

ELECTORAL CONTEXT AND POLITICAL CHOICES: ESSAYS ON MASS AND ELITE
BEHAVIOR

A Dissertation

by

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ABSTRACT

Theoretically, this research addresses questions concerning political representation in democracies. I investigate how elements that make the electoral environment up impact candidates' strategies, voting choices, and electoral reforms. In the first chapter, I test hypotheses about incumbency advantage in preferential proportional representation (PR) elections. According to conventional wisdom in the literature, competitive and personalized campaigns would undermine any possible electoral advantage of incumbents in these electoral systems. I show that, even under these adverse conditions, incumbents can still obtain an electoral advantage. But in PR elections, they adopt strategies that aim to expand political support to other localities in the district. Also, my findings show that incumbents influence party decisions to favor their candidacies. These results suggest that the literature underestimates the relevance of parties and incumbents in PR systems with preferential votes. The second essay focuses on voting behavior in the context of polarizing politics. I show that polarization reduces the willingness—particularly among supporters of the incumbent party—to sanction the party in government for poor economic conditions. My results show that polarization weakens electoral accountability. Even abstention becomes a weaker mechanism of economic voting when politics gets more polarized. In the third chapter, I study why elected officials pass electoral reforms that, at first glance, could undermine their prospects in future elections. Analyzing why representatives with rural electoral bases supported the official ballot reform, I show that strategies to make voters—translate support into votes—are crucial in understanding electoral reforms. Before the official ballot, candidates had to print and distribute ballots to potential voters. The combination of suffrage extension and electoral competition increased the costs of making voters. As a result, many representatives saw the official ballot as an opportunity to outsource these costs. Jointly, these essays stress my specialization in political representation, showing my interest in understanding how contextual factors drive mass and elite behavior.

DEDICATION

To Taisa, Ana Clara, Moisés, and André.

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1. INTRODUCTION

This dissertation comprises three solo papers about mass and elite behavior in complex political settings. In these essays, I address questions concerning political representation in developing and consolidated democracies. Employing a political economy approach to formulating and testing theories about elections, I explore political dynamics underlying voting choice, candidates' strategies, and changes in electoral systems. The chapters in this dissertation contribute to three major questions: the implications of electoral systems to political representation, accountability in an environment of radicalizing politics, and incentives for electoral reform. In each chapter, I show how a specific contextual factor—electoral institutions, political polarization, and campaign costs—shapes the connection between voters and elected officials, their strategies, and choices.

In the first essay of this dissertation—*Expanding the Constituency*—I test hypotheses about the electoral performance of candidates who run for reelection in preferential proportional representation (PR) systems. In these electoral systems, districts are usually geographically large, include multiple potential constituencies, and elect more than one representative. According to the prevalent view in the literature, these conditions would make incumbents vulnerable as they have to compete with too many candidates, including co-partisans and other incumbents. The competition with co-partisans would imply that a political party is not united to support an incumbent in the district. The high number of candidates in a personalized campaign would expose the electoral bases of incumbents to too many other candidates. Finally, the presence of other incumbents reduced the ability to claim credit for service provision and government spending.

Combining spatial analysis and causal inference, I investigate whether incumbents in PR elections enjoy an electoral advantage. My results show that even in this adverse environment, candidates running for re-election enjoy an electoral advantage. This stems from their ability to expand their political support to other areas in the district without losing votes in their previous electoral bases. I also find that incumbents in preferential PR systems exploit their position as legislators to obtain this electoral advantage. More precisely, I show that they affect the decision of their parties

regarding the allocation of campaign resources and the formation of the party list in manners that benefit their chances of winning a seat. These results suggest that scholars underestimated the role parties and incumbents can play in preferential PR systems to influence electoral performances. Even in elections with personalized competition, political parties are collective organizations that gather electoral resources and coordinate campaigns. As political entrepreneurs, incumbents can exploit these organizations and other office-derived resources to propel their political careers. Contrary to previous expectations in the literature, these results show that representatives have incentives to run for reelection and expand their support in the district. The electoral formula alone does not determine the performance of incumbents or the importance of political parties. Even in highly competitive environments with intraparty competition, parties and incumbents can explore rules and resources to create opportunities for electoral advantage.

On another front, I investigate the effect of political radicalization on voting behavior. As such, in the second chapter of this dissertation—*Is It Still the Economy?*—I test hypotheses about how polarizing politics affects voters' ability (or willingness) to hold elected officials accountable for economic outcomes. I propose and develop a framework and an empirical strategy to estimate the impact of elite polarization on two channels through which voters can sanction incumbents for poor policy performances: voting for the opposition and abstaining. Using election results at the county level, I show that, under polarized environments, the number of voters punishing the incumbent party for poor economic conditions decreases in both channels. Next, with survey data, I find that perceived polarization reduces the probability that partisans negatively evaluate the economy under the administration of their preferred party. Also, among partisans who can still have a negative economic assessment, I show that perceived polarization decreases their willingness to punish their party. These findings demonstrate that polarization weakens electoral accountability. Even abstention becomes a weaker mechanism of economic voting when politics gets more polarized. Moreover, my individual-level analyses suggest that besides shaping how partisans evaluate economic conditions, elite polarization also affects partisans' propensity to hold their favored party accountable.

In the third essay—*Electoral Competition and the Adoption of Official Ballot*—I return to questions related to the elites’ choices. This time, I focus on electoral reforms. Why do lawmakers approve reforms that, at first glance, can harm their electoral performances in the future? Because it could emancipate some voters and disenfranchise others, reforms that approved the official ballot—the so-called Australian Ballot (AB)—were consequential when passed by almost every country. However, AB reforms have received little attention from scholars. The existing literature explains the incentives for urban-based parties and candidates to support the adoption of AB. Yet, these groups were minority political forces almost everywhere when the official ballot was implemented. I propose a new explanation to understand why members of dominant, rural-based parties formed *ad hoc* coalitions to approve the official ballot even though it could harm the electoral prospect of their parties. This explanation emphasizes the cost of “making voters” in mass electorates: actions candidates must take to translate potential support into actual votes. Before the AB, candidates had to print and hand out ballots to their supporters. With the suffrage extension, this procedure became excessively costly. Hence, many politicians saw the AB reform as an opportunity to outsource those electoral expenses. At the same time the electorate expanded, electoral competition increased the costs associated with printing ballots because, in highly competitive contexts, candidates had to make as many voters as possible to have a chance to be elected. Exploiting a case in which the same Congress voted on an AB reform before and after a general election, I show that representatives from districts with high competition, including those in rural-based parties, become more likely to support the AB bill after the election. My argument highlights how the repertoire of actions candidates have to perform to “make voters” trigger incentives for electoral reforms that, at first glance, would harm their prospects in forthcoming elections.

Besides this introduction, the dissertation contains three chapters and a short conclusion. Each chapter contains a complete essay. I conclude with a discussion of theoretical contributions and further research.

2. EXPANDING THE CONSTITUENCY: THE INCUMBENCY ADVANTAGE IN PREFERENTIAL PR ELECTIONS

2.1 Introduction

Proportional representation (PR) is the most common electoral system for national and state-level legislatures in democracies (Bormann and Golder, 2022). More than eighty countries use some form of PR system to select representatives for their lower chambers.¹ Within these systems, ballot structures that allow voters to express their preferences for individual candidates have become increasingly popular (Renwick and Pilet, 2016).² Yet, compared to single-member district (SMD) elections, there is much that we do not know about elections based on preferential PR rules. Which candidates benefit from multi-member districts with mechanisms of personal votes? What resources and strategies can candidates employ to maximize their performance in electoral districts with multiple constituencies? Scholars have recently started addressing these questions (Folke, Persson and Rickne, 2016; Cheibub et al., 2022).

In this paper, I contribute to this literature by showing how candidates running for reelection in PR systems with preference votes can enjoy an electoral advantage. The effect of incumbency on electoral performance is well-documented in SMD elections (Lee, 2008). However, it is still unclear whether incumbent candidates should have an electoral advantage in preferential PR elections. While candidates compete over a delimited constituency in SMD elections, the contest in PR systems typically takes place in a geographically more extensive district with multiple potential sets of voters. In this environment, an incumbent would be highly exposed to electoral competition from multiple contenders, including candidates from her party and other incumbents. This leads scholars to cast doubt on whether there is any incumbency advantage in preferential PR systems, as the competition among co-partisans may reduce incumbents' ability to maintain their previous electoral support (Ariga, 2015), and the presence of multiple incumbents may limit the capacity of

¹Data from the ACE Project.

²In this paper, I use the terms "preference votes" and "personal votes" interchangeably to mean ballots that voters cast for an individual candidate within a party list.

individual candidates running for reelection to claim credit for service provisions (Samuels, 2001; Redmond and Regan, 2015).

Despite these adverse conditions, I argue that, like in SMD systems, incumbents in preferential PR elections are political entrepreneurs: They will use office-derived resources and their political influence to increase their chances of electoral success. Among other things, they can take advantage of their position as legislators to influence the decision of political parties in a manner that will benefit their candidacy. But, unlike SMD systems, *no* candidate receives anything that approximates the majority of votes in preferential PR elections. This means that expanding one's political support is always a possibility under these electoral rules. As such, I expect incumbents to use their advantageous condition to, in addition to preserving previous electoral bases, get widely known and build new ties across the district. They adopt this *expansionist strategy* to either consolidate their status quo as representatives or aspire to higher offices that demand extensive political support.

To test this expectation, I employ an innovative spatial strategy proposed by Cheibub, Junqueira and Moreira (2023) to identify a candidate's electoral bases within a large district. This approach employs election results at the polling station level to estimate hotspots: Polling stations where a candidate received a large number of votes and are surrounded by other locations where this same candidate also received a high number of votes. After estimating the hotspots of all candidates who participated in at least two consecutive elections for federal or state representatives in Brazil between 2010 and 2018, I take advantage of the fact that PR systems with open lists allocate seats differentially to candidates with similar—sometimes even identical—electoral performances. This allows me to implement causal identification strategies to estimate the effect of incumbency among candidates with the same political support.

Findings from linear models, matching analyses, and regression discontinuity designs show that there exists an overall incumbency advantage in preferential PR systems—on average, incumbents are 34% more likely to win a seat in the next election than their challengers. This electoral advantage stems, in part, from their ability to gain political support in new localities: Incumbents

obtain, on average, 75% more new hotspots than non-incumbents. Moreover, the success of this expansionist strategy among incumbents does not come at the cost of losing previous electoral bases. In reality, the vote change in a candidate's old hotspots is 48% higher among incumbents than challengers. These results show that incumbency is *not* a curse in proportional representation.³

Besides demonstrating *how* incumbents in preferential PR systems enhance their electoral success through an expansionist strategy, I also investigate *why* they obtain this advantage. More specifically, I test whether incumbents receive more campaign resources from political parties and face less competition from co-partisans in their electoral bases. Results from regression discontinuity designs show that incumbents receive approximately US\$122 thousand more campaign money from political parties than their challengers, and, on average, there are fewer co-partisans cultivating electoral bases in an incumbent's hotspots. These findings indicate that due to their political status as legislators, incumbents can influence party decisions in their district in ways that will favor their electoral prospects.

Together, the ability of incumbents to shape partisan politics and their electoral success stress that previous works underestimated the role political parties and incumbents can play in preferential PR systems. Given the personalized nature of competition in these elections, scholars often assume that parties are powerless to coordinate campaigns and affect the prospects of candidates (Ames, 1995*b*; Mainwaring, 1999; Bergman, Shugart and Watt, 2013). Incumbents, in turn, would not have the full support of their party to be re-elected. My findings suggest that the relevance of political parties in influencing candidates' success is not a function of the electoral formula alone. Instead, the rules establishing the allocation of campaign resources are crucial for understanding the relevance of parties in personalized electoral systems. In these elections, parties might have loose ideological positions and weak roots in society, but they are still essential political organizations that gather electoral resources and coordinate campaigns. As political entrepreneurs, incumbents exploit these organizations.

³Klašnja and Titiunik (2017) find that incumbency is a "curse" for political parties in majoritarian elections for mayor in Brazil. In this paper, I am interested in the incumbency effect on the electoral performance of *individual* candidates in preferential PR elections.

In addition to this introduction, the paper unfolds in six other sections. In the next one, I discuss theoretical expectations about incumbency advantage in proportional representation and present my hypotheses. Next, I describe legislative elections in Brazil and justify why they provide an ideal scenario to investigate incumbency advantage in preferential PR systems. In the fourth section, I present the data, the spatial analysis to estimate a candidate's electoral bases and the causal identification strategy I use to test my hypotheses. The findings come in the fifth section, followed by the conclusion, in which I discuss the consequences of these results for assumptions about the impact of electoral systems on political representation.

2.2 Proportional Representation and Incumbency Advantage

Several electoral systems allow or require voters to show their preference for individual candidates. In multi-member districts with preference votes, the electoral success of a candidate depends on the personal votes she receives in comparison not only to the individual performance of candidates from other parties but also from her political party. Examples of such systems include the Single Non-Transferable Vote (SNTV) used in Japan until 1993, the Single Transferable Vote (STV) used in Ireland and Malta, and Open-List Proportional Representation (OLPR) systems in place in multiple countries, including Brazil, Finland, Indonesia, and Poland. Among these electoral systems, OLPR has got the interest of scholars in comparative politics for at least two reasons. First, several countries with large electorates and new democratic regimes often use OLPR elections to select members of their lower houses (Bormann and Golder, 2022). Second, OLPR is expected to induce extreme and personalized electoral competition, encouraging candidates to cultivate personal ties with their electoral bases at the expense of partisan brands (Carey and Shugart, 1995). Hence, scholars have recently started empirically investigating the electoral strategies and consequences that emerge in preferential PR systems (Calvo, Guarnieri and Limongi, 2015; Folke, Persson and Rickne, 2016; Cheibub et al., 2022; Cheibub, Junqueira and Moreira, 2023; Cooperman et al., 2022).

A PR system has open lists if, after the allocation of seats to parties in proportion to their shares

of votes, candidates from a party list win seats assigned to their party based on their personal votes. Therefore, once seats are proportionally assigned to a political party, they will be allocated to individual candidates exclusively in response to the number of votes each candidate received: The n candidates with the highest number of preference votes receive the n seats won by their party.

In OLPR elections, thus, each party presents its lists of candidates who compete for seats in multi-member districts. A voter can select a candidate from any party list. When counting the ballots, votes for all candidates from the same party are pooled to calculate the party's total number of votes. The pooling of votes across candidates is common to all party-list PR systems, but the formula used to translate votes to seats varies. All of them aim to guarantee that seats in a legislative body are allocated in proportion to the vote share each party receives. Usually, a party's share of seats is given by the ratio of the party's total number of votes to the district quota, which is, in turn, the quotient between the district's valid votes and its magnitude—the number of seats being contested. After allocating seats among parties, candidates within a party list are ranked based on their personal votes—from the highest to the lowest.

Therefore, the electoral success of a candidate under OLPR systems depends on both (i) the number of preference votes she received and, if this number is not above the district quota, (ii) the number of seats that her party's pooled votes won. That is to say, a candidate's personal votes can guarantee her a seat either by achieving the district quota or moving the candidate up in the party list. In any case, her electoral success is determined by her personal votes. However, if she does not achieve the district quota, her success will also depend on the performance of all other candidates in the district, particularly those from her party. It is easy to see why such a system *may* induce intraparty competition and encourage personal ties between candidates and their constituencies (Carey and Shugart, 1995; Ames, 1995*b*; Mainwaring, 1999; Bergman, Shugart and Watt, 2013).⁴ Every candidate can seek votes anywhere in the district, and competition thus comes from candidates from other parties and co-partisans.

⁴Yet, Cheibub, Junqueira and Moreira (2023) show that parties have incentives to—and they effectively do—spatially coordinate competition among candidates on the same party list.

Given that preferential PR tends to induce higher competition at the level of candidates who can often search for votes in a large district, the competition environment in these elections is drastically different from the one observed in SMD systems. This distinct environment calls into doubt whether incumbents can sustain their constituencies in successive PR elections with preferential votes (Redmond and Regan, 2015; Samuels, 2001). In SMD elections, incumbents have office-derived resources, including pork barrel spending and name recognition, that enhance their chances of winning a seat again. Hence, scholars have consistently found an incumbency advantage in SMD systems, although they often disagree about the adequate empirical strategy to isolate such an effect (Erikson, 1971; Cox and Katz, 1996; Lee, 2008; De Magalhães, 2015; Erikson and Titiunik, 2015; Fowler and Hall, 2017).

On another extreme of electoral systems, incumbency is not expected to give an advantage to individual competitors in closed-list proportional representation (CLPR) on election day as political parties rank their candidates before the election, and voters can only cast a ballot for a party list.⁵ Yet, incumbents can still benefit from influencing their parties' choices and the pre-election rank of candidates. Also, parties can gain some advantage by fielding candidates running for re-election in their lists (Moral, Ozen and Tokdemir, 2015; Erikson and Titiunik, 2015). In any case, however, the idea of a personal electoral advantage that stems from the incumbency status of a candidate is not compatible with CLPR systems.

