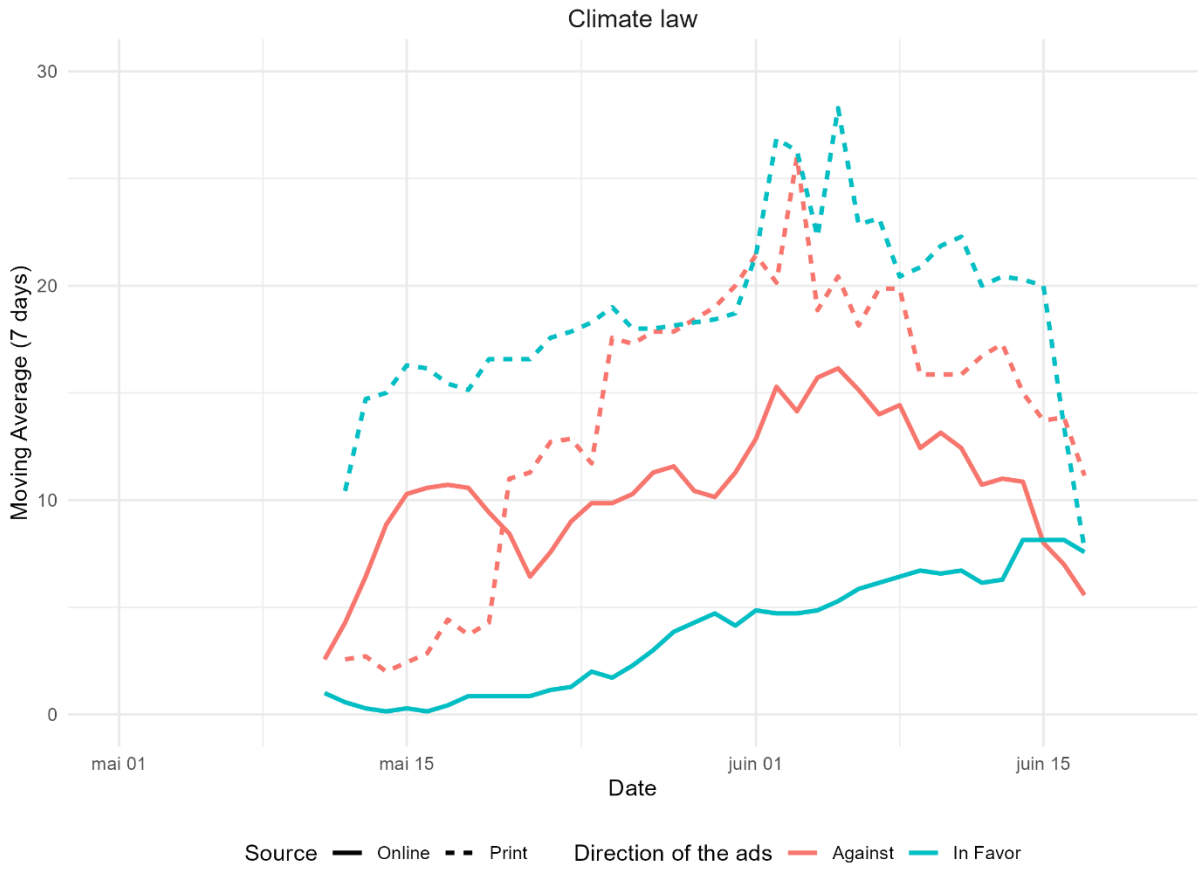
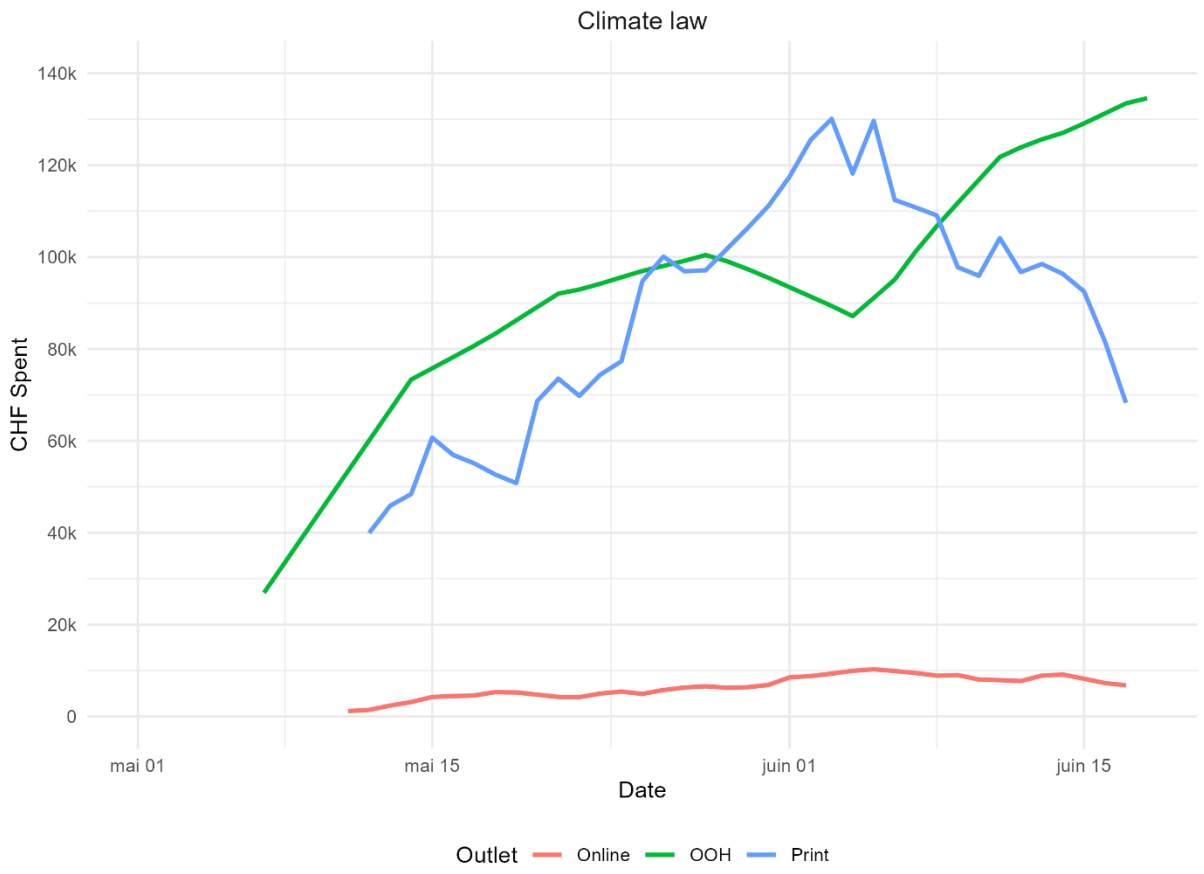


Figure 2 displays the seven-day moving average of the campaign spending on advertising for the ballot measure. The spending was divided into three categories: ad spending on newspapers (print), spending on online media outlets (online), and spending in out-of-home advertising (OOH) such as banners at the airports, flyers, and ads on the street. The figure confirms that campaign activity tends to "heat" approximately 30 to 40 days before the vote. Overall, the campaign for the Climate Law had an average daily spending of 58000 CHF. The majority of the campaign budget was allocated to out-of-home and print advertising, with a smaller portion directed toward online ads, likely due to the lower costs of online advertising. However, as we

have seen in Figure 1, most ads were still published in print media rather than on online platforms.

Figure 2 – Campaign spending (CHF) on advertising by media platform.



Three major takeaways result from the descriptive analysis. First, through the campaign, we can see variation across weeks in both the number of ads and the money invested in the campaign. This stresses the importance of relying on the linkage between advertising data and RCS data since voters are indeed exposed and experience a very different campaign if interviewed at the beginning or at the end of it. Second, it is necessary to include in the analysis a measure of out-of-home campaign spending, as the latter is an important resource for political elites to promote their position on the ballot measures. Moreover, out-of-home campaigning is a proxy for the general campaign environment to which voters might be exposed.

To assess how campaigns ads influenced voting behavior, I turn to the regression results.

Figure 3 presents predicted probabilities of voting Yes. The key explanatory variables are individual-level exposure to campaign advertisements (top row) and exposure to the broader campaign environment (bottom row). In both rows, the yellow lines represent exposure to messages in favor of the Climate Law, while the blue lines represent exposure to messages against the law. The shaded areas indicate 95% confidence intervals.

The three columns of the figure correspond to respondents' initial vote intentions at wave 1 (W1): the left column shows results for those who initially intended to vote Yes, the middle column for undecided voters, and the right column for those who initially intended to vote No. This structure allows us to evaluate three distinct mechanisms of persuasion: reinforcement (whether ads consolidate prior vote intention - left and right columns), activation (whether ads help undecided voters reach a decision - middle column), and conversion (whether ads lead voters to change their initial vote intention - left and right columns).

Focusing first on undecided voters (middle column), the results provide clear evidence of activation effects. The top middle panel shows that individual-level exposure to ads has a significant impact on vote choice. As exposure to ads in favor of the law increases, the probability of voting Yes rises from 0.56 (at no exposure) to 0.74 (at maximum exposure). Conversely, increased exposure to ads against the law corresponds with a decrease in support for the law, with predicted probabilities falling from 0.58 to 0.29. These results suggest that exposure to campaign messaging effectively helps undecided voters reach a decision in line with the dominant message. By contrast, the bottom middle panel indicates that exposure to the broader campaign environment has no comparable activation effect. Regardless of whether voters are surrounded by predominantly messages in support or opposing messages, the probability of voting Yes remains largely unchanged.