Under preferential PR elections, in turn, individual incumbents are highly vulnerable in manners they are not in either SMD or CLPR systems. In large multi-member districts with preference votes, constituencies are not legally delimited, and the number of candidates per district tends to be high. As such, multiple challengers can seek votes in areas that were an incumbent's electoral bases in previous elections. These include an incumbent's co-partisans. The competition with candidates from their party can undermine incumbents' ability to sustain electoral bases, as the

⁵There are also two other types of PR elections. In flexible-list PR, parties rank their candidates prior to the election, but those candidates who achieve a pre-specified number of personal votes are elected even if they had been ranked at the bottom of the party list. In the less common free-list PR, parties rank candidates, but voters cast as many votes as there are seats to be filled, and they can vote for individual candidates in a single party list or across several party lists. In both flexible- and free-list systems, there exist preference votes and, as such, some level of intraparty competition is likely to occur.

political party is not united to support a single candidate in the district (Ariga, 2015). Further, the presence of multiple incumbents in the same electoral district would reduce the capacity of individuals running for reelection to claim credit for public services and pork barrel spending. At the same time, it could also dilute media attention and, as a consequence, reduce name recognition that, in SMD elections, will necessarily benefit incumbents. Given the combination of intraparty competition and low capacity to claim credit, conventional wisdom in the literature argues that incumbency advantage in PR systems, if any exists, would be small and limited to a tiny political elite (Samuels, 2001; Redmond and Regan, 2015; Golden and Picci, 2015).⁶

However, I argue that, despite all challenges incumbents face in preferential PR elections, they can still enjoy an electoral advantage for at least two reasons that are present in any electoral system. First, incumbents in OLPR elections have access to office and resources that can be channeled to constituencies, strengthening their political connections with local leaders and voters (Boas and Hidalgo, 2011; Boas, Hidalgo and Richardson, 2014; Cooperman, 2022; Cooperman et al., 2022). Second, the fact that they can vote in legislatures gives bargaining leverage to incumbents that can be used to influence both government decisions and their status within political parties (Pereira and Rennó, 2007; Dettman, Pepinsky and Pierskalla, 2017; Folke, Persson and Rickne, 2016; Cheibub et al., 2022). Candidates running for reelection can use these incumbency-derived resources to solidify or expand their electoral bases in single- or multiple-member districts. Hence, one should expect that incumbents would also benefit from this condition in PR elections with preference votes (Liang, 2013; Dettman, Pepinsky and Pierskalla, 2017; Meireles, 2019; Avelino, Biderman and Desposato, 2021).

But preferential PR systems can pose an extra challenge. Ballot structure can mediate the relationship between incumbency and electoral performance (Dettman, Pepinsky and Pierskalla, 2017; Folke, Persson and Rickne, 2016). If parties can somehow influence the sequence in which voters see candidates on the ballot—which, in turn, works as a heuristic for voters (Miller and

⁶Based on this reasoning, Samuels (2003) argues that qualified federal representatives in Brazil would have almost no incentive to seek reelection and, as a result, would end up running for different offices in the future, particularly executive positions at the local level in which they would have higher budget access and policy influence.

Krosnick, 1998; Golden and Picci, 2015)—it becomes difficult to disentangle the effect of partisan politics from incumbency advantage. In reality, a candidate’s position on the ballot is likely the product of incumbency too. But this position also reflects a politician’s level of influence in her party, which cannot be directly observed. Either by creating post-treatment bias or by inducing omitted variable bias, the ability of parties to affect candidates’ order on the ballot confounds the estimate of incumbency advantage.

OLPR elections in Brazil are appropriate for estimating the effect of incumbency on electoral performance because voters do *not* see an actual party list of candidates at any point during the campaign. At the voting booth, there is only a voting machine. There is no party list with the name or number of candidates ranked by any order. To cast a ballot, voters must enter the number of their favorite candidate—or party if they want to express a partisan preference regardless of the candidate. Hence, PR elections in Brazil provide an opportunity to estimate the effect of incumbency on voters without the confounding influence of parties’ decisions on ranking candidates before the election. Moreover, incumbents cannot use their position on the ballot to obtain an advantage. Therefore, if there is an incumbency effect in Brazil, it is likely to exist in other countries that use preferential PR elections.

In addition, Brazilian elections for state and federal legislatures occur in vast districts—the Brazilian states—with high magnitude and densely populated areas. According to conventional wisdom in the literature, these characteristics would make incumbents extremely vulnerable to electoral competition (Ariga, 2015; Redmond and Regan, 2015). Too many contenders, including co-partisans and other incumbents, can seek votes in localities that previously supported an incumbent. Yet, I expect that incumbents can take advantage of this environment to become widely known in the state and cultivate new political ties. Like in SMD elections, incumbents in preferential PR systems have access to office-derived resources and political influence that may increase their chances of electoral success. In large districts with multiple potential constituencies, incumbents can use these resources to expand their electoral bases to other areas. They adopt this expansionist strategy to either consolidate their status quo as incumbents or become viable op-

tions in elections for higher offices: federal deputies for state-level representatives and senators or governors for current federal deputies (Meireles, 2019).

Based on this reasoning, I expect that incumbents enjoy an overall advantage in PR systems with preference votes. Even in this environment with large districts, personalized campaigns, intra-party competition, diluted media attention, and multiple challengers, incumbents are political entrepreneurs who will use their office, resources, and influence to improve their electoral prospects. This leads to my first hypothesis:

Hypothesis 1. *In preferential PR elections, incumbents will have a better electoral performance than their challengers.*

Vast districts with large electorates in preferential PR elections imply that *no* candidate gets a vote share that approximates the majority of votes. For this reason, there is always room for growth: A candidate can adopt an electoral strategy to enlarge her support across other areas in the district. As political entrepreneurs, incumbents exploit this opportunity to consolidate their careers as political leaders. Thus, I expect that part of the incumbency advantage in preferential PR elections stems from incumbents' ambitions to cultivate new connections and expand their electoral bases:

Hypothesis 2. *In preferential PR elections, incumbents are more likely to gain new electoral bases in the next election than challengers who also participate in two consecutive elections.*

This expansionist strategy could, however, come at a high price. Once they hold a legislative office, incumbents' ties to their initial electoral bases could get looser than the connection of other candidates with their constituencies. That would happen because incumbents must focus on legislative debates and, in their strategy to expand political support, attend to the demand of voters from other regions in the district. Moreover, as members of a state or federal legislative body, they are physically detached from their constituencies for a significant amount of time. Combined with the fact that there are too many candidates seeking votes in areas that previously supported an incumbent, this distance from the constituency could make the electoral bases of an incumbent

vulnerable to strong challengers. This is the expectation of conventional wisdom about the weakness of incumbents in preferential PR systems. However, as legislators, incumbents have political leverage that they can use to implement an expansionist strategy without losing track of their previous bases. In particular, they can channel public spending to specific constituencies and influence the allocation of party resources before and during electoral campaigns. As such, I expect that:

Hypothesis 3. *In preferential PR elections, incumbents are more likely to preserve or even increase their political support in previous electoral bases across successive elections than challengers who also participated in two consecutive elections.*

2.2.1 Parties, Resources, and Electoral Advantage

Among the sources of electoral advantage incumbents can mobilize in their favor, scholars studying preferential PR elections often neglect the importance of political parties. The personalization of electoral campaigns resulting from intraparty competition led previous works to conclude that political parties in preferential PR systems are weak organizations, unable to convey a coherent message to voters, coordinate the contest among co-partisans, and benefit individual candidates aligned with the parties' preferences (Carey and Shugart, 1995; Ames, 1995*a,b*; Mainwaring, 1999; Bergman, Shugart and Watt, 2013). Thus, based on inferences about the consequences of the electoral formula, this view assumes that political parties are nearly irrelevant to electoral competition in preferential PR elections. By underestimating the role of political parties, scholars lose sight of the fact that even under highly personalized competition, parties are political organizations with the ability to control crucial electoral tools. This is particularly true in electoral systems where parties employ large amounts of public resources in electoral campaigns (Katz and Mair, 1995, 2009).

The Brazilian party system is irrigated by a profusion of public resources coming from two major sources, the Party and Electoral Funds (*Fundos Partidário e Eleitoral*) and the subsidized electoral time on television and radio (*Horário Gratuito de Propaganda Eleitoral*). Money from the Party Fund is distributed to parties every year. Between 2010 and 2018, 5% of the Fund was equally allocated among all parties and 95% in proportion to the share of votes each party received

in the last election to the Federal Chamber of Deputies—the equivalent of the U.S. House of Representatives. Between 2014 and 2018, the Fund more than doubled, going from approximately US\$371 to US\$244 million (Mota, 2019).⁷ Political parties are free to use these resources as they wish as long as they have reported to the Superior Electoral Court (*Tribunal Superior Eleitoral*) their previous year’s expenses (Cheibub et al., 2022). As with the Party Fund, the electoral time is distributed among parties in two proportions: 5% of the time is equally assigned to all parties, and another 95% is proportionally allocated according to their vote shares for the Chamber of Deputies. The law mandates that several weeks before election day, all TV and radio networks must dedicate time twice a day for electoral propaganda. Parties, in turn, can freely allocate their TV and radio time for PR elections to candidates within their list.

Descriptive statistics from legislative elections in Brazil suggest that parties strategically allocate radio and TV time as well as resources from Party Fund to their candidates (Albuquerque, Steibel and Carneiro, 2008; Quadros and Costa, 2017; Dolandeli and Tanaka, 2019). As rational actors dealing with scarce resources, it should be no surprise that party leaders manage campaign resources at their disposal in a manner that may (i) maximize the number of seats the party will win and (ii) enhance their own chances of electoral success.⁸ Incumbents gain political leverage to negotiate with parties and are likely to even become party leaders due to their participation in the policy-making process as legislators. As such, an incumbent will take advantage of this position to influence the allocation of electoral resources available to her political party in such a way that will favor her candidacy.

Therefore, I predict that candidates running for reelection will receive more electoral resources from political parties than their challengers. This is a mechanism through which incumbents can obtain an electoral advantage in preferential PR elections. After presenting results that corroborate my three Hypotheses about incumbency advantage, I test this expectation with the distribution of

⁷Moreover, in 2017 Congress approved the Electoral Fund in response to a Brazilian Supreme Court’s decision abolishing corporate contributions to candidates and parties. This new Fund did not affect the Party Fund, which came into force in 1965 during the military dictatorship. But the Electoral Fund distributed another US\$465 million to political parties during the 2018 election.

⁸Cheibub et al. (2022) show that marginal candidates in OLPR elections move to small parties in their districts in order to “become a big fish in a small pond” and direct party resources to their campaigns.

Party Fund money among candidates running for federal and state representatives.

I also investigate another strategy incumbents can adopt to optimize their electoral prospects in preferential PR systems. Recent works demonstrated that parties manage competition among co-partisans in OLPR elections (Cheibub and Sin, 2020; Cheibub, Junqueira and Moreira, 2023). They do so by limiting the number of strong candidates on the party list and choosing those candidates whose electoral bases do not geographically overlap. Given their leverage in partisan politics, I expect that an incumbent will influence the enlistment of candidates on her party list such that few co-partisans will have political support and seek voters in localities that are her electoral bases. I investigate this mechanism later using a measure of competition among co-partisans proposed by (Cheibub, Junqueira and Moreira, 2023) to test whether incumbents face less intraparty competition than challengers.

After briefly presenting the chief features of Brazilian legislative elections in the next section, I explain how I employ spatial analysis to estimate candidates' electoral bases and how I use this information to test my hypotheses.

2.3 Legislative Elections in Brazil

State and federal representatives in Brazil are selected in OLPR elections every four years. Elections for the president, governors, and senators also follow the same calendar, but they are majoritarian elections. Two years after state and national contests, voters must choose their local representatives—mayors and city councilors—in municipal elections. The rules are identical for the Federal Chamber of Deputies (*Câmara dos Deputados*) and the twenty-seven State Legislative Assemblies (*Assembleias Legislativas*). The only difference between these two levels is the district magnitude. Districts are geographically identical—they are conterminous with the twenty-six Brazilian states and the Federal District, *Brasília*—but states return between 8 and 70 representatives to the Federal Chamber of Deputies, while the magnitude of their Legislative Assemblies ranges from 24 to 94 members. With this exception, the major electoral rules are the same across districts and have remained relatively constant between 1990 and 2018. According to conventional

wisdom, large districts and high magnitude in Brazilian elections will expose incumbents to extreme vulnerability: too many candidates, including co-partisans and other incumbents, can seek voters in areas that previously supported an incumbent.

Like in any other OLPR system, preference votes determine the electoral success of candidates. However, different from OLPR elections used in other countries such as Poland and Chile, Brazilian voters do *not* see any party list of candidates on the ballot or at the voting booth. They must type the number of their candidates in the voting machine. Thus, parties allow a set of individuals to compete under their label but do *not* rank these candidates in any manner before the election. As mentioned in the previous section, this feature of the Brazilian OLPR system isolates a potential incumbency advantage from party leaders' influence over the rank of candidates on election day. Alike every PR system with personal votes—including flexible and free lists—the open-list ballot structure in Brazil tends to provoke personalized electoral campaigns rather than partisan and policy-oriented ones. The fact that voters do not observe the lists of candidates can be even more conducive to political personalization because voters do not see a partisan clue on the ballot, and a candidate must convince voters to memorize or note down her number. Under this rule, incumbents and other party leaders cannot use the pre-election ranking of candidates on the ballot to obtain an electoral advantage.

Until 2018, parties could form electoral alliances to contest PR elections in Brazil. By this electoral rule, two or more parties were allowed to merge their candidates into a single list.⁹ Besides the mechanical bias of this rule benefiting small parties at the expense of large ones (Calvo, Guarnieri and Limongi, 2015), coalitions increased the uncertainty marginal candidates faced and allowed the survival of small parties that these candidates could activate to increase their chances of being elected (Cheibub et al., 2022; Borges, Turgeon and Albala, 2021; Dantas and Praça, 2010; Machado, 2005).¹⁰ Yet, Cheibub and Sin (2020) demonstrate that coalitions did *not* constrain the ability of parties to select their candidates in Brazilian OLPR elections. That is, coalitions did not

⁹For further information on the coalition rule, see Nicolau (2007).

¹⁰Limongi and Vassalai (2018) show that majoritarian elections—particularly those for governors and, secondarily, for president—drove the formation of pre-electoral coalitions in Brazilian OLPR elections.

make Brazil an exception regarding incumbency advantage in PR elections.¹¹

In sum, Brazilian elections for federal and state representatives combine features that, according to previous studies, would make incumbents extremely vulnerable in preferential PR systems. First, geographically large districts with densely populated areas and high magnitude increase the number of candidates and constituencies where they can campaign. An incumbent's electoral bases could be assaulted by a large number of candidates, including her co-partisans. Secondly, the ballot structure without any list of candidates induces personalistic electoral campaigns and hinders parties from any candidate ranking before the election. These conditions make Brazil an ideal case to investigate incumbency advantage in PR systems and how it relates to their electoral strategies. While previous works would expect them to make incumbents vulnerable in an environment of high and personalized competition, I predict that these conditions create the scenario where incumbents can take advantage of their status to build new political connections, search for votes in new localities, and, as a result, enhance their electoral prospects. In the next section, I present the data and my empirical strategy to test Hypotheses 1, 2, and 3.

2.4 Empirical Strategy: Data and Model Specification

To test my hypotheses about the effects of incumbency on *expanding* and *preserving* the constituency—Hypotheses 2 and 3 respectively—I use election results aggregated at the polling station (*locais de votação*) in all 27 Brazilian districts in three consecutive elections for federal and state representatives: 2010, 2014, and 2018.¹² These locations were coded by Junqueira (2022) who geo-located 68,327 polling stations all over Brazil. Figure 2.1 shows the distribution of these polling stations across the Brazilian territory. Most polling stations are near the coast, where densely populated areas are located. In the North of the country, where the rainforest is, polling stations tend to follow the Amazon River.

Polling stations usually contain multiple electoral sections. Each section, in turn, corresponds to a voting booth (*cabine de votação*) with a voting machine (*urna eletrônica*). The number of

¹¹In effect, coalitions are a common occurrence in electoral politics (Bunker, 2019; Golder, 2006).