Turning to voters who had already formed a vote intention at Wave 1, the top panels of the left and right columns provide evidence of reinforcement. Among those who initially supported the

law (top left), increased exposure to ads in favor (yellow line) slightly raises the likelihood of maintaining a Yes vote, with predicted probabilities increasing from 0.84 to 0.91. Similarly, for those who initially opposed the law (top right), greater exposure to ads against the law (blue line) reinforces their prior vote decision, decreasing the probability of voting Yes from 0.23 to 0.09.

These same panels also reveal signs of conversion. That is, exposure to counter-attitudinal messages appears to persuade voters to change their vote intention. Among initial Yes voters, increased exposure to ads against the law reduces the likelihood of voting Yes, from 0.85 when not exposed to any ads to 0.66 at maximum exposure. Conversely, among those who initially intended to vote No, exposure to ads in favor of the law increases the probability of changing to a Yes vote, rising from 0.21 at zero exposure to 0.34 at maximum exposure. Taken together, these findings suggest that campaign advertising is effective in both reinforcing existing preferences and persuading voters to change their minds.

In contrast, the bottom panels of the figure show that exposure to the broader campaign environment does not significantly affect either reinforcement or conversion. Across all three groups, supporters, undecided voters, and opponents, predicted probabilities of voting Yes remain essentially unaltered, regardless the increasing intensity of the campaign environment. These results indicate that individual-level ad exposure is a more precise and powerful predictor of vote change than aggregate exposure to the campaign environment. Overall, the findings are consistent with expectations: when individuals are exposed to a sufficient number of persuasive ads in one direction, they are more likely to accept their message and adjust their vote accordingly. This effect holds across all three mechanisms of influence, reinforcement, activation, and conversion, providing support for Hypothesis 1.

Figure 3 – Predicted probabilities of voting Yes on the Climate Law as a function of exposure to ads and campaign environment, grouped by initial vote intention (w1). Lines represent

exposure to ads/campaign environment in favor (yellow) or against (blue) the law. Shaded areas indicate 95% confidence intervals.

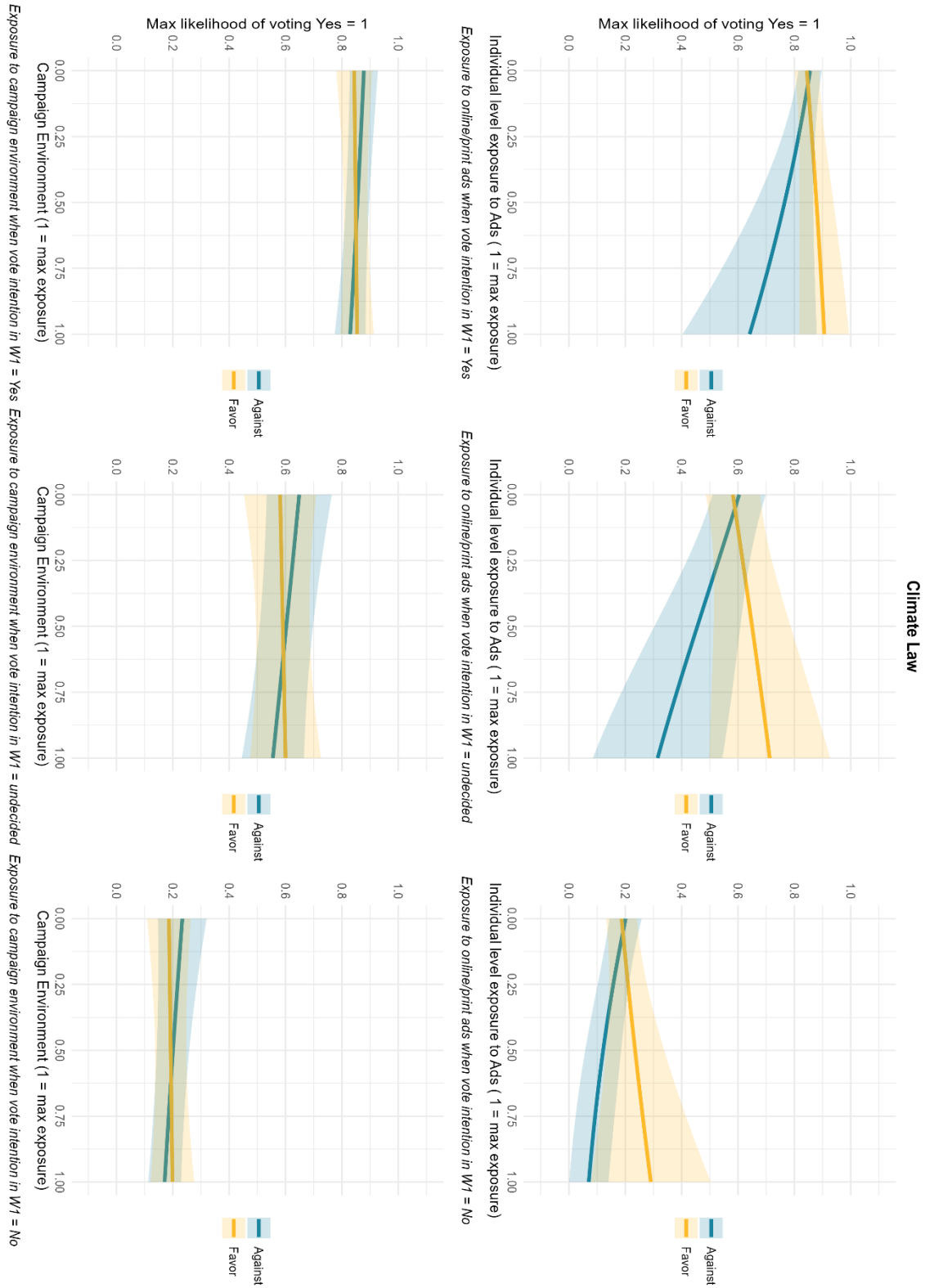
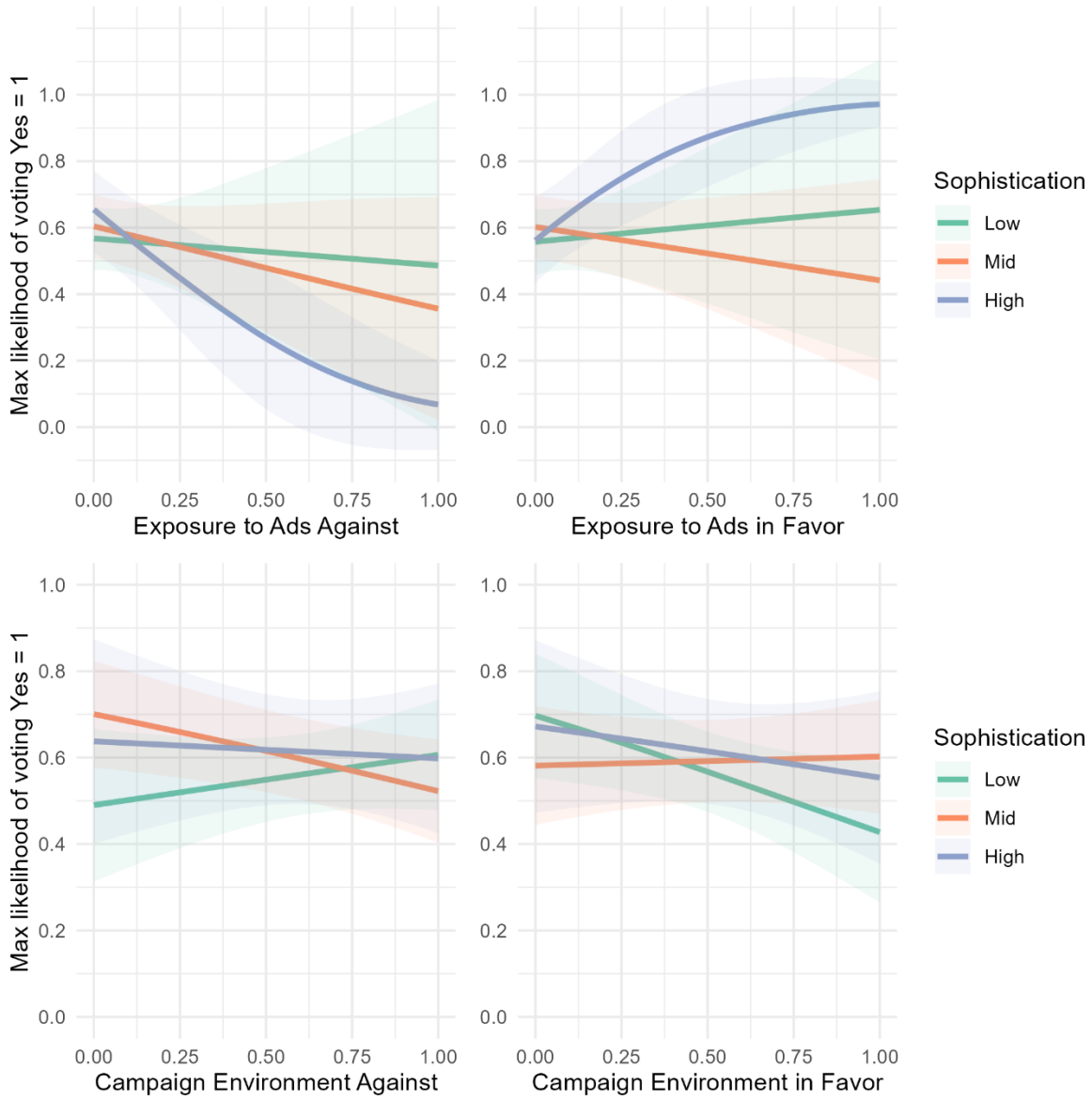


Figure 4 presents the predicted probabilities of voting Yes based on a logistic regression model that includes a two-way interaction between political sophistication and two key exposure

measures: individual-level ad exposure (top panels) and campaign environment exposure (bottom panels). All predicted probabilities are estimated for respondents who were undecided about the Climate Law at the first wave of the study (W1). Therefore, the figure shows how voters get activated when exposed to advertising for different levels of political sophistication. The shaded areas represent 95% confidence intervals.

Figure 4 – Predicted probabilities of voting Yes deriving from logistic regression model: interaction effect between exposure to ads (top part) or campaign environment (bottom part) and political sophistication. Shaded area represents 95% confidence intervals.



The top panels show that, contrary to expectations, highly sophisticated voters appear more responsive to advertising than their less sophisticated counterparts. In the top-left panel, which plots the effect of exposure to ads against the law, we observe a sharp decline in the probability of voting Yes among highly sophisticated individuals, from 0.58 with no exposure to just 0.06 at maximum exposure. Voters with medium levels of sophistication also become less likely to vote Yes as exposure increases, although the decline is less pronounced. Meanwhile, voters with low political sophistication show only minimal responsiveness to ads against the law.

A similar pattern emerges in the top-right panel, which focuses on exposure to ads in favor of the law. Here, the probability of voting Yes among highly sophisticated respondents increases dramatically, from 0.58 with no exposure to 0.99 at maximum exposure. Surprisingly, voters with medium levels of sophistication display the weakest reaction: their predicted probability of voting Yes slightly declines with greater exposure to favorable ads. Low-sophistication voters, in contrast, become somewhat more likely to vote Yes as exposure increases, though the effect is modest compared to that among highly sophisticated individuals.

In contrast, the bottom panels of Figure 4 show that the broader campaign environment, whether dominated by messages for or against the law, has little effect across sophistication levels. Predicted probabilities of voting Yes remain relatively flat for all groups, regardless of political sophistication or the direction of the campaign context. These findings reinforce the importance of using individual-level measures to capture the persuasive effects of advertising. These measures allow us to detect variation in how voters respond, particularly among politically sophisticated individuals, an effect that aggregated measures fail to reveal.

Overall, the results in Figure 4 challenge the common expectation that politically sophisticated voters are more resistant to persuasion. On the contrary, they appear more responsive to campaign advertising, both in favor and against the law, than less sophisticated individuals.

These findings reject Hypothesis 2 and reinforce the value of focusing on individual-level exposure when assessing the persuasive effects of political campaigns.

Robustness Test

To assess the robustness of the main findings, I conducted two supplementary analyses. The first focuses on the main effects of exposure to ads on vote choice, and the second tests the moderation effects of ad exposure. The first robustness test addresses the possibility of recency bias - the idea that voters might be more influenced by ads they saw closer to the date of the interview than by those seen earlier in the campaign.

The results, displayed in Figure E1 in Appendix E, provide partial support for Hypothesis 1, as some asymmetries in the results arise. Consistent with the findings from the main model, voters exposed to a higher number of ads against the law are less likely to vote Yes, regardless of their initial vote intention in wave 1. Specifically, the results confirm three distinct persuasive dynamics. Voters who were undecided during the first wave of the study (middle panel) are less likely to vote Yes as they are exposed to ads against the law - the predicted probabilities fall from 0.60 (no exposure) to 0.38 (maximum exposure). Among those who initially intended to vote Yes (left panel), we can observe that increased exposure to ads against the law persuades voters to change their vote intention toward No. Predicted probabilities of voting Yes decrease from 0.85 (no exposure) to 0.70 (maximum exposure). Similarly, voters who intended to vote No (right panel) further reduced their likelihood of voting Yes when they encountered ads reinforcing their initial vote intention.

While the effects for the ads against the law work as expected, the effects of the ads in favor of the policy differ from the main findings of Figure 3. In all three scenarios, increased exposure to ads in favor of the policy did not persuade voters to change their vote intention. This may suggest that, after accounting for potential recency bias, ads in favor of the law might be less effective at persuading voters than ads against the law. That said, the results from this

robustness test should be interpreted with caution, as the model shows high uncertainty in the estimates at higher levels of ad exposure.

The second robustness test examines whether the interaction effects presented in Figure 4 hold when focusing specifically on the conversion and reinforcement mechanisms. Figure E2 in Appendix E illustrates the predicted probabilities of voting Yes among voters exposed to advertising that ran counter to their initial vote intention, thus isolating conversion effects. As shown in the top-left panel of Figure E2, voters who initially intended to vote Yes but were exposed to ads against the law exhibit varying responses depending on their level of political sophistication. Politically sophisticated voters appear to be the most responsive: their predicted probability of voting Yes drops sharply from 0.87 when not exposed to any counter-attitudinal ads to 0.21 when exposed to the maximum level. Voters with low sophistication are the least affected, with probabilities decreasing only slightly from 0.83 to 0.78. Those with medium levels of sophistication fall in between, decreasing from 0.85 to 0.67. A similar pattern emerges in the top-right panel, which focuses on voters who initially intended to vote No but were exposed to ads in favor of the law. Once again, it is the highly sophisticated voters who show the most substantial change in vote intention, confirming the findings from Figure 4: those with higher political sophistication are more responsive to persuasive messaging, even when it contradicts their prior vote intention. Turning to the campaign environment (bottom panels), again we can see small but not meaningful variation across sophistication levels. Predicted probabilities of voting Yes remain relatively flat regardless of whether the campaign context was predominantly in favor or against the law. These findings are consistent with the results observed for undecided voters in Wave 1.

Figure E3 (Appendix E) focuses on the reinforcement mechanism, presenting predicted probabilities of voting Yes when voters were exposed to ads consistent with their initial vote intention. In this case, the interaction with political sophistication is much weaker. All groups,

low, medium, and highly sophisticated voters, respond similarly when exposed to ads reinforcing their previous vote intention. As with the conversion mechanism, the campaign environment measure fails to differentiate between groups, underlining its limited explanatory power relative to individual-level measures. Overall, this robustness test supports the main findings: individual-level exposure to advertising interacts with political sophistication, especially for vote conversion. However, in the case of reinforcement, the moderating effect of sophistication appears minimal. The aggregate campaign environment, by contrast, continues to show limited influence across all mechanisms tested.

Conclusion

Campaign advertising is one of the largest expenditures for political parties and interest groups. It is also one of the most important tools available to political elites for shaping public opinion. Yet, a growing body of research using experimental designs has found that the persuasive effects of advertisements are often limited or negligible (Coppock et al., 2020; Kalla & Broockman, 2018). These findings raise critical questions about whether, when, and for whom campaign ads actually work.

This study contributes to this debate by examining persuasion in the context of a direct democratic vote on a climate bill. By leveraging a unique linkage between campaign advertising data and a Rolling Cross-Section survey, I examine how short-term vote dynamics respond to actual patterns of ad exposure. Unlike studies that rely on aggregate measures of campaign intensity, this design captures variation in individual-level exposure over time, offering a more fine-grained perspective on the mechanics of persuasion.

The findings demonstrate that campaign advertising can, in fact, change vote intentions, but only under certain conditions. Specifically, the effects are concentrated among voters who were exposed to a *substantial number* of ads. In contrast, individuals who saw only a few ads during the campaign - mirroring the single-shot treatments typical in experimental design - did not

change their vote intention. These results help reconcile why many field and survey experiments fail to find persuasive effects: low exposure has a limited impact. But when exposure increases and messages accumulate, persuasion becomes visible. Moreover, the effect of exposure to advertising was not dependent on respondents' prior vote intention. As reinforcement, activation, and conversion effects all worked. This study, therefore, complements experimental findings by showing that ads can persuade voters more than previously assumed.

Importantly, the estimated effects in this study should be interpreted as conservative. First, the analysis captures an *intention-to-treat* dynamic: while exposure is modeled based on observed ads in outlets respondents report visiting, there is no certainty that individuals actually saw or cognitively processed each ad. This introduces measurement noise that likely attenuates the estimated effects. Second, the analysis only includes ads present on one single outlet for each platform (print and online). It is likely that the effect size might be larger if the study had taken into consideration multiple sources (more than one journal visited).

This study also challenges existing assumptions about political sophistication and resistance to persuasion. Contrary to conventional wisdom suggesting that politically sophisticated individuals are less susceptible to persuasion, the results suggest the opposite: in the case of the Climate Law, highly sophisticated voters were *more* responsive to ad exposure than their less sophisticated counterparts. This suggests that sophistication may not shield individuals from persuasion but may instead reflect a higher level of political attentiveness that increases exposure and receptiveness to campaign content.

More broadly, the analysis reveals that only a subset of the electorate is heavily exposed to campaign advertising. In the campaign examined here, among the most intense in Switzerland in the past decade (Heidelberger & Gerber, 2023), about half the population saw no advertisements at all in the two weeks prior to their interview, and only a small share of voters was exposed to more than six advertisements. A key takeaway for practitioners is that political

campaigns can persuade voters to change their vote choice, but only with substantial campaign investment. Low-intensity campaigns are unlikely to persuade voters simply because most voters will not be reached.