¹²Data from the Superior Electoral Court (TSE).

voters per electoral section is uniform but less so across polling stations. However, the variation in the number of voters in polling stations is never as high as the one observed across municipalities or sub-state regions—the levels at which most studies of Brazilian elections have been conducted so far (Avelino, Biderman and Silva, 2016; Silva, 2017; Constantino, Cooperman and Moreira, 2021).¹³

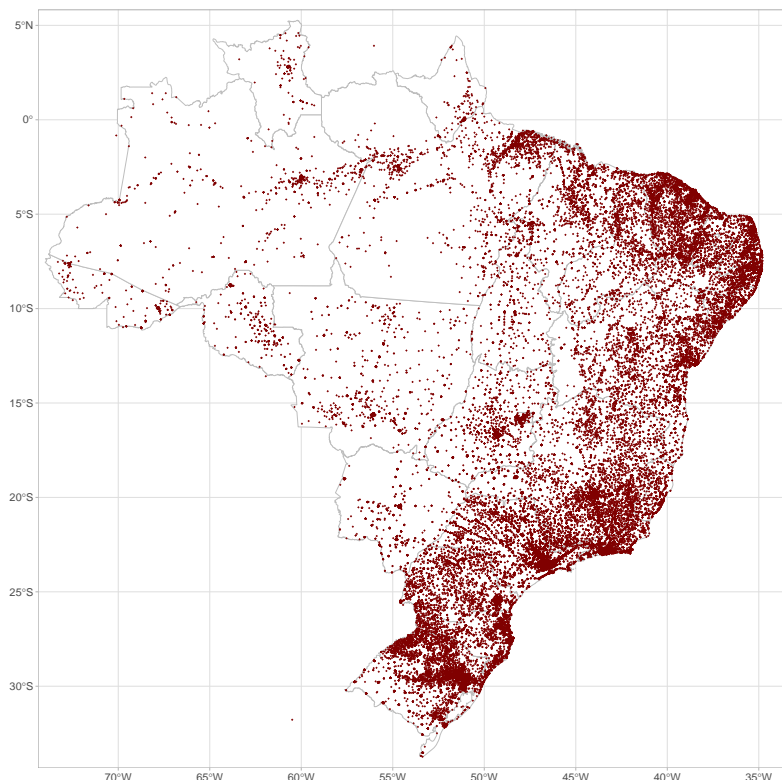


Figure 2.1: Geo-Located Polling Stations in Brazil

Note: Dots show the location of polling stations across Brazilian states.

Immediately after 5 pm on election day, when polling stations close, results are aggregated by each voting machine. The Superior Electoral Court (*Tribunal Superior Eleitoral*), which is the public entity responsible for administering the elections in Brazil, publishes the official outcomes

¹³Electoral sections have a minimum and a maximum number of voters. The minimum number is typically 50 voters, and the maximum is typically between 350-400 voters. For more information, see article 117 of *Código Eleitoral*.

on its website by electoral section. For the analysis in this paper, these election results were aggregated by geo-located polling stations.

Since I am interested in candidates' spatial distribution of votes, my basic information is the number of votes for candidate i at the polling station p in election $t - 1$, the previous election when a candidate could be assigned to the treatment group (incumbency) at time t . Then, I add to these data information on the spatial distribution of candidates' votes in election t to compute the number of *new* hotspots—localities where a candidate performed well at t but not at $t - 1$ —and the average percentage vote change in *old* electoral bases—localities that where candidate i 's hotspot at $t - 1$ and may or may not be her hotspots in election t .

2.4.1 Estimating Candidates' Hotspots

To find a candidate's electoral bases, I follow Cheibub, Junqueira and Moreira (2023) and use spatial analysis to estimate electoral *hotspots*. This technique computes the local Getis-Ord statistic (G_{ipt}) for each candidate i ($i = 1, 2, \dots, N$) in polling station p ($p = 1, 2, \dots, P$) in election t (Getis and Ord, 1992, 1995). The local Getis-Ord provides a measure of spatial clustering of a candidate's vote. A locality with a high G_{ipt} is a polling station, p , where i received a relatively high number of votes at t , and it is surrounded by other localities where the same candidate also received a relatively high number of votes in the same election. This is a hotspot of candidate i , which I call H . A low G_{ipt} , in turn, indicates a polling station where i received relatively few votes surrounded by polling stations where the same candidate also received relatively few votes. These are a candidate's *cold spots* (L). Candidates can also have localities where they have a relatively high number of votes surrounded by localities where they received relatively few votes, or vice-versa. Because I am interested in identifying electoral bases—areas where a candidate had a relatively good performance in the district—I follow Cheibub, Junqueira and Moreira (2023) and

classify each observation with a candidate and a locality as

$$G_{ipt} = \begin{cases} H, & \text{if } p \text{ is } i\text{'s hotspot at } t \\ L, & \text{otherwise} \end{cases} \quad (2.1)$$

Once I estimate hotspots (H) at $t - 1$ and t for all candidates who contested both elections, I compute for each candidate *the number of new hotspots* and the average percentage vote change between $t - 1$ and t in *old hotspots*. The former indicates the number of polling stations that were a candidate's hotspot at t but not at $t - 1$. The latter compares the performance of the same candidate in localities that were her hotspots at $t - 1$, and they may or may not be her electoral bases at t . With these measures, I can test Hypotheses 2 and 3 respectively. I create these variables for each one of the 8,380 individuals who ran for state or federal representatives in at least two consecutive elections between 2010 and 2018. Among these candidates participating in successive elections, 2,374 were elected at time $t - 1$ and therefore they are incumbents at t .

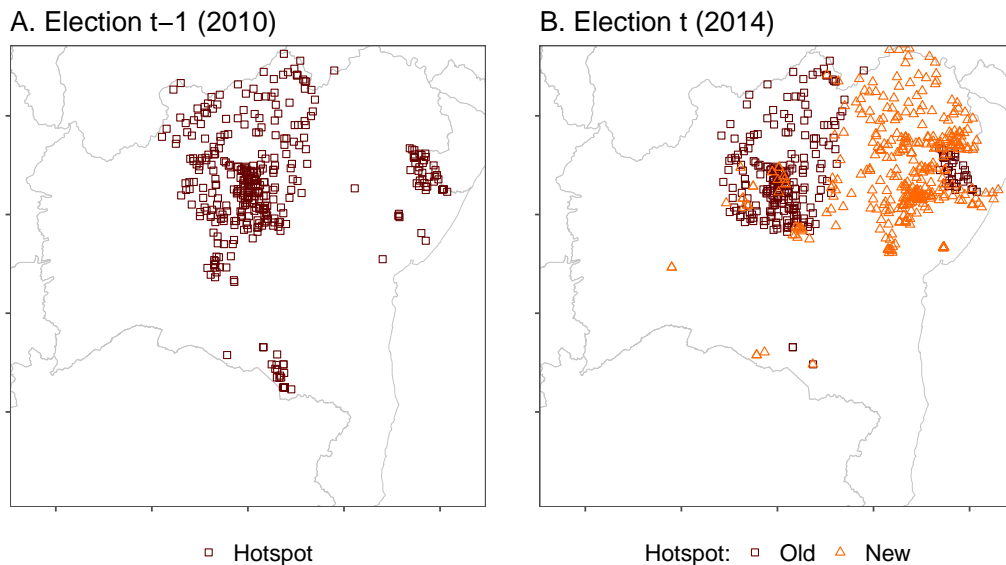


Figure 2.2: A Candidate's Hotspots in Two Consecutive Elections

Note: Candidate 2288's hotspots in two consecutive elections—2010 and 2014—for federal representative in the State of Bahia.

Figure 2.2 shows map illustrations of the distribution of hotspots of a candidate for federal representative in the State of Bahia in two consecutive elections—2010 and 2014. Panel A contains the hotspots in 2010 (election $t - 1$). In Panel B, orange triangles indicate new hotspots. These new electoral bases bridge two areas where this candidate performed well at time $t - 1$. The number of these hotspots is the outcome I use to test Hypothesis 2 about incumbents’ ability to expand their electoral bases in preferential PR elections.

To test Hypothesis 3 about the ability of incumbents to preserve their electoral bases across successive elections, I look only at old hotspots—in Figure 2.2, those are the polling stations that were candidate 2288’s hotspots in 2010—and compare the performance of the same candidate over time, using the average percentage vote change for this candidate between $t - 1$ and t .

2.4.2 Empirical Models and Causal Identification

The initial strategy I use to test my theoretical expectations about incumbency advantage in PR elections consists of regressing each outcome variable at time t on an indicator of whether candidate i won a seat in election $t - 1$ plus a set of control variables, as follows:

$$Y_{it} = \rho D_{it-1} + \beta \mathbf{x}_{it} + \alpha \text{Cdq}_{it-1} + \delta \log(\text{MD})_i + \lambda \text{State}_i + \theta \text{Elec2014}_i + \phi V_{it-1} + \epsilon_{it} \quad (2.2)$$

where the outcome Y_{it} varies according to the hypothesis to be tested:

$$Y_{it} = \begin{cases} \text{Probability of Being Elected at } t & \text{(Hypothesis 1)} \\ \text{New Hotspots (log)} & \text{(Hypothesis 2)} \\ \text{Average \% Vote } \Delta \text{ in Old Hotspots (log)} & \text{(Hypothesis 3)} \end{cases} \quad (2.3)$$

In order to test Hypothesis 1 about the overall incumbency effect on the electoral performance, I use the probability of being elected at time t ¹⁴. As mentioned above, I use the number of new

¹⁴Figures in Appendix A show results from models that use the percentage change in votes for candidates as the outcome. The variable is calculated as $\Delta \text{Votes} = \frac{\text{Votes}_{it} - \text{Votes}_{it-1}}{\text{Votes}_{it-1}}$. I log-transformed this variable because it was extremely skewed. See Figure A.4. The main results do not change if I use the variable without the log transformation.

hotspots to test Hypothesis 2 about the capacity of incumbency to expand their electoral support to new localities in the district.¹⁵ Finally, to investigate whether incumbents are able to preserve their previous electoral bases (Hypothesis 3), I use the average percentage vote change in old hotspots.¹⁶

The treatment, D_{it-1} , intends to capture the effect of incumbency by measuring whether i was elected at $t - 1$:

$$D_{it-1} = \begin{cases} 1, & \text{if } i \text{ was elected at } t - 1 \\ 0, & \text{otherwise} \end{cases} \quad (2.4)$$

The controls include a set of political and demographic features of candidate i , which is represented in Equation 2.2 by the vector \mathbf{x}_{it} and comprises: indicators of whether the candidate is running for federal or state representative at time t , whether i has changed party between elections $t - 1$ and t , whether i is running at t for a different office from the one at $t - 1$, the candidate's gender, the log-transformation of candidate's age, an indicator of whether i attended an institution of higher education, and an indicator of whether i was already an incumbent at $t - 1$. Cdq_{it-1} measures the candidate's electoral performance at time $t - 1$ as a percentage of the district quota. It is computed as the ratio of a candidate's personal votes to the district quota, that is, to the number of votes necessary to win a seat. \mathbf{State}_i is a vector of district fixed effects that informs the state where candidate i contests. $\log(\text{MD})_i$ is the log-transformation of the district magnitude. Elec2014_i indicates whether t corresponds to the 2014 election rather than the 2018 contest. V_{it-1} is either the log of i 's preference votes at $t - 1$ —when testing Hypothesis 1—or the log of i 's hotspots at $t - 1$ —when testing Hypotheses 2 and 3.¹⁷ Finally, ϵ_{it} is an error term and the other Greek letters are a set of parameters to be estimated. Per this model specification, ρ represents the effect of incumbency on outcome Y_{it} .

¹⁵Because of its skewness, this variable was also log-transformed. See Figure A.5. The main results are robust to models that use the level of new hotspots.

¹⁶It is calculated as $\Delta \bar{V}otes_{io} = \frac{\sum_{P_o}^1 \left(\frac{Votes_{iot} - Votes_{iot-1}}{P_o} * 100 \right)}{P_o}$, where P_o indicates the subsample with i 's old hotspots. To deal with its skewed distribution, this variable was also log-transformed. But results are robust to its level values.

¹⁷This covariate intends to address the issue of the dispersion of votes for candidates in the district. The geographic distribution of votes for a candidate is wider among those elected (Avelino, Biderman and Silva, 2016). The number of hotspots is a proxy for this dispersion. Matching analyses and RDDs, in turn, assume that the candidates being compared are similar in terms of their previous electoral performance.

Even with all the controls, Equation 2.2 cannot rule out the possibility that omitted variables could drive the results. There may exist differences between elected candidates and those who failed at time $t - 1$ that cannot be measured, including name recognition, previous experience, and access to campaign resources. Indeed, Panel A in Figure A.1 shows that elected and non-elected candidates at time $t - 1$ are systematically different. As one would expect, the electoral performance of candidates—measured with a candidate’s percentage of the district quota, Cdq_{it-1} —is substantially higher among elected.

As a first strategy to deal with this problem, I implement matching analyses that compare treated (elected) and untreated (nonelected) candidates with similar electoral performances at time $t - 1$. To ensure the most similar set of candidates across treated and untreated groups, I limited the sample to those who received preference votes equivalent to a number between 0.2 and 0.4 of a district quota at time $t - 1$. After matching this subsample of candidates on their share of district quota (Cdq_{it-1}) using propensity scores, we are left with 1,146 observations across 573 pairs of treated-untreated candidates. Panel B in Figure A.1 shows that elected and non-elected groups of candidates are much closer to one another in terms of electoral performance at time $t - 1$.¹⁸

Despite being similar, the two groups are not completely balanced in the matching analyses. Further, this strategy cannot rule out the possibility of omitted variable bias. To ensure my results are not spurious, I estimate the effects of incumbency with a regression discontinuity design (RDD), which has become the traditional approach to studying incumbency advantage and elections in general (Lee, 2008; Eggers and Hainmueller, 2009; Caughey and Sekhon, 2011; Eggers et al., 2015). My RDD strategy uses the threshold of electability in OLPR elections proposed by Cheibub et al. (2022). The authors define marginal candidates in PR systems as those whose personal votes place them close to the number of votes received by the last elected candidate in the district. The electoral success of candidates close to this threshold is uncertain and depends on factors they cannot control, such as the pooling of votes across multiple party lists in the entire district (Cheibub et al., 2022, p. 5).

¹⁸The average share of district quota (Cdq_{it-1}) is equal to 0.32 among elected candidates and 0.30 for non-elected ones.

Using the number of votes received by the last elected candidate in election $t-1$ and district i as the threshold of electability, I can estimate fuzzy RDDs. In this design, the probability of receiving the treatment D_{it-1} “needs not to change from 0 to 1” at the cutoff (Imbens and Lemieux, 2008, p. 619). Rather, the design allows for a smaller jump in the probability of receiving the treatment. This is precisely the case with the threshold of electability in OLPR. One of the characteristics of this system is that there is *no* fixed threshold of votes to determine a candidate’s success.

As Figure 2.3 shows, candidates before the last elected candidate at time $t-1$ have *no* probability of receiving the treatment—winning a seat at $t-1$. At the threshold, this probability jumps to 30% and keeps increasing with the performance of the candidate at $t-1$. Yet, this candidate cannot be assured of success. If her preference votes do not achieve the district quota, she may not be elected depending on (i) the pooling of votes across all lists and (ii) her post-election rank of votes within her party list. Therefore, a fuzzy RDD is suitable precisely for this kind of situation.

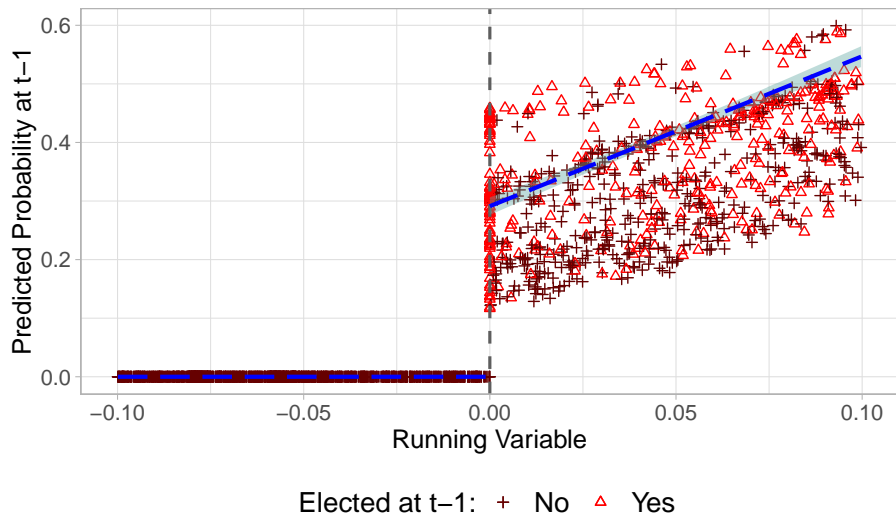


Figure 2.3: Predicted Probability of Treatment Around the Cutoff

The implementation of a fuzzy RDD is similar to a two-stage least squares instrumental variable

setting:

$$\begin{aligned}
 D_{it-1} &= \gamma_1 \text{RV}_{it-1} + \gamma_2 \text{AC}_{it-1} + \omega_{t-1} \\
 Y_{it} &= \rho \hat{D}_{it-1} + \beta \mathbf{z}_i + \epsilon_{it}
 \end{aligned}
 \tag{2.5}$$

where the first stage regresses the treatment D_{it-1} on the running variable and RV_{it-1} and an indicator of whether candidate i received a number of votes above the cutoff AC_{it-1} . In the present setting, RV_{it-1} is the centralized distance between the last elected candidate in the district and candidate i , which marks the cutoff. The second stage uses predicted values of the treatment (\hat{D}_{it-1}) to estimate the effect of incumbency on the outcome around the threshold of electability. In Equation 2.5, \mathbf{z}_i contains the set of control variables from Equation 2.2.

Panels in Figure 2.4 plot the discontinuity around the threshold of electability for each outcome measured at t . Before the cutoff, the blue dotted line is the local regression among unsuccessful candidates at $t - 1$. Above the cutoff, it is the local regression among candidates that won a seat at $t - 1$. It is possible to observe a discontinuity in all four panels, which indicates that the treatment—being elected—has a local effect on this outcomes.¹⁹ In Appendix A, I present results from various robustness tests that confirm the validity of the RDD estimates.

The RDD strategy increases the confidence in the results' internal validity as it estimates the effect of incumbency on the electoral performance of candidates randomly placed around the threshold of electability. However, this strategy has a cost in terms of external validity. The local average treatment effect estimated from RDDs does not represent the incumbency advantage among candidates elected with a large margin of votes. Yet, an incumbency effect among the marginal and vulnerable candidates suggests that the advantage from winning a seat must be at least equal but probability greater among strong candidates. To address concerns regarding external validity, in the next section, I show estimates from OLS and matching analyses as well.

¹⁹Discontinuities in Panels C and D of Figure 2.4 look small, but the difference between the two local regressions is statistically significant at the threshold in both outcomes.

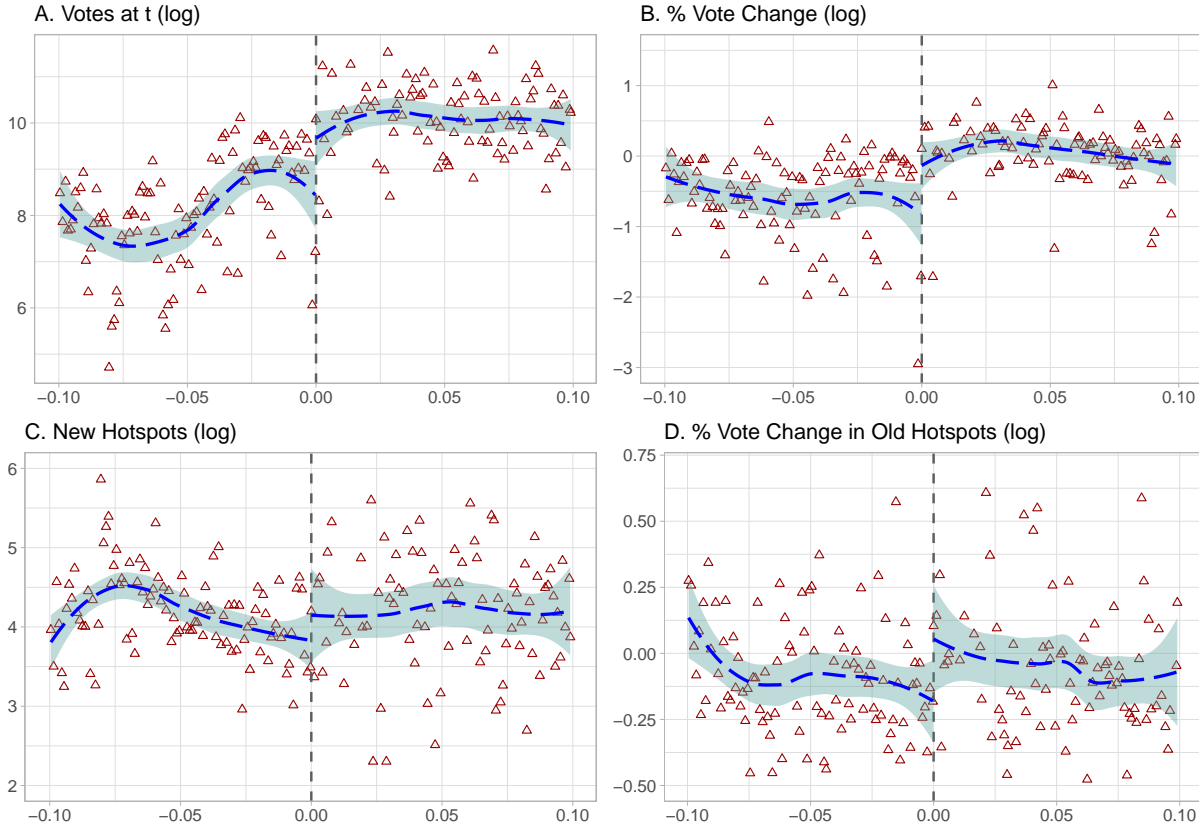


Figure 2.4: Discontinuity in Outcomes Across the Threshold of Electability

Note: Each panel shows the discontinuity in an outcome around the threshold of electability. Local regressions above the threshold use only the information of elected candidates at time $t - 1$.

2.5 Findings

In this section, I discuss the results of my empirical models. All figures in this section show coefficients for incumbency across three empirical strategies: OLS estimates from Equation 2.2, matching analyses that control for all covariates in Equation 2.2, and Fuzzy RDDs as per Equation 2.5. For substantive interpretation of the results, I focus on coefficients from the regression discontinuity designs.

2.5.1 Incumbency Advantage in OLPR Elections

In Figure 2.5, I present the overall effect on electoral performance. Colors and the horizontal axis indicate the empirical strategy. All models use the probability of being elected at time t as the

outcome. The coefficients are positive and statistically significant across all model specifications.²⁰ On the left side of Figure 2.5, the coefficient from the fuzzy RDD shows that an incumbent is 34% more likely to be elected than a challenger. These results support Hypothesis 1: There exists an incumbency advantage in preferential PR systems. Moreover, the magnitude of this effect is similar to the incumbency advantage observed in SMD systems (Lee, 2008; Uppal, 2010; Trounstein, 2011; Fowler and Hall, 2017).²¹

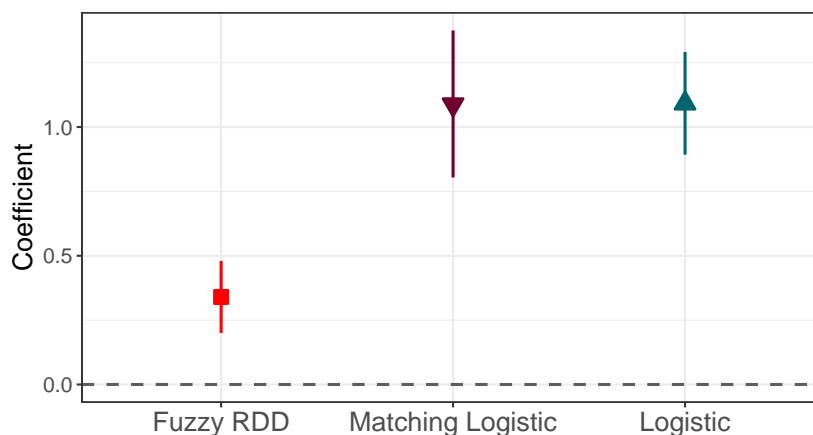


Figure 2.5: Overall Incumbency Effect on the Prob. of Being Elected at t

Note: The outcome variable is the probability of being elected at t . Fuzzy RDD estimated as per Equations 2.5. OLS and Matching analysis use Equation 2.2.

Next, I test Hypothesis 2 about the ability of incumbents to expand their electoral bases across successive elections. The dependent variable is the number of new hotspots that a candidate obtained in election t . Panel A in Figure 2.6 shows that incumbents conquer more electoral bases than their challengers. Again, coefficients for incumbency are positive and statistically significant

²⁰Figure A.7 in Appendix A shows that incumbents are also more likely to be elected than new challengers. To include candidates who are running at t for the first time, models in Figure A.7 do not control for the performance of candidates at $t-1$. Hence, we should expect that incumbents are, on average, systematically different from challengers in the full sample of candidates. For this reason, my main empirical strategies discussed in the last section look only at candidates who participated in two consecutive elections.

²¹Erikson and Titiunik (2015) warn that conventional RDDs may double-count the personal incumbency advantage in SMD elections.

across all model specifications. According to the result from the RDD, incumbents gain, on average, 75% more new hotspots than challengers.²² These results support therefore Hypothesis 2. In preferential PR elections, incumbents can enjoy an electoral advantage, in part, because they are able to expand their electoral support to other localities in the district.

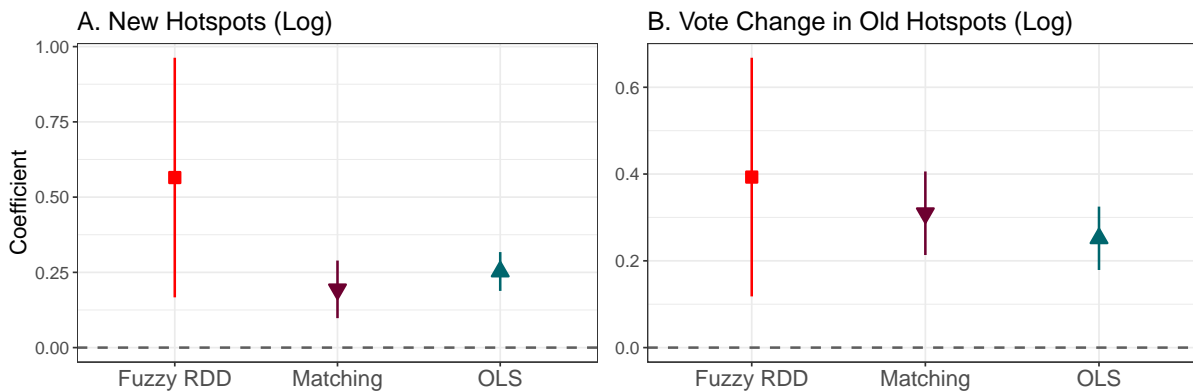


Figure 2.6: Incumbency Advantage and Electoral Bases

Note: The outcome variable in Panel A is the number of new hotspots—log-transformed. In Panel B, the outcome is the average percentage vote change in old hotspots—log-transformed. Fuzzy RDD estimated as per Equations 2.5. OLS and Matching analysis use Equation 2.2.

Finally, I test whether the expansionist strategy of incumbents would come at the price of losing support in their previous electoral bases. The outcome variable this time is the average percentage change in votes for a candidate between $t - 1$ and t in her old hotspots—localities that were her hotspots at $t - 1$. As Panel B in Figure 2.6 shows, it turns out that incumbents are more likely to preserve and even increase political support in their previous electoral bases. Once again, coefficients for incumbency are positive and statistically significant in all three empirical strategies. The RDD result shows that the change in votes for an incumbent in her previous electoral bases is 46% higher than the vote change for challengers in their respective old hotspots.²³ These findings

²²The percentage increase in the outcome in response to a unit change in treatment D_{it-1} —moving from challenger to incumbent—is calculated as follows: $(\exp(\hat{\rho}) - 1) * 100$.

²³Again, the percentage increase in the outcome in response to a unit change in treatment D_{it-1} —moving from challenger to incumbent—is calculated as follows: $(\exp(\hat{\rho}) - 1) * 100$.

support Hypothesis 3, demonstrating that incumbents can protect their electoral bases across successive elections. In other words, the expansionist strategy does not lead to a weakness in localities where a candidate performed well in the past.

Altogether, these results show that conventional wisdom about the lack of incumbency advantage in preferential PR systems is wrong. Incumbents enjoy an electoral advantage in these elections, and they can strategically expand their political support without facing the price of losing previous electoral bases. In Figure 2.7, I show that, as expected, both endeavors—increasing the number of new hotspots and increasing political support in old electoral bases—improve a candidate’s electoral prospects. For example, compared to a candidate who gained just two new hotspots, a candidate with 25 new electoral bases is approximately 10% more likely to be elected. Similarly, a candidate who increases her votes in old hotspots by 35% is about 10% more likely to win a seat than a candidate with a 10% vote increase in old electoral bases.

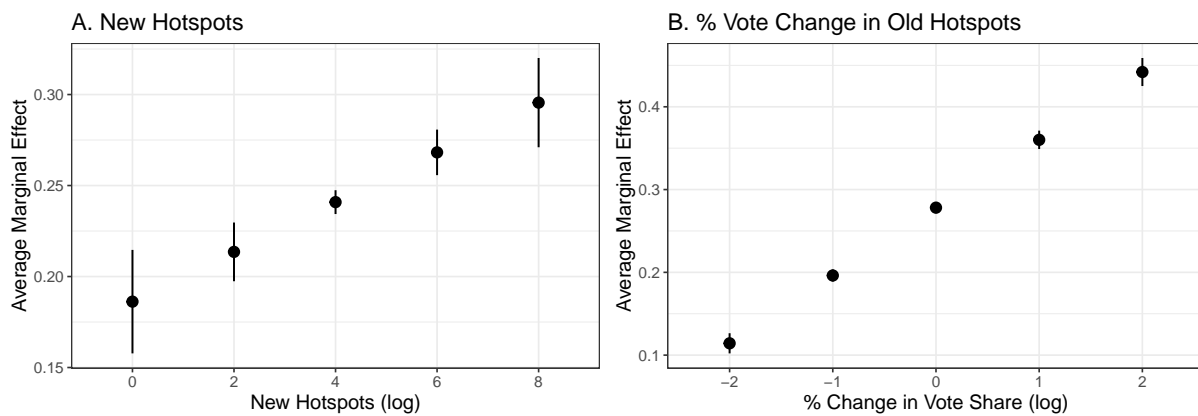


Figure 2.7: The Impact of New and Old Hotspots on Electoral Success

Note: Average marginal effects from models that regress the probability of being elected at t on the number of new hotspots, average vote change in old hotspots, and the set of covariates from Equation 2.2.

2.5.2 The Influence Over Political Parties

In this subsection, I investigate mechanisms incumbents can use to obtain an electoral advantage in preferential PR systems. More specifically, I explore whether they influence party decisions

about resource allocation and campaign coordination in ways that will increase their electoral prospects. Using data on how parties distributed resources from Party Fund among candidates in 2014 and 2018, I first test whether incumbents receive more party money for electoral campaigns than challengers.²⁴

Next, I compare the level of intraparty competition faced by incumbents and non-elected candidates. To do so, I employ the method proposed by Cheibub, Junqueira and Moreira (2023) to estimate competition between two candidates in PR elections with personal votes. This method consists of calculating the spatial overlap of electoral bases for a pair of candidates i and j using polling stations that are hotspots for both candidates. After estimating the electoral bases of each candidate i participating in two consecutive elections between 2010 and 2018, I count, in each hotspot of candidate i at time t , the number of co-partisans j who also had a hotspot in that locality. Then, I compute the average number of co-partisans in i 's electoral bases. This creates a measure of intraparty competition faced by each candidate. Given their political status, I predict that incumbents will influence the entry of candidates on their party list in a way that reduces the number of co-partisans cultivating electoral bases in their hotspots. Therefore, the measure of intraparty competition—the average number of co-partisans with electoral bases in a candidate's hotspots—must be lower for incumbents than challengers.

Figure 2.8 presents the coefficients for incumbency on the allocation of Party Fund money—Panel A—and intraparty competition—Panel B—across my three empirical strategies: OLS, matching analysis, and the fuzzy RDD. As expected, incumbents receive more resources from political parties and confront fewer co-partisans in their hotspots. In Panel A, the RDD estimate shows that an incumbent at the threshold of electability receives approximately US\$122,300.00 more from her party than a non-elected candidate.²⁵ According to the results in Panel B, there are fewer co-partisans with hotspots in incumbents' electoral bases than in challengers' ones.²⁶ The RDD

²⁴I am thankful to the Research Center for Comparative and International Studies (NECI) at the University of São Paulo for providing data on campaign financing.

²⁵Equivalent to R\$445,000.00 in 2019.

²⁶Panel B in Figure 2.8 shows preliminary results. I am still calculating intraparty competition in eight states in 2018—PR, PE, CE, BA, RS, MG, RJ, and SP—and for 250 candidates in the 2014 election in São Paulo.

estimate indicates that, on average, incumbents share hotspots with -1.1 co-partisan than other candidates.²⁷ This effect is not negligible. The median intraparty competition faced by candidates in 2014 was equal to 1.45. I am still computing the mean overlap among co-partisans in 2018. These findings demonstrate that incumbents in preferential PR elections use their influence over party decisions to obtain an electoral advantage.