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Appendix

A - Exposure to the campaign advertisement measures

The measure is composed of the number of times a person reads a print or online source during a (typical) week and the number of advertisements in favor (against) in the specific media outlet. To measure frequency, the following question was asked: " Last week, how often did you read this journal/online outlet?". The product of the “frequency” and “number of ads” components allows for calculating the exposure to campaign advertisements. I then summed the exposure to advertisement messages from print sources and online media.

To summarize, the advertising measure expresses the total amount of exposure to advertising for each individual during the campaign. It is derived from the respondent's interview date and the newspapers or online media they reported reading most often in the preceding days. For modeling purposes, the variable is scaled from 0 to 1. A score of 0 indicates no exposure to campaign advertisements in favor (against) the policy. The score of 0 also includes respondents who did not report consuming any print or online media outlets. This indicates that the respondent was assumed not to have been exposed to campaign advertisements via the measured newspapers or media outlets. Of course, this does not mean that these individuals were not exposed to other campaign channels (e.g., social media); it simply means they were not directly exposed to advertisements in the print or online media outlets considered in the study. In contrast, a score of 1 indicates maximum potential exposure to campaign advertisements supporting (rejecting) the policy.

Additionally, I assumed no information was available if a newspaper was not coded on a particular day. This choice was primarily for technical reasons. Some newspapers do not publish on certain days (e.g., Saturdays), leading to missing values for those days. As a result, it was not possible to compute and sum the (14) lags without replacing the missing values with zeros.

B - List of print and online media outlets

To test the hypotheses, I select only the newspapers and online media outlets that match the two datasets. I include a given outlet (1) if it is reported by at least one survey respondent and (2) if the data on advertising is available for this outlet. This results in the following list of print (N=61) and online (N=40) outlets.

Table B1 – List of print and online outlets selected by respondents.

Print outlets	Online outlets
20 Minuten	20 Minuten
20 Minutes	20 Minutes
20 Minuti	24 heures
24 heures	Aargauer Zeitung
Aargauer Zeitung	ArcInfo
Agefi	Basler Zeitung
Anzeiger von Uster	Berner Zeitung
Appenzeller Zeitung	Blick
ArcInfo	Bluewin
Badener Tagblatt	bz Basel
Basellandschaftliche Zeitung	cash.ch
Basler Zeitung	Corriere del Ticino
Berner Oberländer	Der Bund
Berner Zeitung	Frapp
Bieler Tagblatt	Google News
Blick	Handelszeitung
Bote der Urschweiz	Heidi.news
bz Basel	Inside paradeplatz
Corriere del Ticino	La liberté
Der Bund	La Tribune de Genève
Der Landbote	Le Matin
Die Südostschweiz	Le Nouvelliste
Freiburger Nachrichten	Le Temps
Journal de Morges	Luzerner Zeitung
La Côte	MSN
La Domenica	Nau
La Gruyère	Nebelspalter
La Liberté	Neue Zürcher Zeitung (NZZ)
La Région	RFJ
la Regione Ticino	RSI
La Tribune de Genève	RTS
Le Courrier	Schaffhauser Nachrichten
Le Journal du Jura	SRF
Le Matin Dimanche	Swissinfo
Le Nouvelliste	Tages Anzeiger

Le Quotidien jurassien	Thuner Tagblatt
Le Temps	Ticinonews
Limmattaler Zeitung	Ticinonline
Luzerner Zeitung	Watson
Neue Zürcher Zeitung (NZZ)	Weltwoche
Nidwaldner Zeitung	Zueriost
NZZ am Sonntag	
Oltner Tagblatt	
Schaffhauser Nachrichten	
Solothurner Zeitung	
SonntagsZeitung	
St. Galler Tagblatt	
Tages Anzeiger	
Thuner Tagblatt	
Thurgauer Zeitung	
Walliser Bote	
Weltwoche	
Werdenberger & Obertoggenburger	
Wiler Nachrichten	
Wiler Zeitung	
WOZ Die Wochenzeitung	
Zofinger Tagblatt	
Zuger Zeitung	
Zürcher Oberländer	
Zürcher Unterländer	
Zürichsee-Zeitung	

To test whether any self-selection bias by respondents exist (whether voters by reading a specific newspaper are exposed only to ads in one direction), I report in the table below (B2) the distribution of ads in some of the main newspapers in print and online format in Switzerland. The left column indicates the name of the newspapers, the two middle columns show the numbers of ads published on its printed version, while the two right columns show the ads published on the online version of the newspaper. Table B2 shows that, while in some outlets (e.g. Berner Zeitung - print version - or 20 minute - print version), there is an imbalance between ads in favor or against, most of the main newspapers contained both time of ads. While I cannot exclude completely that some respondents are subject to some forms of self-selection bias, the fact that they can be exposed to both types of advertising minimizes the chances.

Table B2 – Descriptive statistics – distribution of ads on media outlets on print and online platforms.

Climate Law				
Newspaper	Ads in print version		Ads in online version	
	No	Yes	No	Yes
Neue Zuercher Zeitung	10	11	12	14
Berner Zeitung	23	41	9	4
Tages Anzeiger	13	16	14	11
Le Temps	3	3	2	4
La Tribune de Genève	2	13	0	0
Corriere del Ticino	7	7	0	0
20 minutes	0	9	33	31

C - Descriptive Statistics

In this section, descriptive statistics related to the main variables used in the regression models are reported, as well as descriptive statistics related to the advertising data set.

Table C1 – Descriptive statistics - number of ads published during the campaign.

	Climate Law	
Ads direction	Online	Print
No	413	540
Yes	166	709
Sum	579	1249
Total	1828	

Table C2 – Descriptive statistics – Distribution of the number of ads respondents have been potentially exposed to in the 14 days prior to their interview.

	Climate Law							
Variable	N	Mean	SD	Min	0.25%	0.5%	0.75%	Max
Exposure to ads from both camps	2060	5.1	9.5	0	0	1	6	64
Exposure to ads from the No camp	2060	4	8.9	0	0	0	4	59
Exposure to ads from the Yes camp	2060	1.1	1.9	0	0	0	1	14

Table C2 reports the distribution of advertisement exposure among respondents during the campaign period. The table reveals some notable asymmetries. Respondents were exposed to significantly more ads against the law than in favor of it. Examining the interquartile range, we find that 25% of the sample saw at least one advertisement in favor of the Climate Law compared to 4 ads against. However, a minority of respondents experienced much higher exposure levels, with some seeing up to 14 ads in favor and 59 ads against. When ads from both camps are combined, we can see that at least half of all respondents were exposed to at least one advertisement, and at least 25% of the sample were exposed to at least 6 ads in the 14 days prior to their interview.

Table C3 – Descriptive statistics – relevant variables used in the regression models.

Climate Law							
Variable	N 2060	Mean	SD	Min	0.25%	0.75	Max
Vote Choice W2		100%					
No	701	34%					
Yes	1359	66%					
Vote Intention W1							
Don't know	258	13%					
No	549	27%					
Yes	1253	60%					
Exposure to Ads	2060						
Favor		0.06	0.13	0	0	0.04	1
Against		0.05	0.11	0	0	0.09	1
Campaign Environment	2060						
Favor		0.52	0.29	0	0.38	0.65	1
Against		0.63	0.31	0	0.24	0.85	1
Time		0.46	0.27	0	0.22	0.70	1
Age		0.43	0.22	0	0.23	0.61	1
Sophistication							
Low	519	25%					
Mid	1201	58%					
High	340	17%					
Party I.							
Apartisans	434	21%					
Partisans with rec. No	498	24%					
Partisans with rec. Yes	1128	54%					
Gender							
Male	1106	55%					
Female	952	45%					

<u>Party Identification</u>

Battery of questions on party identification - Wave 1

Switzerland (original versions are in German, French, and Italian)

Generally speaking, do you feel close to a political party?

7. Oui
8. Non
99. Ne sais pas

Which party is it?

13. PLR - Les libéraux-radicaux

14. Le Centre (anciennement PDC - Parti démocrate-chrétien ou PBD - Parti bourgeois démocratique)
15. PS - Parti socialiste
16. UDC - Union démocratique du centre
17. PES - Les Verts / Parti écologiste suisse
18. PVL - Parti vert'libéral
19. Lega - Lega dei Ticinesi
20. MCG - Mouvement citoyens genevois
21. PCS - Parti chrétien-social
22. PEV - Parti évangélique suisse
23. UDF - Union démocratique fédérale
24. PST-POP - Parti Suisse du Travail / Parti Ouvrier Populaire / SolidaritéS / Ensemble à Gauche
99. Ne sais pas

Is there one party you feel a little closer to than the others?

9. Oui
10. Non
99. Ne sais pas

Which party is it?

13. PLR - Les libéraux-radicaux
14. Le Centre (anciennement PDC - Parti démocrate-chrétien ou PBD - Parti bourgeois démocratique)
15. PS - Parti socialiste
16. UDC - Union démocratique du centre
17. PES - Les Verts / Parti écologiste suisse
18. PVL - Parti vert'libéral
19. Lega - Lega dei Ticinesi
20. MCG - Mouvement citoyens genevois
21. PCS - Parti chrétien-social
22. PEV - Parti évangélique suisse
23. UDF - Union démocratique fédérale
24. PST-POP - Parti Suisse du Travail / Parti Ouvrier Populaire / SolidaritéS / Ensemble à Gauche
99. Ne sais pas

<u>Issue Specific Knowledge</u>

Climate Law - Original versions are in German, French, and Italian

The Climate Law aims to achieve zero net greenhouse gas emissions ...

1. ...by 2060
2. ...by 2070
3. ...by 2040
4. ...by 2050
99. Don't know

To achieve the target of zero net greenhouse gas emissions set by the Climate Law, the Confederation undertakes to...

1. ...increase the price of fuels
2. ...subsidise renewable energies
3. ...build a new nuclear power station
4. ...ban the use of fossil fuels
99. Don't know

If the Climate Law is passed, the federal government will make available...

1. ... CHF 1 billion per year over ten years to replace conventional heating systems with heat generated from renewable energies
2. ... CHF 200 million per year over ten years to replace conventional heating systems with heat generated from renewable energies
3. ...CHF 1 billion per year over ten years for energy efficiency measures (insulation of buildings)
4. ...CHF 200 million per year over ten years for energy efficiency measures (insulation of buildings)
99. Don't know

D - Models

Table D1 - Logistic regression models for the Climate ballot. Predictions of Figure 3 derive from model (1) while predictions for Figure 4, E2, E3 derive from model (2).

Climate Law	*Dependent variable: Vote Choice Ref. Cat = No*	
Variable	**(1)**	**(2)**
	Estimate	Estimate
Vote Intention W1: No (dk)	-1.800***	-1.778***
	(0.183)	(0.183)
Vote Intention W1: Yes (dk)	1.360***	1.369***
	(0.166)	(0.167)
Exposure to ads against	-1.201**	-0.328
	(0.527)	(1.039)
Exposure to ads in favor	0.578	0.403
	(0.526)	(1.066)
Campaign env. against	-0.392	0.472
	(0.273)	(0.495)
Campaign env. in favor	0.080	-1.124*
	(0.355)	(0.563)
Partisanship favor (Apartisans)	0.679***	0.653***
	(0.158)	(0.159)
Partisanship against (Apartisans)	-0.749***	-0.789***
	(0.175)	(0.176)
Sophistication Mid (Low)	0.114	0.367
	(0.150)	(0.332)
Sophistication High (Low)	0.145	0.240
	(0.214)	(0.507)
Days Between Interviews	-0.659**	
	(0.314)	
Age	-0.598**	-0.580*
	(0.290)	(0.292)
Gender Male (Female)	-0.039	-0.057
	(0.130)	(0.130)
Exposure to ads against × Sophistication Mid		-0.684
		(1.282)
Exposure to ads against × Sophistication High		-2.927
		(1.555)
Exposure to ads in favor × Sophistication Mid		-1.051
		(1.243)
Exposure to ads in favor × Sophistication High		2.944
		(1.764)
Campaign env. against × Sophistication Mid		-1.231*
		(0.612)
Campaign env. against × Sophistication High		-0.639
		(0.866)
Campaign env. in favor × Sophistication Mid		1.210

Climate Law	*Dependent variable: Vote Choice Ref. Cat = No*	
Variable	**(1)**	**(2)**
		(0.690)
Campaign env. in favor × Sophistication High		0.623
		(0.898)
Constant	1.074***	0.832**
	(0.239)	(0.304)
N	2060	2060

Note: Standard errors in parentheses
*Significance: *p < 0.05, **p < 0.01, **p < 0.001

E - Robustness tests

In Appendix E, we find three figures mentioned in the robustness test section in the main text. Figure E1 shows the test for recency bias. Concerning this figure, the first robustness test replicates the modeling strategy used in Figure 3 of the main text, with one key modification: the measure of ad exposure incorporates a time-sensitive weight that gives greater importance to more recent exposures. The weighted exposure is calculated using the following formula:

$$Weighted\ Exposure\ to\ ads_{\ i,j,t} = \sum_{j} k = 1^{14}(frequency_{i,j,t-k} * number\ of\ ads_{\ j,t-k} * (15-k))$$

This specification adjusts the original exposure formula (as outlined in the Methods section, page XXX) by applying a linearly decaying weight to each day of exposure, reflecting the assumption that the persuasive effect of ads diminishes over time. Under this approach, an ad seen one day before the interview receives a weight of 14, while one seen 14 days prior is assigned a weight of 1.

Figure E1 – Test recency bias. Predicted probabilities of voting Yes on the Climate Law as a function of the (weighted) exposure to ads measure, grouped by initial vote intention (w1). Lines represent exposure to ads/campaign environment in favor (yellow) or against (blue) the law. Shaded areas indicate 95% confidence intervals.

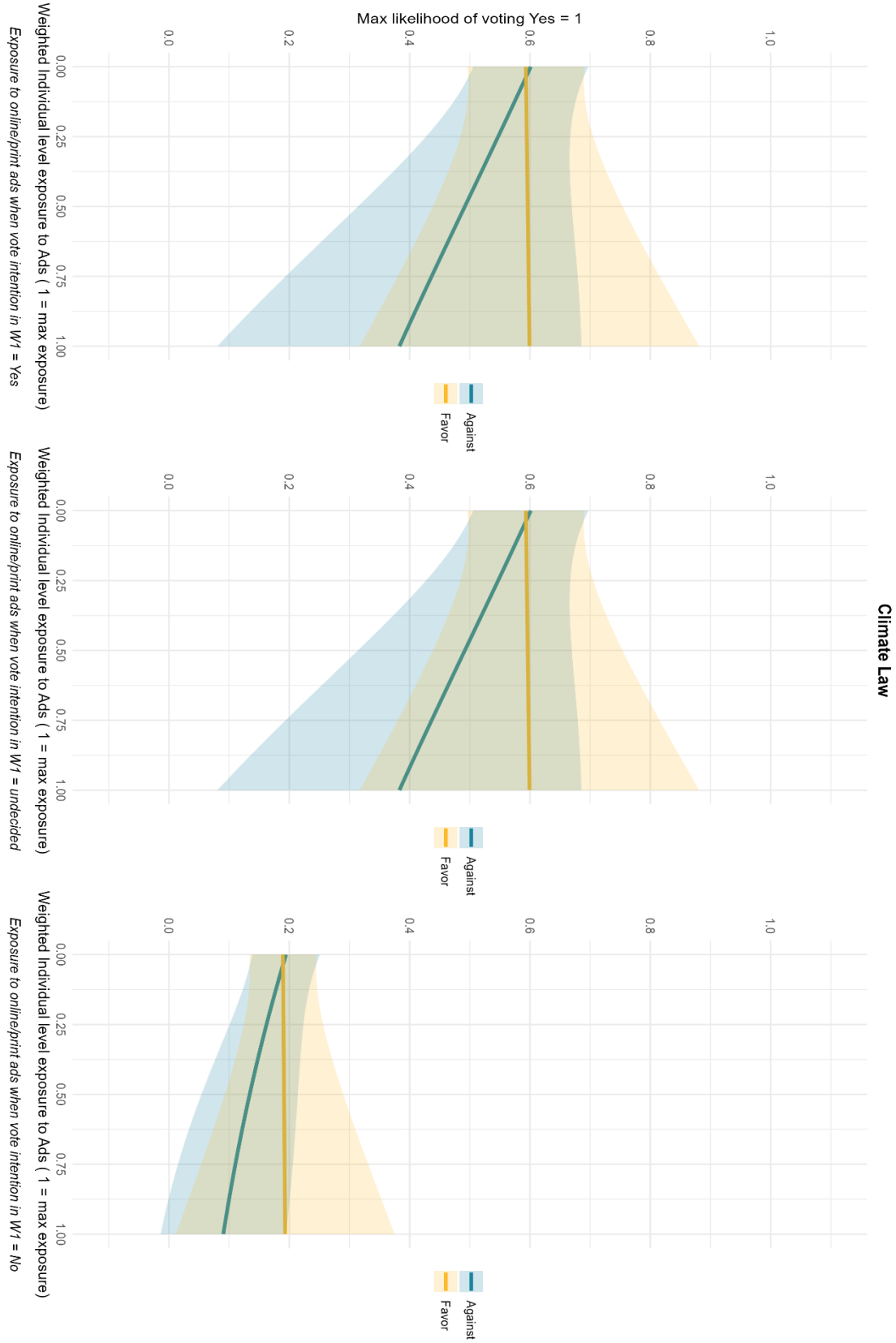

Climate Law
Max likelihood of voting Yes = 1
1.0
0.8
0.6
0.4
0.2
0.0
Against
Favor
0.00
0.25
0.50
0.75
1.00
Weighted Individual level exposure to Ads (1 = max exposure)
Exposure to online/print ads when vote intention in W1 = Yes
Exposure to online/print ads when vote intention in W1 = undecided
Exposure to online/print ads when vote intention in W1 = No

Figure E2 and Figure E3 instead support Figure 4 in the main text.

Figure E2 – Predicted probabilities of voting Yes, of main independent variables for different levels of political sophistication. Predictions derive from the two-way interaction logistic regression model. The figure displays conversion mechanism for voters who had the intention to vote Yes in W1 (left column) and for voters who had the intention to vote No in W1 (right column).