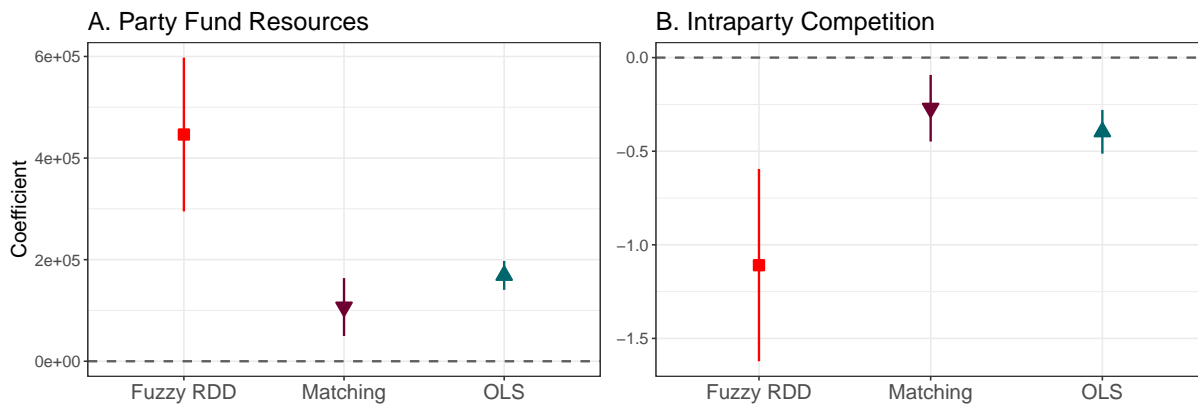


Figure 2.8: Incumbency Effect on Party Decision

Note: The outcome in Panel A is the amount of Party Fund money received by a candidate in Brazilian currency (R\$) adjusted for inflation in January 2019. In Panel B, the outcome is the average overlap between a candidate and her co-partisans. OLS and matching analysis control for the set of covariates in Equation 2.2. Fuzzy RDDs estimated as per Equation 2.5.

2.6 Conclusion

Brazilian legislative elections combine all the conditions that, according to the dominant view in the literature, would make incumbents extremely vulnerable in preferential PR systems. Geographically large districts with high magnitude, multiple potential constituencies, no ranking of candidates on the ballot, and personalized campaigns are expected to undermine any possibility of incumbency advantage. In this paper, however, I show that incumbents can obtain an electoral advantage even under these adverse conditions. In reality, they exploit these circumstances to expand their political support to other localities in the district.

²⁷In other words, challengers face 1.1 more co-partisans in their hotspots than incumbents.

In multi-member districts with large constituencies that typically form PR elections, no candidate receives enough votes to have anything close to a majority of the electorate. As such, there is always room for growth in the next election. Given their advantageous position, an incumbent can build political ties with other areas that did not comprise her electoral bases in previous elections. By adopting an expansionist strategy, incumbents can either consolidate their status as representatives or aspire to higher offices within the same district. My results confirm that representatives in Brazil enjoy an overall advantage similar in magnitude to the incumbency effect in SMD systems. Moreover, they are more likely to expand political support and, at the same time, preserve their previous electoral bases across successive elections.

The strategy of incumbents may depend on external features. Brazilian states encompass too many regions and constituencies where candidates can campaign to expand their political support. The competition for voters may be different when the district size is small, and physically expanding one's bases is not possible or productive. Although my results are robust to a sub-sample that excludes large districts—these with more than 40 seats—Brazilian states still comprise large territories with too many municipalities. Future research can investigate whether incumbents' strategies are a function of the district size and the spatial distribution of voters within it.

Besides showing the strategies incumbents employ to enhance their electoral prospects, I also investigate why they gain this advantage. Scholars often ignore that incumbents in preferential PR systems also have access to office-derived resources and political influence. Previous works assumed that competition among multiple incumbents and co-partisans would annihilate the potential effect of these factors on electoral performance. Yet, among other factors, incumbents can use their political position to influence party decisions. My results show that incumbents are able to affect both the allocation of party resources and the selection of candidates on the party list in such a way that benefits their candidacy.

Parties in Brazil control a substantial amount of public resources intended to subsidize electoral campaigns. In other preferential PR systems, parties may not manage as many resources as in Brazil. Nonetheless, we should not underestimate the ability of incumbents to obtain an electoral

advantage through other means. Brazilian PR elections provide further examples of how incumbents can exploit their status to increase their electoral chances (Boas and Hidalgo, 2011; Boas, Hidalgo and Richardson, 2014). Moreover, without additional resources, I show in this paper that incumbents shape the formation of their party lists to avoid co-partisans seeking voters in their electoral bases.

In addition to emphasizing the specific resources and strategies that incumbents can rely on, the analysis in this paper has a more general implication: The electoral formula alone does not determine the electoral performance of incumbents or the importance of political parties during elections. Other rules that establish the distribution of crucial resources shape the centrality of parties and create opportunities for incumbency advantage. As political entrepreneurs, incumbents will take advantage of possibilities that stem from office—including the influence they may exert over parties—to propel their careers.

3. IS IT STILL THE ECONOMY? ECONOMIC VOTING IN POLARIZED POLITICS

3.1 Introduction

In the 1992 presidential election, Bill Clinton’s campaign strategist, James Carville, coined one of the most quoted sentences in politics—“it’s the economy, stupid”—to emphasize that campaign workers should focus on the deteriorating situation of the economy under George H. W. Bush’s administration. The vast literature on economic voting suggests that economic performances influence election results and thus demonstrates the utility of Carville’s strategy (Lewis-Beck and Stegmaier, 2018). Voters reward incumbents at the polls when the economy prospers and punish them if it does not. Yet, a consistent finding in this literature demonstrates that the ability of voters to assign government responsibility for economic performances depends on the political context (Powell Jr and Whitten, 1993). Institutions and other factors that make up the political environment affect voters’ capacity to attribute blame or credit to the government.

Over the last decades, elite polarization has become a central feature in U.S. politics and many other countries that have experienced the rise of radical political leaders and parties (Hetherington, 2001; Bischof and Wagner, 2019). Previous works have shown that elite polarization can influence voting behavior, but we still do not have sound evidence about *how* polarizing politics impacts electoral accountability. Does the polarization of the political environment affect the link of representation between voters and elected officials? How do voters react to policy outcomes as politics becomes more polarized? There is evidence that elite polarization clarifies the ideological distance between major parties and stimulates motivated reasoning, thereby reducing the propensity with which voters rely on substantive information (Druckman, Peterson and Slothuus, 2013). Hence, I argue that polarized environments cloud both perceptions of and responsibility for government performances, lessening the impact of policy outcomes on voting.

In this paper, I investigate how polarization affects two channels through which economic voting can operate: voters can either (i) cast a ballot for the opposition or (ii) abstain in order to

express their dissatisfaction with incumbents. Based on previous studies on polarization (Graham and Svobik, 2020; Druckman, Peterson and Slothuus, 2013; Donovan et al., 2020), I theorize that the number of voters crossing party lines or abstaining in response to a deteriorating economy decreases as elite polarization increases.¹ Because polarized politics emphasizes the ideological difference between parties, induces partisan-motivated reasoning, and can bias economic perceptions, I argue that voters will tend to stick with their preferred party even when economic conditions indicate that they should desert it at the polls.

To test these hypotheses, I estimate models that split the electorate in presidential elections into three groups: voting for the incumbent party, the opposition, and abstention.² The results confirm that, under polarized politics, the number of voters punishing the party in government for poor economic conditions decreases. Even abstention becomes a weaker mechanism of economic voting when the environment gets more polarized. With survey data, I test *how* perceptions of polarization affect economic voting and *which* voters are more sensitive to this influence. I find that (i) perceived polarization reduces the probability that partisans negatively evaluate the economy under the administration of their preferred party and (ii) among those who can still have a negative economic assessment, perceived polarization decreases partisans' willingness to punish their party.

Four major contributions follow from these analyses. First, they demonstrate that polarization weakens electoral accountability. Voters are less inclined to penalize or reward the party in government for policy outcomes in polarized environments. Second, the paper shows that beyond moderating the effect of economic voting on the share of voters casting a ballot for the opposition, polarized politics reduces the number of those who abstain as a means to punish the incumbent party. It highlights that voters can use abstention to express dissatisfaction with the performance of incumbents, but polarization also narrows this channel of economic voting. Third, by estimating the impact of elite polarization on the electorate, this paper demonstrates that polarizing environments can be consequential to determining election results. Increasing polarization from a

¹Similarly, fewer voters will cast a ballot for the party in government in response to a prosperous economy when polarization is high.

²I use the terms "incumbent party" and "party in government" to refer to the President's party in U.S. politics. The opposition is the other major party competing for the Presidency.

moderate value observed until the early 1990s to a high value observed in the late 2000s reduces by half the negative effect of unemployment on the share of voters supporting the incumbent party. Finally, my survey analyses suggest that besides shaping how partisans evaluate economic performances, perceived polarization also affects partisans' propensity to hold their party accountable.

The paper unfolds as follows. In the next section, I discuss how voters respond to the economy in the context of polarization and derive hypotheses that guide my empirical analyses. In the third section, I present the aggregate-level data, explain how I model the compositional data to test my hypotheses, and discuss the results. In the fourth section, I use the American National Election Studies (ANES) data to test hypotheses about *how* partisans are affected by elite polarization in their electoral response to economic conditions. I conclude with a discussion of the theoretical implications of the results and how they may travel to other democracies that have been experiencing the radicalization of politics.

3.2 Polarized Politics and Economic Voting

Periodic elections are the chief mechanism linking citizens and their government. We expect that voters will manifest prospective and retrospective evaluations at the polls (Manin, Przeworski and Stokes, 1999). Prospectively, voters should assess which candidate proposes the best political agenda to deal with society's issues in the period following the election. Retrospectively, voters should evaluate the performance of political parties in office before the polls. Economic conditions prior to elections are the source of retrospective voting that has received the most attention in the literature (Healy and Malhotra, 2013; Lewis-Beck and Paldam, 2000; Kramer, 1971; Fiorina, 1978; Key, 1966). The economic voting theory predicts that citizens use the economy to inform their vote choice, rewarding (punishing) incumbents when economic conditions are prosperous (deteriorating). However, since the seminal work of Powell Jr and Whitten (1993), scholars have demonstrated that the ability of voters to attribute responsibility for economic outcomes depends on the political context (Palmer and Whitten, 1999; Anderson, 2000; Nadeau, Niemi and Yoshinaka, 2002; Bengtsson, 2004; Duch and Stevenson, 2008; Hobolt, Tilley and Banducci, 2013).

Institutions and political factors that make up the electoral context determine the “clarity of responsibility.” That is, the political context shapes the ease with which voters can assign blame or credit for economic outcomes.³

Over the last decades, polarization has become a salient feature of American politics and other democracies (Bischof and Wagner, 2019; Przeworski, 2019; Levitsky and Ziblatt, 2018). In the U.S. Congress, representatives follow party-line voting that reflects the ideological distinction between the two major parties (McCarty, Poole and Rosenthal, 2016; Jacobson, 2003). The polarization of the political environment has created a new field of empirical work that investigates the effects of polarized politics on voters’ attitudes and behavior. Scholars have demonstrated that elite polarization (i) induces partisan-motivated reasoning and, as a consequence, reduces the relevance of substantive information for voters’ decisions (Druckman, Peterson and Slothuus, 2013; Lodge and Taber, 2013; Donovan et al., 2020); (ii) makes voters less prone to punish politicians who violate democratic principles (Graham and Svobik, 2020); and (iii) clarifies ideological differences between parties, increasing the number of partisans and decreasing the share of voters switching between the two main parties (Hetherington, 2001; Smidt, 2017). Yet, we still know little about how these individual-level findings shape trends in the electorate, where patterns of voting behavior can drive election results as ballots are added up. Particularly, there is scarce evidence on how polarized environments affect electoral accountability. In this paper, I fill this gap to shed light on the impact of elite polarization on voting dynamics in response to economic performances.⁴

³Using institutional and power rules indices, Dassonneville and Lewis-Beck (2017) find that institutions do not “significantly deflect” the impact of economic growth on voting choice (2017, p. 534). Yet, their findings also corroborate a chief point of clarity of responsibility: factors that make up the political context can moderate the magnitude of economic voting.

⁴Ellis and Ura (2021) provide the first evidence that polarization decreases the impact of growth on the incumbent vote share. However, their empirical strategy has limitations. They analyze time-series data (17 elections) and do not account for stationarity. Also, the authors limit their study to the incumbent vote share. Hence, they cannot investigate which channel of economic voting—opposition, abstention, or both—drives the results. Although my empirical strategy employs a series for elite polarization, it seeks to overcome these limitations, at least in part, by using compositional outcomes and an economic indicator that vary across counties. The county-level data imply that the between-unit (cross sectional) variation of the outcome and the economic indicator in my analysis is larger than their within-unit (over time) variation. In addition to the lagged dependent variable in the aggregate-level strategy, this between-unit variation reduces the possibility of a spurious relationship due to time. Further, my aggregate-level results are robust to models that include a time-trend variable (see Figure B.6). Finally, I use survey data to test my hypotheses at the individual level and find similar results controlling for election fixed effects that exclude unobserved variables that change over time. All these tests enhance the confidence that the findings in this paper are not driven by

Voters willing to desert political parties in response to economic conditions are the sine qua non for economic voting. A set of voters must defect to the opposition or abstain when the economy deteriorates. Similarly, voters who otherwise would have voted for the opposition or abstained must reward the incumbent party when economic conditions prosper. Does this necessary condition of electoral accountability hold under polarized politics? Voters may still assess the economy in polarized environments (Ang et al., 2021), but polarization should decrease their willingness to attribute responsibility for economic performances (Ellis and Ura, 2021) as polarized politics detaches presidential approval from economic assessments (Donovan et al., 2020) and weakens the link between economic conditions and economic opinion (Goidel and Kellstedt, 2022). By influencing economic opinions, emphasizing the ideological difference between parties, and stimulating motivated reasoning, polarization is a contextual factor that moderates economic voting. Rather than assigning responsibility to their preferred (disliked) party for poor (good) economic performances, voters are likely to resort to motivated reasoning to accommodate party attachment and perceptions about the economy under polarized politics. In other words, voters stick with their preferred parties even when economic conditions suggest that they should desert it in the election. This is *the sticking effect* of polarized politics that weakens electoral accountability. In the following subsection, I discuss how polarization may affect both channels through which voters can respond to poor economic conditions: voting for the opposition and abstention.

3.2.1 How does Polarization Moderate Economic Voting?

Individual-level findings in the literature on polarization suggest that polarized politics has a chief effect on voting behavior: As the ideological distance between parties becomes more evident for a larger group of citizens, the number of swing voters decreases. Elite polarization clarifies the ideological position of political parties for ordinary citizens (Hetherington, 2001). As a consequence, voters can increasingly rely on partisan cues to make their decisions (Druckman, Peterson and Slothuus, 2013; Parker-Stephen, 2013). Rather than searching for information about the performance of incumbents and observing candidates' proposals, voters tend to assume that

time.

the ideological difference between parties suffices to inform voting choice. Among partisans and independents who lean towards one of the major parties, elite polarization enhances affective attachment to parties and stimulates motivated reasoning. Partisans, therefore, are less likely to waver in their support under polarized environments.

But the impact of polarization on voting behavior is not restricted to partisan voters. By illuminating the ideological divergence between parties, polarization also influences how independents, less-engaged voters—and even nonvoters—perceive candidates (Smidt, 2017). Since the influential work of Converse (1964), scholars have characterized voters who are prone to change their support as less informed, indifferent, or ambivalent (Zaller, 2004; Mayer, 2008). These voters are less likely to distinguish the different positions of political parties on policy issues. For this reason, they would be more responsive to new information such as the performance of incumbents (Key, 1966). However, as Smidt (2017) shows, independents are more likely to recognize the importance of parties' issue positions when polarization clarifies party differences. The recognition of parties' ideological differences reduces ambivalence among independent voters, who also become less likely to move across party lines in successive elections.

In terms of economic voting, these processes induced by polarization lead to the expectation that the number of voters defecting to the opposition to punish incumbents for a poor economy decreases as elite polarization increases. Similarly, voters who identify with the opposition become less likely to cast a ballot for the party in government when the economy prospers. In other words, voters tend to stick with their parties in polarized politics even if economic conditions indicate that they should switch parties at the polls. Empirically, this expectation leads to the first hypothesis of this paper:

Hypothesis 1. *Elite polarization reduces the percentage of voters selecting the opposition to punish the party in government for poor economic conditions.*

Besides affecting vote choice, polarization can also influence participation.⁵ When politics is

⁵Hypothesis 1 also implies that polarization reduces the number of voters deserting the opposition to reward the party of the President when the economy prospers. However, to facilitate the interpretation of the economic indicator I use in my empirical model (unemployment), Hypothesis 1 emphasizes the impact of polarization on the flow of voters from the incumbent party towards the opposition in response to poor economic conditions.

polarized, what is at stake in the election tends to be higher because the distance between parties' policy agendas is larger and sharper. Also, as mentioned before, more voters can notice this ideological difference and thus become more concerned about election results. Additionally, affective polarization makes the victory of a party excessively costly for those voters who dislike it—particularly if voters perceive candidates in the other party as extremists (Hall and Thompson, 2018). Finally, the social pressure to participate in polarized environments tends to be high as polarization enhances the number of politically engaged citizens. Social pressure and network are, in turn, crucial determinants of participation (Gerber, Green and Larimer, 2008; Sinclair, 2012; McClendon, 2014). For these reasons, the benefit from participating may increase for many citizens who are now more likely to notice and care about election outcomes (Downs, 1957). In a nutshell, polarized politics may increase political engagement and participation (Abramowitz, 2010; Hetherington, 2008). It follows from this expectation that:

Hypothesis 2a. *Elite polarization decreases the share of voters who use abstention to punish the party in government for poor economic conditions.*

Under low polarization, voters who are dissatisfied with economic outcomes but do not intend to support the opposing party can still opt for a third option: abstention.⁶ However, as the environment becomes more polarized, both the cost of abstaining and the benefit from participating should also increase. Therefore, fewer voters will abstain as a means to penalize their preferred party for negative economic conditions under polarized environments. Hypotheses 1 and 2a reflect my theoretical expectations of a sticking effect of polarization: Voters are less likely to blame their party for policy outcomes and thus desert it at the polls when politics is polarized.

Hypothesis 2a implies that turnout depends on the benefits voters link to election outcomes. These benefits are, in turn, a function of the set of candidates available in the race (Downs, 1957; Riker and Ordeshook, 1968). When the benefits voters associate with candidates in the choice set are low, these voters will be less likely to participate. Hence, abstention should be modeled as one

⁶Similarly, third parties with no chance to win the election could also be an option for those who want to express dissatisfaction with their preferred party but would not cast a ballot for the opposition. As these third options are not real contenders, voting for them is equivalent to a wasted vote. It can, thus, be used to express dissatisfaction with the two major options.

of the options available to voters at elections. Although the idea of abstaining as a voting option is not new, few empirical analyses incorporate abstention as an option voters can take whenever they are not satisfied with the choices on the ballot (Horiuchi and Kang, 2018; Weschle, 2014; Dostie and Dupré, 2012; Arzheimer and Evans, 2010). But, I am unaware of any work theorizing how abstention in response to economic conditions varies as a rational reaction of voters to the political context, particularly to increasing polarization.

There is, however, some evidence that polarization can also increase abstention (Rogowski, 2014). Although polarized environments stimulate partisan-motivated reasoning, scholars have found that some voters can still update their assessment based on incumbents' performance (Lewis-Beck and Stegmaier, 2018; Healy and Malhotra, 2013), candidates' characteristics (Stone, 2017), and new information (Peterson, 2017; Boudreau and MacKenzie, 2018). Particularly, weak partisans and independents would not rely solely on partisan cues to make their voting decisions even when they perceive the ideological distance between parties more objectively. Under polarized environments, they could still react to negative performances of their favorite party in managing the economy. Yet, the affective impact of polarization influences how they perceive the other party (Iyengar et al., 2019). To the extent they no longer see the other party as an alternative, abstention could be a more attractive option to express dissatisfaction with their favorite party in polarized politics. In this context, some voters would not see themselves represented by either side, although they may still prefer one major party to another. This expectation leads to an alternative hypothesis about the effect of polarization on abstention:

Hypothesis 2b. *Elite polarization increases the share of voters who use abstention to punish the party in government for poor economic conditions.*

This hypothesis represents *the expressive abstention effect* of polarization, which could increase the number of voters who choose abstention to signal that they are disappointed with how their preferred party managed the economy.

Hypotheses 2a and 2b describe opposite expectations about how elite polarization can affect abstention in response to economic conditions. These contradictory predictions stem from the fact

that the effect of polarizing politics on abstention depends on the ideological distribution of the electorate. In a hypothetical scenario in which voters' ideological distribution has a single peak between two polarized parties, moderates and partisan leaners who are disappointed with their preferred parties may choose to abstain. The other party is no longer an attractive alternative as it is too far away from their ideological positions. Panel A in Figure 3.1 depicts this context in which polarization can provoke expressive abstention. Yet, this scenario would also create the opportunity for entrepreneurial politicians to move towards the median voter (Downs, 1957). As a result, elite polarization should decrease over time, leading to a trend opposite to the one observed in the data.⁷ Hence, this hypothetical scenario, which is necessary to confirm the expressive abstention effect of polarization, would be out of equilibrium.

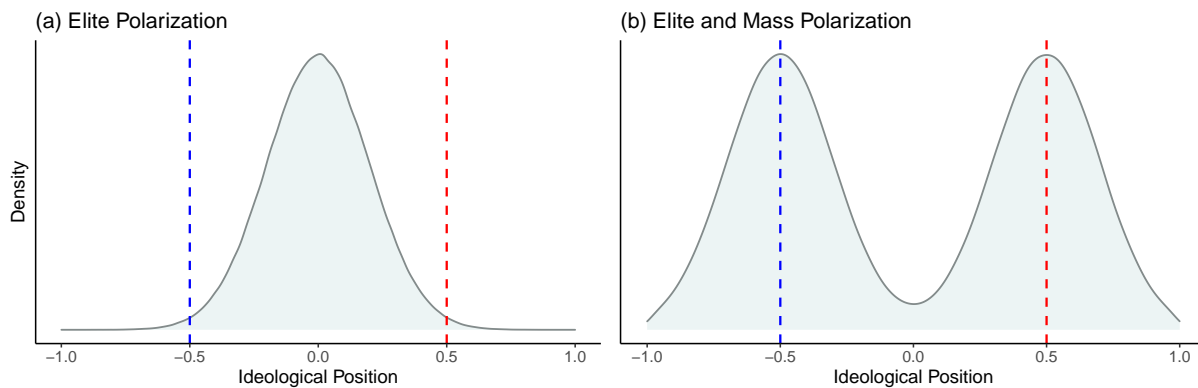


Figure 3.1: Scope Conditions of Abstention in Response to Economic Circumstances

Note: Curves represent the distribution of voters across the ideological continuum that ranges from extreme liberal (-1) to extremely conservative (1). Dashed lines indicate the ideological placement of parties.

On the other hand, if the electorate has two peaks at opposite sides of the political spectrum that map to the position of polarized parties, the cost of abstaining will be high for a large set of voters. Even if they are dissatisfied with their preferred party, their ideological distance from the other viable option encourages motivated reasoning and reinforces their partisan choice. Panel B in Figure 3.1 displays a context in which both the masses and the elites are polarized. Under these

⁷As Figure 3.3 shows, elite polarization has been increasing over time.

circumstances, polarization will decrease the number of voters who abstain as a means to sanction their favorite party.

In summary, Hypotheses 1 and 2a predict that elite polarization has the same attenuating effect on both channels through which economic voting can operate. Polarized politics decreases both the number of voters who cast a ballot for the opposition to sanction incumbents for poor economic conditions and the number of those who abstain in order to penalize the party in government for poor economic outcomes. Although the necessary condition for Hypothesis 2b would be out of equilibrium, I test for it as an alternative to Hypothesis 2a. The next section describes the data and method I use to test Hypothesis 1 and adjudicate between Hypotheses 2a and 2b with election results at the county level.

At the aggregate level, though, I cannot investigate *which* voters behave in line with these hypotheses and *how* polarization affects them.⁸ Motivated reasoning suggests that partisans are particularly affected by elite polarization in their response to economic conditions. For these voters, the cost of having the party they dislike in the presidency increases with polarization. Given the evidence that polarization detaches presidential approval from economic assessments and weakens the link between economic conditions and economic opinion (Donovan et al., 2020; Goidel and Kellstedt, 2022), I argue that as the perception of polarization increases among partisans, they become less likely to negatively evaluate the economy when their preferred party holds the Presidency. As such, I expect that:

Hypothesis 3a. *As (perceived) polarization increases, partisans become less likely to negatively evaluate the economy when their preferred party holds the presidency.*

Yet, besides affecting economic assessments, there is another mechanism through which polarization can moderate economic voting. Some partisans may still be able to assess the economy in polarized environments, as Ang et al. (2021) show. But it does not follow that those partisans intend to use this assessment to inform their voting choice. Under high levels of polarization,

⁸Searching for cues about voters' behavior from information reported at the county level would be ecological inference (King, Tanner and Rosen, 2004). Rather, I use the county-level data to investigate whether the moderating effect of polarization on electoral accountability is consequential and which channel of economic voting is affected by polarizing politics: the opposition, abstention, or both.

partisans are less likely to hold their preferred party accountable for poor economic performances. Instead, they tend to resort to motivated reasoning to accommodate party attachment and economic perceptions. Therefore, I predict that:

Hypothesis 3b. *As (perceived) polarization increases, partisans who negatively evaluate the economy become less likely to punish their preferred party in response to economic conditions.*

Figure 3.2 depicts the two links of the economic voting chain that polarization can moderate. Polarized politics may weaken the connection between economic conditions and economic perception, but it can also shape how assessments of the economy influence voting choice. In the fourth section, I describe my empirical strategy to test Hypotheses 3a and 3b with ANES data and present the results.

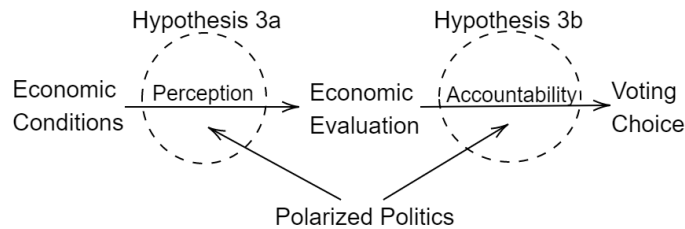


Figure 3.2: Polarization and the Chain of Economic Voting

3.3 Presidential Election Results by County

3.3.1 Data and Research Design

An ideal case to test the impact of polarization on economic voting would hold institutional factors that may influence clarity of responsibility constant while the level of elite polarization varies. The results of U.S. presidential elections combine these conditions. The level of national polarization has changed over time in American politics, but the institutional framework that can moderate economic voting remained constant. Moreover, the two-party system makes the US appropriate for measuring polarization and estimating its effect. Although other democracies have experienced the emergence of radical leaders, multiparty systems and different levels of party attachment

create challenges to conceptualizing and studying polarization. In multiparty democracies, this phenomenon may indicate the radicalization of politics rather than the ideological polarization of the whole party system.⁹ In the US, changes in the ideological distance between the two major parties express variation in elite polarization.

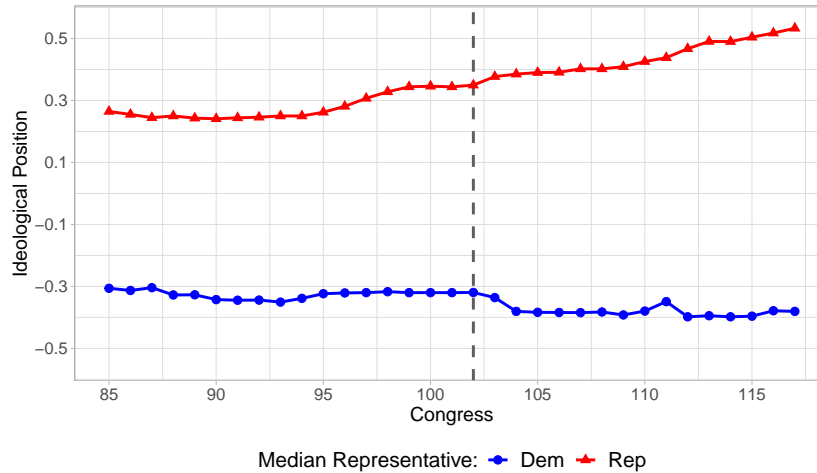


Figure 3.3: Polarization in the U.S. Congress Over Time

Note: The median Republican (red line) and the median Democratic (blue line) representative in the House. The vertical dashed line shows when my aggregate-level analysis starts. Source: Voter View Project.

Figure 3.3 shows that the ideological distance between the median Republican and median Democratic representative in the House has increased since the 95th U.S. Congress. The increasing distance between parties over this period seems to be driven mostly by the Republican party. Whereas the median Democratic has moved about 30% to the left—from -0.3 to -0.4—the conservative position of the median Republican increased approximately 120% during the same period—from 2.5 to 5.5.

To test my hypotheses at the aggregate level, I implement a seemingly unrelated regression (SUR) strategy in which the electorate is divided into three categories: the share of votes for the incumbent party, for the opposition, and abstention. Following the approach developed by

⁹In the conclusion section, I briefly discuss an expectation about how the radicalization of politics may affect economic voting in multiparty systems.

Aitchison (1982) to model compositional data and used by Tomz, Tucker and Wittenberg (2002) to study election results in multiparty systems, the outcome variables of the SUR model are the $J - 1$ log-transformed ratios between the percentage of voters in each j piece of the constituency—voters casting a ballot for the party in government, for the opposition, and abstainers—to a baseline category ($j = 1$).¹⁰ Thus, for a county i in election t , the outcome variables are defined as follows:

$$s_{jit} = \log \left(\frac{y_{jit}}{y_{1it}} \right) \quad \forall j \neq 1 \quad (3.1)$$

where y_{jit} is the share of voters in the category j . I create the log-ratios s_{jit} with data on presidential election results, turnout, and voting-age population by county from 1992 to 2020.¹¹ My main models use a measure of effective abstention, which combines votes for third parties and the number of voters who abstained. This measure is appropriate to test if voters can express their dissatisfaction with the incumbent for economic conditions through a channel other than voting for the opposition. A vote for a third party in U.S. presidential elections is equivalent to a wasted vote. Yet, casting a ballot for a third party can still express voters' dissatisfaction with their preferred party.¹²

For the explanatory variables, elite polarization is measured with the difference in the DW-nominate scores of the median House Republican and the median Democrat in the U.S. Congress immediately before each election (Theriault, 2008; Lewis et al., 2021).¹³ Given the growing nationalization of local and state politics (Jacobson, 2015, 2013), this national-level measure is appropriate for capturing changes in polarized politics and estimating their effect on presidential elections. My economic indicator is the average annual unemployment rate in the county reported by the U.S. Bureau of Labor Statistics, which is expected to be negatively associated with votes for the incumbent party in presidential elections.¹⁴ Besides increasing the cross-sectional variation of

¹⁰To report the results in Figure 3.4, I estimate two SUR models, one in which abstention is the baseline category and another with the share of votes for the opposition as the denominator.

¹¹Data from Dave Leip's Atlas of U.S. Presidential Elections.

¹²The results are robust to models without the share of voters who cast a ballot for third parties. See Figure B.1.

¹³Data from the Voter View Project.

¹⁴Data from the Local Area Unemployment Statistics (LAUS) program. The main results are robust to models that use data from the Quarterly Census of Employment and Wages (Healy and Lenz, 2017). See Figure B.4. Further, I

my data and, as such, reducing the potential influence of temporal patterns, the local economy is close to the reality that voters experience and can affect presidential election outcomes (Healy and Lenz, 2017). After all, the national economy is the aggregation of local indicators.¹⁵

In addition to the large cross-section variation in my data introduced by the economic indicator and outcome variables, I address methodological concerns regarding the upward trend of national polarization with three other empirical strategies. First, my aggregate-level analyses control for the lagged dependent variables (LDV), ensuring that my compositional outcomes in Equation 3.1 are stationary. Second, the results are robust to models that, besides the LDV, include a time-trend variable that can capture the influence of other factors that might be trending in national politics.¹⁶ Finally, my individual-level models use election fixed effects to exclude unobserved variables that change over time, and their results are consistent with my findings at the aggregate level.¹⁷ Altogether, these strategies demonstrate that the results in this paper are not spuriously driven by temporal influence.

My final dataset has 3,108 counties across eight consecutive elections. With these data, I estimate a system of $J - 1$ equations using the following interactive model:

$$s_{jit} = \beta_{1j}\text{Unemp}_{it} + \beta_{2j}\text{Pol}_t + \beta_{3j}\text{Unemp}_{it} * \text{Pol}_t + \delta_{kj}\mathbf{x}_{it} + \alpha_j\mathbf{State}_i + \beta_{4j}\text{CloseElec}_{it} + \beta_{5j}\text{RepPre}_t + \beta_{6j}\text{IncCand}_t + \phi_j s_{jit-1} + \epsilon_{jit} \quad (3.2)$$

where Unemp_{it} is the unemployment rate, Pol_t stands for elite polarization, \mathbf{x}_{it} is a vector of K demographic variables at the county level, and \mathbf{State}_i is a vector of fixed effects indicating the

use the unemployment rate to explore the between-unit variation of my data. Yet, the main findings hold with models that use the annual change in the unemployment rate. See Panel B in Figure B.3.

¹⁵Ideally, I would like to have precise information on economic growth by county too, but this variable is not available for the whole period. Yet, unemployment is an appropriate economic indicator at the county level since inflation was stable in the period and economic growth may be less tangible to voters (Cheibub and Przeworski, 1999; Lewis-Beck and Paldam, 2000). Also, the strong association between growth and unemployment suggests that the latter can capture relevant economic conditions at the county level. Between 2002 and 2019, a 1% increase in county-level growth corresponds to a 2% decrease in the unemployment rate. Finally, my major findings are robust to model specifications that include the average change in per capita income as a proxy for economic growth in the county. See Figure B.5.

¹⁶See Figure B.6.

¹⁷See Equations 3.3 and 3.4.

state in which the county i is located. CloseElec_{it} measures the distance in vote share between the two presidential candidates in the state where the county i is located, RepPre_t is a dummy variable indicating whether the Republican party held the presidency at t , IncCand_t is an indicator of whether an incumbent candidate ran for reelection at t , and s_{jit-1} is the LDV, the temporal lag of the dependent variable.¹⁸ ϵ_{jit} is an error term that may be correlated across the $J - 1$ equations of the SUR model.