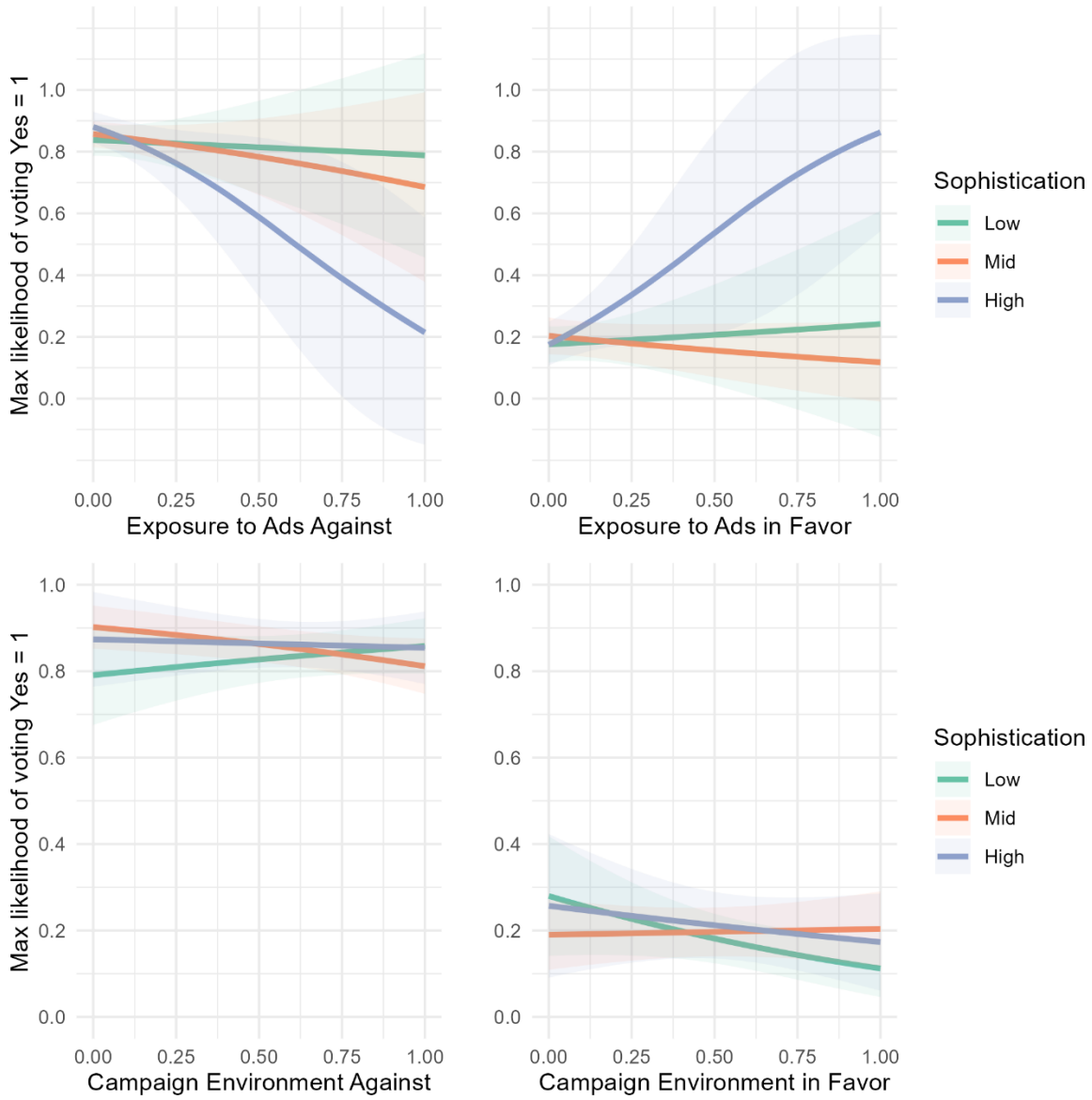
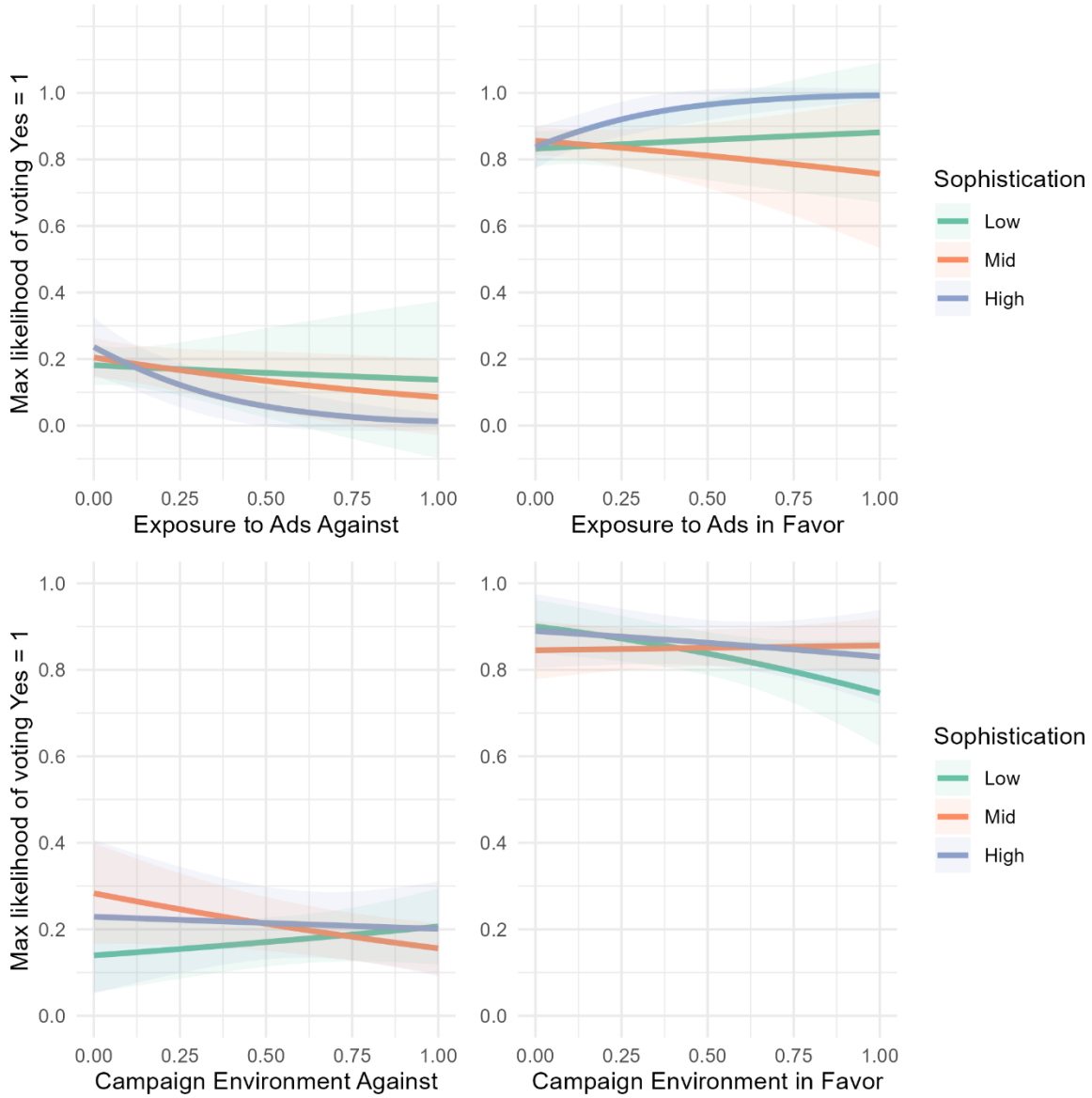


Figure E3 – Predicted probabilities of voting Yes, of main independent variables for different levels of political sophistication. Predictions derive from the two-way interaction logistic regression model. The figure displays reinforcement mechanism for voters who had the intention to vote No in W1 (left column) and for voters who had the intention to vote Yes in W1 (right column).



Conclusion

The goal of this dissertation was to study how voters make decisions during direct democratic campaigns. Relying on cognitive theories of information processing, I investigated the effects of information sources and campaign activities on vote stability and change. Through this work, I was able to make important contributions to the fields of political behavior and communication, as well as draw practical insights for practitioners.

This dissertation demonstrates that in direct democratic campaigns, voters are neither passive recipients of elite messages nor easily influenced by political information. On one hand, across two very different contexts, Switzerland and California, I show that policy arguments and elite cues work together to shape vote choice, but their influence depends on voters' prior attitudes, political sophistication, and the characteristics of the context and ballot. Contrary to much of the traditional literature (e.g. Converse et al. 1960), which suggests that partisanship is the most dominant predictor of voting behavior, this dissertation challenges those assumptions. By combining experimental and observational evidence, I was able to disentangle when party cues matter most, and, importantly, when they do not matter at all. Moreover, the dissertation provides substantive evidence on what kinds of information or considerations voters rely on when they do not use party cues to reach their decisions.

On the other hand, this dissertation also shows when and how voters can be persuaded by political advertising to change their vote choices. Contrary to much of the experimental evidence on the (lack of) persuasion of campaign messages, the use of fine-grained observational data here reveals the specific conditions under which persuasion occurs. A key takeaway is that persuasion is not easily achieved, it depends heavily on the context in which it takes place (especially the intensity of the campaign) and it is shaped by individual characteristics.

The results of this dissertation also speak against skepticism toward direct democratic votes. Voters make decisions in line with their own evaluations of policies; they do not blindly follow elite cues and are not easily swayed by information designed to push them in a particular direction. Within the normative debate, this dissertation argues against the idea that citizens are not capable of fulfilling the task of voting in direct legislation and supports those who hold a more positive view of direct democratic processes (Bowler et al., 2020).

In the following pages of this concluding chapter, I summarize the main findings of the dissertation, respond to the research questions, and highlight the contributions to current debates in the literature. I then discuss the limitations of this work and propose future avenues for research on the topic.

What were the determinants of vote stability and change?

The first research question assumed that information sources and campaign activities influenced opinion formation in direct democratic votes. Papers 1, 2, and 3 showed that both policy information and elite cues shaped voter decision-making. All three papers aimed to clarify the party-versus-policy debate along two axes. First, did policy information and party cues work together or independently in shaping vote choices? The answer was clear: in all three studies, when party cues aligned with policy information, they reinforced each other in shaping vote choices. Paper 1 showed that when citizens received consistent policy information and party cues, they were more likely to change their vote intention than when they received only one piece of information. Papers 2 and 3 also demonstrated that when evaluations of policy arguments and party cues were aligned, they reinforced one another. This evidence supports findings in the literature which argue that, rather than one information source dominating the other (e.g., Cohen, 2003) policy information and elite cues jointly shape vote choices. Compared to past experimental studies, however, Paper 1 makes a significant contribution by systematically studying vote change while accounting for prior attitudes, an aspect often

overlooked in earlier research. This approach provided two advantages: one, it allowed for the direct measurement of short-term change in vote choice, rather than inferring them indirectly; and two, it allowed testing how prior attitudes toward a specific ballot measure influenced a voter's resistance or acceptance of (new) information.

The second, and most innovative, line of investigation tested what happens when party cues and policy information come into conflict, creating cross-pressures for voters. The experimental design in Paper 1 confirmed earlier findings that party cues can trump policy information (Cohen, 2003). Voters were more likely to change their vote intention when party cues conflicted with their initial intention, even when policy information confirmed it. Conversely, when they received a party cue consistent with their initial view, they disregarded the conflicting policy information and maintained their original position.

However, contrary to much of the U.S. literature, which suggests that partisanship is the dominant predictor of vote behavior, Papers 1 and 3 were able to identify when party cues matter less, and to whom they matter less. Paper 3 demonstrated that when voters held clear positions on policy arguments (stronger attitudes), they prioritized substantive policy evaluations, even when these conflicted with their preferred party's recommendation. When voters were more undecided on their position, the conflict between the two pieces of information resolved in favor of the elite message: in this case, voters relied more on party cues. These observational findings confirmed earlier research (Colombo & Kriesi, 2017; Kriesi, 2005) and re-established the importance of individual attitudes and preferences in the decision-making process. Indeed, when people know (or perceive) their preferred party position they often do not follow it blindly, as voters rely more than expected on policy information or their evaluation of policy arguments to guide their decisions. The experimental evidence from Paper 1 reinforces this point about the conditional nature of party influence. When analyzing the voting behavior of respondents with strong attitudes toward a ballot measure, these voters were

less likely to be influenced by party cues, even when those cues contradicted their initial intention, compared to voters with weaker attitudes. This finding demonstrates that the strength of voters' attitudes toward an issue determines the extent to which party cues shape their choices, challenging assumptions about the universal dominance of partisan influence.

Paper 4, in turn, investigated the role of campaign activities in shaping vote stability and change. It presented evidence on the persuasive effects of campaign activities in direct democratic votes. On the one hand, it showed that voters paid attention to advertising and that it could influence their choices. On the other hand, these effects were context-dependent and shaped by individual characteristics.

How did campaign activities and information sources affect vote stability and change over the course of campaigns?

Through Papers 1, 3, and 4, the dissertation showed that both information sources and campaign activities (i.e., advertising) affected vote change during campaigns. A first important finding was that only a moderate share of voters changed their vote intentions and were persuaded by information.

The experimental study conducted in a pre-campaign setting (Paper 1) showed that about 20% of voters changed their minds, depending on the combination of policy information and party cues.[40] This result was confirmed through the observational studies (Papers 3 and 4). For instance, Paper 4 showed that during the campaign, about 25% of voters changed their minds. Paper 3 found that the influence of policy argument positions and party cues on vote intention remained stable across the campaign. In other words, as the campaign progressed, neither type of information became more important for helping voters form their opinions.

[40]As a reminder, in Paper 1 we only considered conversion as a possible outcome and excluded activation effects, therefore it is a conservative estimate of vote change.

To contextualize these findings, we can compare the extent of vote change in direct democratic campaigns to that observed in election campaigns where voters select parties or candidates. The overall size of vote change observed in this dissertation is remarkably similar to that found in electoral contexts. For instance, in Switzerland, studies of electoral campaigns over the past 30 years show that approximately 20% to 25% of voters switch party preference during campaigns (Petitpas & Sciarini, 2020; Sciarini & Kriesi, 2003). In the U.S., depending on the electoral context, 15% to 30% of voters change their vote preferences at least once during the campaign (Green, 2020; Hillygus & Jackman, 2003). These comparative results indicate that, despite institutional and contextual differences, the rate of vote change during direct democratic campaigns is comparable to that observed in candidate or party-based elections in both Switzerland and California. However, important differences emerge regarding who changes their opinion and how they change it. In candidate elections, most voters who change their vote choice - about two-thirds, according to Hillygus & Jackman (2003) - do so through activation. That is, they move from being undecided on who to vote for to making a vote decision. Only a minority of voters undergo conversion, meaning they change from supporting one candidate to another.

In contrast, the direct democratic votes analyzed in this dissertation show an important difference: roughly half of vote change occurs through conversion and the other half through activation.[41] This descriptive finding confirms past research (Farrell & Schmitt-Beck, 2002; Leduc, 2002) that, compared to candidate elections, direct democratic campaigns have greater volatility in vote preferences. Likely given by ballot topics that are less constrained by partisanship and ideology, voters are more likely to change their position across camps.

[41] For further details see Table 2 in the additional information section of the introduction

Did the effects of information sources differ across ballots and contexts?

A major contribution of this dissertation lies in testing how the effects of information sources vary across institutional settings. By systematically comparing the effects of the same types of cues across Switzerland and California, I was able, on one hand, to test whether the mechanisms through which voters process elite cues hold across different institutional systems. On the other hand, it allowed me to test whether the importance and effectiveness of different information sources vary depending on the institutional setting and the visibility of political actors.

While certain contextual differences limited the extent of direct comparisons, some clear patterns emerged. Papers 2 and 3 demonstrated that voters in both contexts processed policy information and party cues in similar ways. Voters with strong policy evaluations relied less on party cues, whereas voters with undecided or ambivalent opinions relied more on them. Paper 2 further showed that voters without strong policy positions benefited from elite cues, which helped them align their vote choices with their evaluations of substantive arguments. In this sense, elite cues tended to reinforce policy considerations rather than override them.

These findings were not surprising. The dissertation did not assume that voters in different institutional settings process political information differently. Rather, it argued that some cues might have been more useful in certain contexts, depending on the institutional setting and which political actors engaged in the campaign. Descriptive evidence presented in Papers 2 and 3 supports this idea by showing variation in the visibility and salience of political elites across contexts. In Switzerland, voters were significantly more aware of government positions on ballot measures than voters in California. For example, fewer than one-third of Californians knew the position of their governor, while in Switzerland, awareness of the government's voting recommendation was substantially higher. Regarding party cues, among voters with a preferred party, about half of Swiss voters knew their preferred party's position, compared to roughly one-third in California who knew the positions of either the Republican or Democratic

Party for Proposition 27. In contrast, awareness of interest group recommendations was relatively similar in both contexts.

Thus, while the underlying cognitive mechanisms by which voters processed information appeared stable across contexts, the effectiveness of elite cues varied. These differences point to the role of elite visibility and engagement in shaping voting behavior. In California, where interest groups frequently invest large sums in direct democratic campaigns and are actively involved in campaigning, citizens were accustomed to scrutinizing these groups and following their recommendations, especially on two votes like Propositions 26 and 27, which were a fight to pass laws among big corporations. In contrast, despite the similar level of awareness encountered among Swiss citizens of peak associations' voting recommendations, the latter did not influence voters' behavior.

While contextual variance explains some of the variation in results, ballot characteristics also explain some variation in cue effects. As discussed in the introduction, the four ballots analyzed differed in terms of issue complexity, perceived importance, and campaign spending. In Switzerland, for instance, the OECD law was seen as less important and more complex than the Climate Law and was accompanied by a less intense campaign. Likely, this caused voters to have a harder time navigating the complexity of the ballot and forming an opinion on it. As a result, Swiss voters relied more on the government and preferred party voting recommendations when evaluating the OECD law than they did for the Climate Law.

Did results differ according to individual characteristics?

Across the four papers, I tested the moderating role of partisanship, attitude strength, and political sophistication. These traits shaped how voters responded to information sources and campaign activities.

Papers 1, 2, and 3 demonstrated that the influence of each information source depended on voters' characteristics. For instance, the experimental design in Paper 1 showed that partisanship

increased the weight of party cues, particularly when voters encountered new information. Partisan voters were more likely to change their vote intention when presented with a party recommendation, regardless of whether it conflicted with their prior attitude or with policy information. Partisans were also less likely to change their mind when presented with policy information that incentivized them to do so. Attitude strength, meanwhile, influenced how voters processed both elite cues and policy information. In the experiments, voters with stronger attitudes were generally less likely to change their vote intention, regardless of the treatment received. Paper 3 supported this, showing that voters with strong policy evaluations relied less on party cues when making decisions. Likewise, Paper 2 found that when attitudes were strong, knowledge of elite cues became irrelevant for making choices aligned with one's argument position.