The parameterization of the SUR model is similar to a multinomial logistic regression. For each explanatory variable, the SUR model estimates $J - 1$ coefficients. Each of these coefficients is the estimated impact of a one-unit increase in the explanatory variable on one of the s_{jit} outcomes, which is in the log-ratio form. A positive coefficient means that its predictor makes the category in the numerator of the logged ratio in Equation 3.1 larger at the expense of the baseline category in the denominator. Negative values, in turn, have the opposite interpretation. But the substantive interpretation of model results involves “translating quantities of interest back into their original composition structures” (Philips, Rutherford and Whitten, 2016, p. 271)—share of voters—as I show in Figure 3.5.

As demographic controls, \mathbf{x}_{kit} , all models include the following predictors: share of black voters, share of Hispanic voters, share of Asian voters, share of young voters—less than 30 years old—share of the elderly population—more than 70 years old—the county population, share of people with a college degree, share of workers in the manufacturing sector, a rural-urban code, and the average per capita income in the county.¹⁹ I use state fixed effects to account for electoral rules that can influence abstention and other state-specific factors.²⁰ Additionally, I control for the difference in vote share between the first two candidates in the state (CloseElec_{it}) as the closeness of the election may affect turnout. The lagged log-ratio, s_{ijt-1} , controls for persistent features of the county that influence voting behavior but cannot be observed. By controlling for the trade-

¹⁸Because my unit of analysis is the county, adding state-fixed effects with the lagged dependent variable does not cause Nickell bias (Nickell, 1981).

¹⁹Skewed variables were log-transformed. Table B.1 presents descriptive statistics of aggregate-level variables.

²⁰In addition to electoral rules, there are blue and red states, that is, states in which a majority of citizens consistently vote for the Democratic or the Republican party, respectively. State dummies can address time-invariant patterns of voting behavior across counties that these characteristics of states may create.

off between categories in the last election, it can also address concerns about factors that may be gradually changing over time—such as turnout—and could be associated with the uptrend of elite polarization.²¹

Table 3.1 summarizes the expected relationship predicted by each hypothesis. In the trade-off between incumbent and opposition— $s_{jit} = \log\left(\frac{\text{Incumbent}_{it}}{\text{Opposition}_{it}}\right)$ —Hypothesis 1 predicts that higher polarization reduces the impact of economic factors on voting across party lines. Thus, I expect that $\hat{\beta}_{3j}$ will be significant in the opposite direction of $\hat{\beta}_{1j}$ in the equation that estimates the flow of voters between the incumbent party and the opposition. Since an increasing unemployment rate is expected to harm the incumbent party in favor of the opposition ($\hat{\beta}_{1j} < 0$), Hypothesis 1 predicts that polarization will attenuate this negative effect of unemployment on the incumbent’s vote share—which implies that $\hat{\beta}_{3j} > 0$. As elite polarization increases, fewer voters will cast a ballot for the opposition to punish the party in government for rising unemployment.

Table 3.1: Summary of Theoretical Expectations

Hypotheses	Predictors and Estimates	Expected Relationships by s_{jit}		
		$\log\left(\frac{\text{Incumbent}}{\text{Opposition}}\right)$	$\log\left(\frac{\text{Incumbent}}{\text{Abstention}}\right)$	$\log\left(\frac{\text{Opposition}}{\text{Abstention}}\right)$
Economic Voting	Unemployment Rate ($\hat{\beta}_{1j}$)	–	(–)	(+)
Hypothesis 1	Unemp.*Polarization ($\hat{\beta}_{3j}$)	+		
Hypothesis 2a	Unemp.*Polarization ($\hat{\beta}_{3j}$)		+	–
Hypothesis 2b	Unemp.*Polarization ($\hat{\beta}_{3j}$)		–	+
Hypothesis 3a	Individual-level Analyses			
Hypothesis 3b	Individual-level Analyses			

Note: The ratio indicates the trade-off between parties or a party and abstention. Bracketed signals are effects that are not clearly predicted by traditional economic voting theory. Hypotheses 3a and 3b cannot be tested at the aggregate level.

In Hypothesis 2a, I predict the attenuating effect of polarization on abstention in response to a poor economy. Motivated reasoning, affective polarization, and social pressure in a polarized electorate would increase the cost of abstention. In this context, a large set of voters will prefer to cast a ballot for their preferred party—even when economic conditions suggest that they should

²¹The results are robust to models that, besides the LDV, include a time-trend variable to control for other national factors that might trend over time. See Figure B.6.

punish it—than abstain. Hence, $\hat{\beta}_{3j}$ should be positive in the equation between the incumbent and abstention— $s_{jit} = \log\left(\frac{\text{Incumbent}_{it}}{\text{Abstention}_{it}}\right)$ —reducing the number of voters who abstain in order to express dissatisfaction with economic outcomes.

According to the expressive abstention argument, Hypothesis 2b represents the opposite effect of polarization on abstention. That is, $\hat{\beta}_{3j} < 0$ in the equation for the trade-off between the share of voters who cast a ballot for the incumbent party and the share of voters who abstain— $\log\left(\frac{\text{Incumbent}_{it}}{\text{Abstention}_{it}}\right)$. As economic conditions deteriorate—*i.e.*, the unemployment rate increases—more voters would abstain to punish the party in government. In other words, elite polarization would exacerbate the effect of the unemployment rate on the trade-off between a partisan vote and abstention in response to economic conditions.

3.3.2 Findings

In this section, I present the results of county-level analyses that interact the unemployment rate with elite polarization. I focus on the coefficients for the economic indicator and its interaction with polarization. Full tables of coefficients are available in Appendix 2.²² Each panel in Figure 3.4 displays the marginal effects of unemployment across levels of elite polarization in one of the log-ratios estimated with Equation 3.2. Each icon indicates the predicted value of the marginal effect—in log-ratio form—at a certain level of polarization with its respective 95% confidence interval.²³ These marginal effects are calculated as $\hat{\beta}_{1j} + \hat{\beta}_{3j} * Pol_t$. Negative values mean that unemployment benefits the category in the denominator at the expense of the one in the numerator.

Panel A in Figure 3.4 plots the marginal effect of the unemployment rate on the trade-off between the incumbent party and opposition. Starting with coefficients in a hypothetical scenario without polarization (black square), we can observe that unemployment has the negative effect expected by economic voting theory. As the unemployment rate increases, the share of voters

²²See Table B.3.

²³95% confidence intervals were computed using the standard error of marginal effects from interactions:

$$\hat{\sigma}_{ME} = \sqrt{Var(\hat{\beta}_{1j}) + Pol.^2 * Var(\hat{\beta}_{3j}) + 2 * Pol. * Cov(\hat{\beta}_{1j}, \hat{\beta}_{3j})}$$

See Brambor, Clark and Golder (2006) for additional information.

who cast a ballot for the opposition increases as well—negative effects benefit the category in the denominator—at the expense of the party in government. Likewise, Panel B shows that unemployment has a similar effect on the trade-off between the share of voters supporting the incumbent party and the share of those who abstain. Finally, Panel C indicates that the opposition slightly benefits at the expense of abstention when polarization is low.

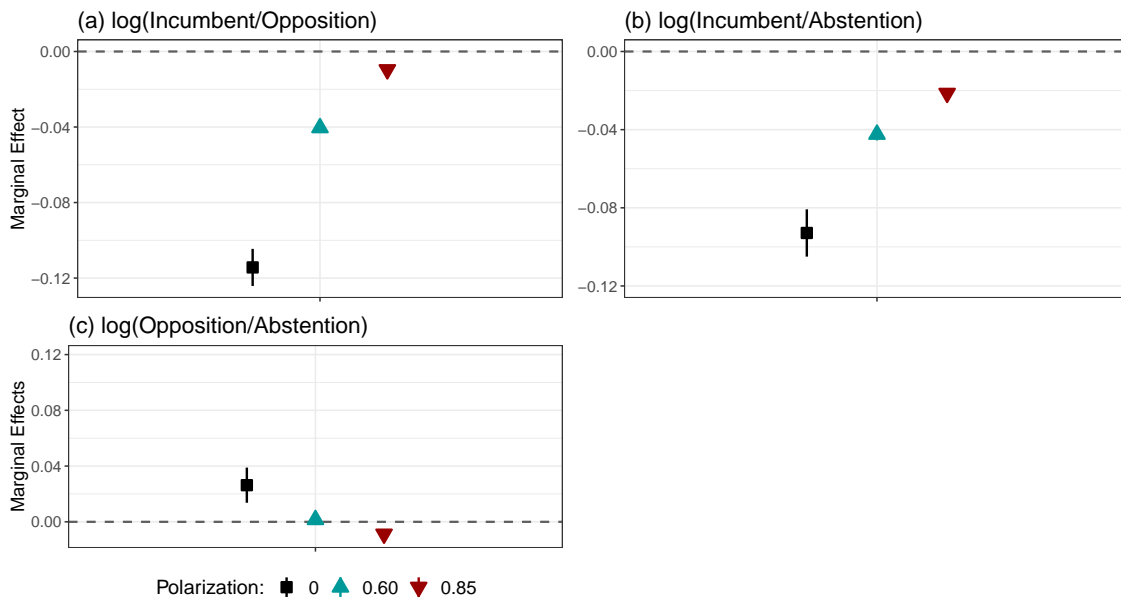


Figure 3.4: Marginal Effects of Unemployment (Log-ratio Form) Across Levels of Polarization

Note: Black squares indicate the hypothetical effect of unemployment when there is no polarization ($\hat{\beta}_{1j}$). Light-green triangles and dark-red upside-down triangles represent marginal effects of unemployment when polarization is moderate (0.6) and high (0.85). These marginal effects are computed as $\hat{\beta}_{1j} + \hat{\beta}_{3j} * Pol_t$.

At a moderate level of polarization observed for a long period in American politics, 0.6 (light-green triangle), the magnitude of the effect of unemployment drastically decreases in the trade-off between the incumbent and opposition. This result supports Hypothesis 1: Polarizing politics reduces the number of voters crossing party lines to sanction incumbents for poor economic conditions. The same pattern is observed in the trade-off between the vote share for the incumbent party and the share of abstainers. This finding supports Hypothesis 2a, which states that elite polarization reduces the number of voters who abstain in response to a deteriorating economy to express dissat-

isfaction with the party in government. Consequently, these results reject the expressive abstention effect predicted by Hypothesis 2b.

Besides corroborating the expectation that polarization attenuates economic voting, these findings show that the moderating effect of polarized environments is substantial. As polarization increases, the impact of the unemployment rate tends to disappear. The marginal effect of unemployment in Panel A is close to zero when elite polarization is equal to 0.85 (dark-red, upside-down triangle)—a typical value observed in the late 2000s. It indicates that polarizing politics almost cancels out economic voting in response to local unemployment. Similarly, polarization decreases the share of voters moving from the incumbent party towards abstention in response to unemployment (Panel B). The effect on the trade-off between abstention and the incumbent party becomes about 50% smaller as polarization moves from 0.6 to 0.85.

These results confirm that voters have two channels to punish incumbents for a poor economy—voting for the opposition and abstention—and demonstrate that polarizing environments affect both in the same way. Polarization decreases the number of voters willing to desert the incumbent party for poor economic performance. Under polarized politics, voters are so attached to their preferred parties that they are less likely to defect to the opposing party or abstention when the economy declines.

The coefficients in Figure 3.4 are substantively uninformative because they show marginal effects in log-ratio form. We can use them to interpret the direction of the marginal effects and whether they are statistically distinguishable from zero or not. But to capture the size of these marginal effects in terms of changes in the share of voters in each category, I follow the strategy presented by Philips, Rutherford and Whitten (2016) to visualize the results of models with compositional data. I simulate a non-parametric bootstrap 1,000 times to estimate the impact of a one-standard-deviation increase in the unemployment rate of a hypothetical county in Pennsylvania under two scenarios, moderate (0.6) and high (0.85) ideological distance between parties at the national level.²⁴

²⁴Each simulation sample 90% of the data with replacement. Values of polarization reflect typical levels of polarization observed until the 1990s and in the late 2000s. I use Pennsylvania for the simulation as it is a swing state with

Since my models use state fixed effects, I employ the checklist suggested by Mummolo and Peterson (2018) to improve the interpretation of fixed-effect regressions. They argue that simulations must use within-unit typical shocks since fixed-effect models restrict the analysis to within-unit variation. Hence, I simulate the estimated difference in the share of voters for each category j —the incumbent party, opposition, and abstention—when the unemployment rate increases by a within-state standard deviation (a 2.3% increase) from its mean (6.12%).

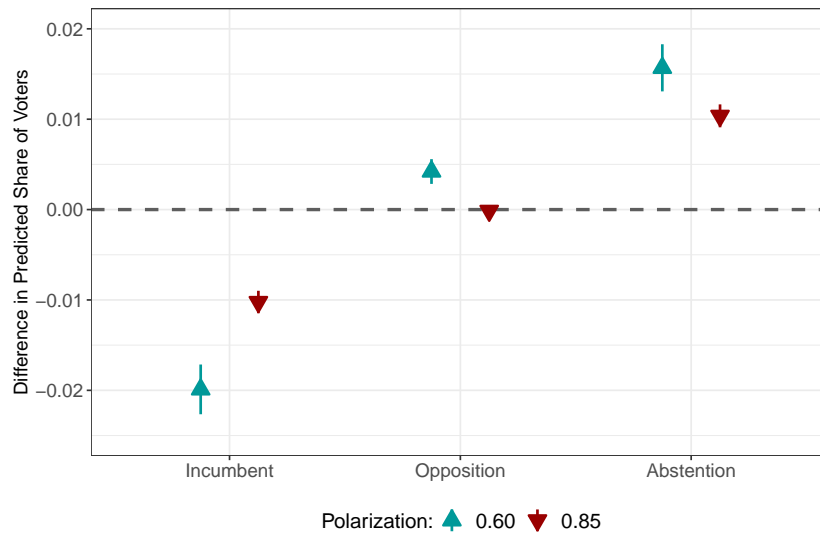


Figure 3.5: Predicted Change in the Share of Voters

Note: Results generated with bootstrap. The y-axis is the change in predicted share of voters at a category j (incumbent, opposition, and abstention) when there is a one-standard-deviation increase in the unemployment rate from its mean.

Figure 3.5 presents the results of these simulations. When the ideological distance between parties is moderate (0.6), a shock that increases the unemployment rate by one standard deviation in the county decreases the vote share of the incumbent party by approximately 2% in that county. The size of this punishment for bad economic conditions becomes smaller as polarization increases. When polarization is equal to 0.85, the same shock in unemployment diminishes the vote share of the party in government by just 1%. These results are similar to marginal effects estimated with a medium electoral college.

OLS that regress the share of votes for the incumbent party on polarization and unemployment.²⁵ But with SUR models, I can also simulate changes in the other two categories. The gain in vote share for the opposition due to unemployment tends to vanish as polarization goes up. It moves from 1% to practically no change in the share of voters moving towards the opposition. Equally, the increase in the share of voters who choose to abstain after a shock in the unemployment rate decreases from more than 1.5% to approximately 1% as elite polarization moves from 0.6 to 0.85.

These results illustrate the attenuating impact of polarization on economic voting predicted by Hypotheses 1 and 2a. Elite polarization negatively affects both channels through which voters can punish incumbents. Under polarized politics, voters stick with their parties instead of penalizing them for poor economic performances.

3.4 Survey Analyses

The empirical strategy presented in the last section reveals how elite polarization shapes economic voting in the electorate. The results show that polarization is consequential because it mitigates the impact of economic conditions on voters' decisions about whom to support in presidential elections. Yet, the aggregate strategy does not identify *which* voters react less strongly to economic conditions as polarization increases, nor the *mechanisms* in Figure 3.2 through which polarized politics may affect these voters. To do so, I test Hypotheses 3a and 3b with survey data. In both hypotheses, I predict that partisans become less likely to punish their party for poor economic conditions. However, these predictions differ regarding whether polarization would affect economic evaluations (Hypothesis 3a) or the willingness of partisans to hold their party accountable (Hypothesis 3b). These expectations are not mutually exclusive. In fact, the results in this section suggest that polarization shapes economic voting through both mechanisms: economic assessment and accountability.

²⁵See Panel A in Figure B.3 with OLS estimates.

3.4.1 Perceived Polarization and Economic Assessment

According to Hypothesis 3a, polarization reduces partisans’ propensity to negatively evaluate the state of the economy when their party holds the Presidency. I use ANES data from 1992 to 2020 to estimate the impact of the reported ideological distance between parties—which measures how respondents perceive elite polarization—on economic assessment. In the survey analyses, I use respondents’ perceptions of polarization to estimate the impact of polarized politics on economic voting. I do so because polarizing environments should affect voting behavior through how voters sense ideological distancing between political parties. Hence, I measure perceived polarization as the gap between the location of the two parties reported by the respondent in the 7-point scale that ranges from extremely liberal to extremely conservative.²⁶ After normalizing this variable, the perceived gap ranges from 0 to 1.²⁷ To measure how respondents evaluate economic conditions, I use the question that asks whether the national economy “has gotten better, stayed about the same, or gotten worse” over the past year before the election.