The third moderator, political sophistication, produced surprising results. Contrary to expectations from motivated reasoning theory, political sophistication did not increase resistance to policy information or make voters more reliant on party cues. Instead, sophisticated voters responded similarly to less sophisticated ones in all treatment conditions. In terms of campaign activities and vote change, political sophistication again produced unexpected results. More sophisticated voters were actually more likely to be persuaded by advertising. This contradicted core assumptions of opinion formation theories (e.g., Zaller, 1992), which predicted that less sophisticated voters would be more persuadable. One possible explanation was that only sophisticated voters paid close attention to advertising, while those with low interest or low knowledge avoided or ignored it and therefore could not be persuaded. Therefore, a substantial finding of the dissertation is the following: rather than curvilinear effects - where voters with an average level of political sophistication are expected to be most persuadable - political sophistication has a linear pattern: the higher the political sophistication, the greater the likelihood of persuasion.

What can campaigners learn?

The findings presented in Paper 4 offer several important lessons for political campaigners engaged in direct democratic campaigns. First, one major challenge is simply reaching voters with campaign messaging. Only about half of respondents were potentially exposed to advertising on print and online media. While this is a conservative estimate of exposure, it suggests that even high-intensity campaigns (relative to the Swiss context) do not guarantee that voters will be reached. This point is further reinforced by a second important finding: merely exposing citizens to ads is not sufficient to change opinions. Voters need to encounter campaign messages repeatedly. Persuasion occurred primarily when individuals were exposed to a high number of campaign ads. Occasional exposure to just one or two advertisements produced no measurable effect on opinion change.

Campaigners should also be aware that not all voters are equally susceptible to campaign messages. Paper 4 shows that politically sophisticated voters are the ones most likely to pay attention to advertising - and to be persuaded by it. Papers 1, 2, and 3 further demonstrate that opinion change is especially likely among voters with weak prior attitudes toward the ballots.

Taken together, these findings suggest that campaigners should prioritize reaching undecided voters who are politically sophisticated enough to engage with campaign material. These voters represent the segment of the electorate most susceptible to persuasion and thus offer the greatest potential for influencing the outcome of a direct democratic vote.

Generalizability of the results

As emphasized throughout the dissertation, what makes studying direct democratic votes both interesting and challenging is the considerable variation in the topics on which voters are asked to decide. Because this dissertation is partly comparative, analyzing ballots from two different contexts, the selection of cases had to find a balance: they needed to offer variation in terms of

complexity, salience, and campaign intensity, while still allowing for cross-context comparisons.

In California, I analyzed two ballot measures that were highly similar in topic - both concerning the legalization and taxation of sports betting - and characterized by intense and costly campaigns. In contrast, the Swiss cases involved two very different issues: the OECD minimum tax reform and the Climate Law. These ballots varied in complexity, political polarization, and levels of campaign activity. This deliberate design choice allowed for both generalization within the Swiss context and comparison across different institutional settings.

In terms of within-country generalizability, the findings from the OECD tax reform represent votes that are more complex and less salient to the average citizen and limited in campaigning. The Climate Law, by contrast, can be extended to ballots that are salient, polarizing, and that mobilize strong partisan and public engagement. The evidence of Paper 4, which analyzed the persuasive influence of advertising on vote change, builds on the latter case. The findings show that even in highly intense campaigns, where both camps invest significant resources, only a rather small share of the population is exposed to campaign messaging. Therefore, results cannot be extended to ballots that have limited campaign spending, as a large share of the population might not encounter campaign messaging.

Beyond the individual cases, the broader theoretical mechanisms identified in the dissertation can be generalized to a wide range of ballot propositions. Whether relying on motivated reasoning theory or the heuristic systematic model of opinion formation, across the dissertation, I found consistent evidence that elite cues help voters make decisions, particularly when they lack strong policy attitudes. When voters instead have strong attitudes, elite cues do not matter as much for voters. These cognitive mechanisms appeared stable across contexts, even if the relative effectiveness of different cue types varied. As previously stated, although the structure

of elite influence changes by context, the way citizens process political information remains similar.

Research Limitation

This dissertation had some limitations. The first derived from data constraints. I was not able to systematically test the effect of campaign activities across Switzerland and California. In the latter case, I was unable to find fine-grained data on exposure to advertising at the individual level. Even without direct testing, I believe that the mechanism identified in Paper 4 can be generalized to Californian ballots, especially those, like Propositions 26 and 27, where interest groups invested heavily in campaigns and maintained a strong media presence. As we have seen in the introduction of the dissertation and in Paper 2, Propositions 26 and 27 were comparable to the Climate Law in terms of campaign intensity. The findings from Switzerland showed that a high campaign intensity made it easier for ads to reach voters and persuade them to change vote intentions. Moreover, while Switzerland forbids political campaigns on television for direct democratic votes, California allows it, increasing the chances of reaching voters and persuading them.

The second limitation was again related to the lack of a systematic test, this time, of the experimental design across contexts. In this dissertation, I tested the effects of policy information and party cues on vote stability and change only in California. The data of the project, however, allowed replication of the analysis on at least one Swiss ballot. This would have contributed to assessing whether the effects found on Proposition 27 held in a different policy setting.[42]

A third limitation stemmed from the research design in testing the effect of campaign activities on vote choice. Since I used an observational approach, the effects I identified were correlational rather than causal. Although the empirical tests employed repeated measures and

[42] The experiment in Switzerland is analyzed in a paper related to the project (Sciarini et al.)

included important controls, the exact causal mechanisms (e.g., cognitive processes) were not tested. In my view, this dissertation accurately estimated correlations but could not fully account for causality or underlying micro-mechanisms. Some experiments (Kalla & Broockman, 2018) showed that ads persuaded voters in the direction of the message, supporting my findings. However, such evidence came mostly from the U.S. context. To my knowledge, in Switzerland, there is a lack of causal evidence on the persuasive effects of advertising in direct democratic votes. A recent project funded by the Swiss National Science Foundation (SSD-21) might bring new evidence in this regard.[43]

A fourth limitation concerned the focus of the dissertation, specifically the measurement of voters' evaluations of the substantive arguments related to ballot measures. As this dissertation centered on citizens' voting behavior, it did not investigate the origins of individuals' opinions on policies. For instance, when voters expressed strong policy positions early on, at the time of the first wave (pre-campaign), it remained unclear whether these positions stemmed from stable individual characteristics such as ideology, values, or long-standing beliefs, or whether they were shaped by prior exposure to the policy content. In this dissertation, I assumed that these evaluations resulted from a combination of enduring predispositions or were shaped by prior exposure to the content of the policy.

A fifth limitation concerns the conceptual approach toward policy information and the evaluation of substantive arguments. In the dissertation, I treated the use and evaluation of substantive policy arguments as inherently positive for democratic decision-making. This was largely due to the way the surveys were designed: respondents were presented with arguments that were neutral, objective, and drawn in good faith from authoritative sources such as parliamentary debates in Switzerland and official voter information on citizen initiatives in the United States. However, in real-world campaigns, citizens often face significant challenges in

[43] https://data.snf.ch/grants/grant/207585

informing themselves about ballot propositions. This is especially true in today's polarized media environment, where outlets increasingly prioritize audience engagement or partisan ideology over real or true fact-reporting. In such a context, distinguishing objective facts from partisan framing or outright misinformation (fake news) becomes difficult. This raises an important limitation of the present work: while I assume that voters' evaluations of policy arguments reflect an informed engagement with the topics of each ballot proposition, in reality, these evaluations could be shaped by biased or misleading information environments. Consequently, even when voters appear to base their choices on substantive arguments, their perceptions of these arguments may be distorted, potentially leading to decisions that are misinformed rather than informed.

Future Research

My final words related to this dissertation concern future research avenues. The two examples I discuss here are among several others that I find particularly relevant.

First, regarding campaign activities, there should be more research not only on their persuasive effects on vote choice, but also on their potential to foster political learning. Through Paper 3 descriptive statistics, we can see that, as the campaign progresses, voters become better able to rely on substantive arguments to make their decisions. A similar dynamic is observed for party cues. Evidence from an article under review (Petitpas & Sciarini) related to the SNF project shows that as the campaign progresses, voters are increasingly better capable of evaluating policy arguments and vote consistently, as well as to learn party cues and vote in line with them. This suggests that campaigns play a role not only in persuasion but also in helping voters structure their thinking. The data related to the SNF project allow for additional analysis beyond the scope of the thesis. It would therefore be interesting and relevant to investigate whether exposure to campaign advertising helps voters position themselves on policy arguments, learn party cues, and increase their knowledge about the ballot throughout the course of a campaign.

A second avenue that I find particularly interesting concerns direct democratic votes at the local level. While much attention in the literature has been devoted to national or state-level votes, considerably less is known about how direct democracy functions at the local level. Yet such votes are regularly held in both California and Switzerland. I would argue that this lack of attention can be explained by at least two reasons. First, we still know relatively little about national-level votes, which tend to attract more attention due to their broader implications. Second, it is significantly more difficult to study local-level votes using surveys, especially when trying to recruit representative samples of local populations. That said, local ballots may follow very different dynamics compared to national or state-level ones, including distinct sets of political cues, sources of information, and campaign activities. Future research should look more closely at these local contexts to better understand how and when voting behavior differs from what we observe in national-level direct democratic campaigns.

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