To investigate how partisans evaluate the economy as the perception of polarization increases, I estimate an ordered logistic model that regresses economic evaluation on an interactive model specified as follows:

$$\Pr(y_i = e) = F(\beta_1 \text{IdeoGap}_i + \beta_2 \text{Partisan}_i + \beta_3 \text{IdeoGap}_i * \text{Partisan}_i + \delta_k \mathbf{x}_{ki} + \alpha \mathbf{Election}_i + \epsilon_i) \quad (3.3)$$

where the probability that respondent i will select the category e —the economy has gotten better, stayed the same, or gotten worse—is a function of her perception of the ideological gap between the two major parties (IdeoGap_i), a partisanship variable that indicates if the respondent is a member of the president’s party, Independent, or a member of the opposing party (Partisan_i), an interaction

²⁶At the end of this section, I discuss how observed elite polarization is associated with respondents’ perception of polarization.

²⁷The normalization intends to create a scale of perceived polarization similar to the observed range of elite polarization.

between these two variables ($\text{IdeoGap}_i * \text{Partisan}_i$), a set k demographic controls (\mathbf{x}_{ki}), and a vector of election fixed effects ($\mathbf{Election}_i$).²⁸

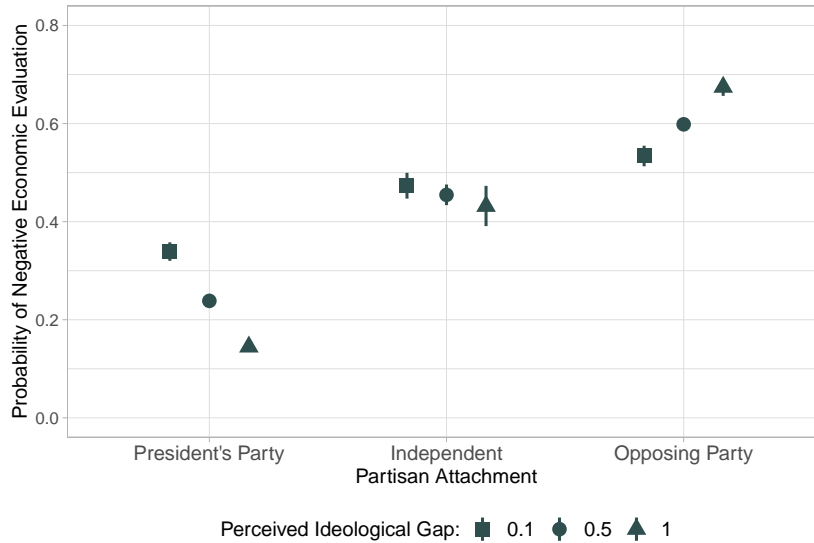


Figure 3.6: Probability of a Negative Evaluation of the Economy

Note: The horizontal axis indicates if the respondent is attached to the president’s party, the opposition, or is an Independent. Shapes indicate the ideological gap between parties perceived by respondents. Full results in Table B.4.

Figure 3.6 shows predicted probabilities that a respondent will report that the economy “has gotten worse” across levels of perceived polarization (shapes). In support of Hypotheses 3a, as perceived polarization increases, members of the party holding the Presidency are less likely to negatively evaluate the economy. The probability a supporter of the president’s party will report that the economy “has gotten worse” decreases from 0.35 to 0.15 as her perception of the ideological distance between parties moves from 0.1 to 1. This perceived polarization makes members of the opposing party, in turn, more likely to report a negative evaluation of the economy: The predicted probability of a negative economic assessment moves from 0.53 when the ideological gap is

²⁸The set of controls include gender, race, log-transformed age, a dummy variable indicating whether the respondent has a college degree, and income. Table B.2 presents descriptive statistics of individual-level variables. The results are robust to specifications that include state fixed effects too. Moreover, to rule out the possibility of reverse causality, Figure B.13 shows that the main findings are robust to a model that uses panel data from the Cooperative Congressional Election Study (CCES) to regress economic evaluation on a lagged measure of perceived polarization.

0.1 to 0.68 when the reported distance between parties is 1. The ideological gap has no systematic effect on Independents. These findings corroborate Hypotheses 3a and previous studies (Donovan et al., 2020; Goidel and Kellstedt, 2022), demonstrating that perceived polarization reduces partisans’ disposition to negatively assess the economic performance of their preferred party.²⁹

3.4.2 Perceived Polarization and Economic Accountability

As Figure 3.2 illustrates, polarized politics can affect another link in the economic voting chain. Among members of the president’s party who negatively evaluate the economy (Ang et al., 2021), polarization can weaken their willingness to use this economic assessment to inform their voting choice. In other words, partisans become less likely to punish their preferred party for poor economic conditions as polarization increases. This is the expectation of Hypothesis 3b. To test it, I split the ANES data described above by respondent’s partisan attachment (Partisan_i in Equation 3.3). For each subsample—members of the president’s party, members of the opposing party, and Independents—I use multinomial logistic regressions to estimate the probability that a respondent i selects category m —voting for the incumbent party, the opposition, or abstention—as a function of the following interactive specification:³⁰

$$\Pr(y_i = m) = F(\beta_{1j}\text{EconEval}_i + \beta_{2j}\text{IdeoGap}_i + \beta_{3j}\text{EconEval}_i * \text{IdeoGap}_i + \delta_{kj}\mathbf{x}_{ki} + \gamma_j\mathbf{State}_i + \alpha_j\mathbf{Election}_i + \epsilon_i) \quad (3.4)$$

where the probability of a respondent i selecting category m is a function of her evaluation of the economy, EconEval_i , her perception of the ideological gap between the two major parties, IdeoGap_i , the interaction between these variables ($\text{EconEval}_i * \text{IdeoGap}_i$), the same set of k demographic controls (\mathbf{x}_{ki}) in Equation 3.3, and vectors of state and election fixed effects (\mathbf{State}_i and

²⁹To further investigate Hypothesis 3a across partisanship, Figure B.7 shows results by political party holding the Presidency at the time of the wave (Panels). As their perception of elite polarization increases, both Republican (Panel A) and Democratic (Panel B) identifiers are less likely to report a negative evaluation of the economy when their preferred party holds the Presidency, though this effect is stronger among Republicans.

³⁰Mimicking the strategy with aggregate data, my individual-level models also use a measure of effective abstention that combines abstention and votes for third parties. The results are robust to models that split the effective abstention into two categories and models that use a 5-categories measure of partisanship. See Figure B.11 and B.12.

Election_i). With this model specification, I can investigate how partisans react to economic evaluations under different presidencies and levels of the perceived ideological gap between parties.³¹

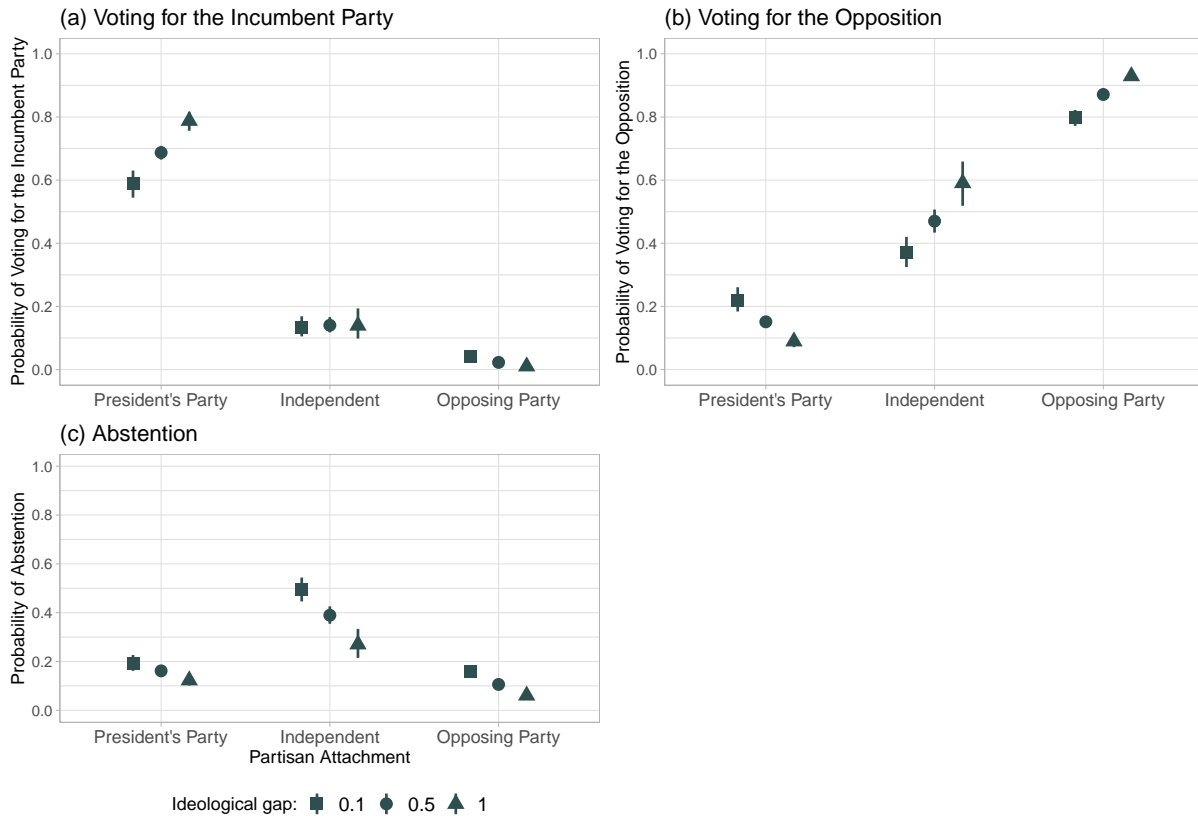


Figure 3.7: Voting Choice Given a Negative Economic Evaluation

Note: Panels indicate respondents' voting choice. Shapes indicate the ideological gap between parties perceived by respondents. Full results in Table B.5.

Figure 3.7 presents predicted probabilities of a respondent to vote for the incumbent party (Panel A), for the opposition (Panel B), or to abstain (Panel C), given that she negatively evaluates the economy. Icons represent the level of the perceived ideological distance between parties. In support of Hypothesis 3b, as the perceived ideological distance between parties increases, sup-

³¹Since perceived polarization affects economic evaluation (Equation 3.3) and both explain voting behavior (Equation 3.4), a potential post-treatment bias in Equation 3.4 is likely to attenuate the total effect of perceived polarization on voting choice. Similarly, polarization may increase voters' partisan attachment (Lupu, 2015), and the latter can moderate economic voting (Kayser and Wlezien, 2011). In other words, part of the negative effect of perceived polarization on voting behavior could work through economic assessments and party attachment. Investigating these potential paths, though, is beyond the scope of this paper.

porters of the president's party who negatively evaluate the economy become less likely to punish the incumbent party by either voting for the opposition or not participating. When the ideological gap is 0.1, the probability that a members of the president's party who reports that the economy is deteriorating will vote for the incumbent party is equal to 0.60. If she locates parties at extreme sides of the spectrum—*i.e.*, an ideological gap equal to 1—this probability goes up to 0.80. Supporting Hypotheses 1, 2a, and 3b, Panels B and C show that under higher polarization, supporters of the president's party are less likely to sanction their party for economic conditions by voting for the opposing party or abstaining.³² The probability a supporter of the incumbent party will cast a ballot for the opposition in response to the deteriorating economy decreases from 0.22 to 0.09 as the perceived ideological distance between parties moves from 0.1 to 1 (Panel B in Figure 3.7).³³

Supporters of the opposing party and Independents who negatively evaluate the economy become more likely to vote for the opposition. Independents reporting a negative economic assessment present a small probability of voting for the incumbent party regardless of their perception of the ideological distance between the two major parties. Moreover, consistent with the literature showing that nonpartisans are less interested and involved in politics (Lewis-Beck et al., 2008; Magleby, Nelson and Westlye, 2011), Independents are always more likely to abstain than partisans. However, their propensity to abstain in response to a negative assessment of the economy decreases as they become more able to distinguish the ideological difference between parties. The probability of voting for the opposition among Independents who negatively evaluate the economy increases with the perceived ideological gap at the expense of abstention. These findings are in line with the results of previous studies that demonstrate that polarization clarifies the ideological positions of political parties for ordinary citizens and, as a result, reduces ambivalence among Independents (Hetherington, 2001; Smidt, 2017). Moderate voters who perceive a larger ideological

³²The effects on abstention are likely underestimated as survey responses tend to overestimate participation due to social desirability bias (Granberg and Holmberg, 1991; Persson and Solevid, 2014).

³³Again, in order to further investigate which type of voter is more likely to behave according to Hypothesis 3b, Figure B.8 split the data by respondents' partisan attachment and the political party holding the Presidency at the time of the wave. For each subsample that combines a category of party identification (Democrats, Independents, and Republicans) with a party in the presidency, I estimate Equation 3.4. Both Republican (Panel A) and Democratic (Panel B) identifiers are less likely to hold their party accountable for negative economic assessment as perceived polarization increases, but the magnitude of the effect is larger among Republicans.

gap between parties are not only less likely to move between parties across elections (Smidt, 2017); they are also less likely to abstain in response to a negative economic evaluation.³⁴

To sum up, individual-level results support Hypothesis 3b and the patterns predicted by the sticking effect of polarization on electoral accountability. As the perceived distance between parties increases, members of the president's party become more reluctant to punish their party for a negative evaluation of the economy.

3.4.3 Observed Elite Polarization and the Perceived Ideological Gap

These micro-level analyses confirm my early findings with aggregate data. Results at both levels imply that polarization weakens economic voting. Yet, is perceived polarization—the perceived ideological gap between parties—associated with observed levels of elite polarization? In line with Lupu's (2015) findings showing that citizens in polarized systems perceive their parties to be more polarized, Figure B.2 in Appendix 2 provides evidence to support an affirmative answer to this question. It shows that results at the county level are robust to models that use the average perceived ideological distance from ANES data instead of the distance between representatives in the House. Indeed, both observed elite polarization and the perceived ideological distance between parties are moving up over time (Lelkes, 2016; Smidt, 2017). Figure 3.8 plots trends in elite and perceived polarization among voters by party attachment. Consistent with Lelkes' (2016) results using the mass public's placement of parties on policy issues, the perceived gap between parties increases in the electorate over time (yellow line). Partisans are driving these results (blue and red lines).

To further observe the association between elite polarization and voters' perceptions about the ideological distance between parties, I regress the perceived ideological gap reported by ANES respondents on an interaction between observed elite polarization and partisanship, controlling for all variables described in Equation 3.4.³⁵ Figure B.10 in Appendix 2 plots the marginal ef-

³⁴Independents may be either more attached to the party in the opposition due to polarization or more responsive to economic conditions. Combined with Smidt's (2017) results, my analyses at the county level suggest that the former explanation is correct: The number of floating voters in response to economic indicators decreases also among Independents as elite polarization increases.

³⁵This association cannot be interpreted as a causal relationship given that the model do not address issues concern-

fects of this interaction. Elite polarization is positively associated with the perceived ideological gap across all categories of party identification, but it is stronger among Republican identifiers.³⁶ These results suggest that elite polarization influence perceptions of polarization in the electorate, especially among partisans. Hence, the moderating effect of polarized politics on economic voting observed with the aggregate-level data is likely operating through how voters perceive the ideological difference between parties (Hetherington, 2001; Smidt, 2017).³⁷

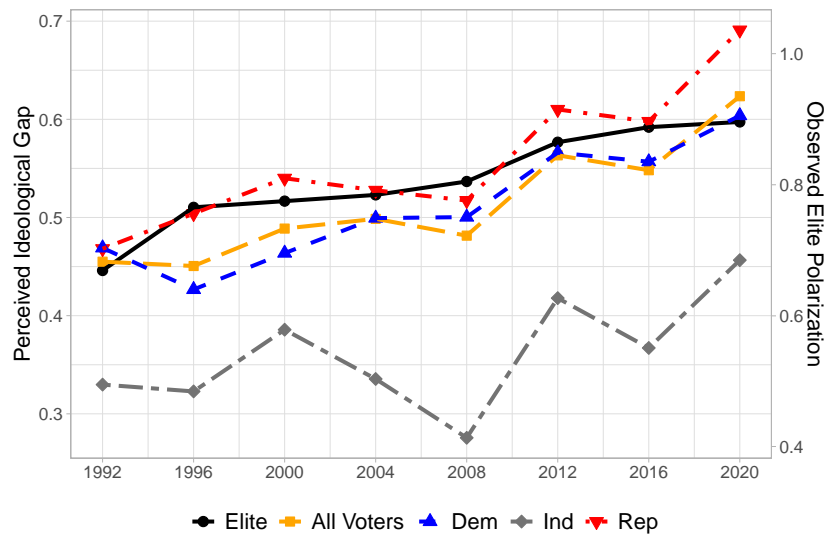


Figure 3.8: Elite and Perceived Polarization by Partisanship

Note: Measures of elite polarization and the perceived gap between parties have distinct scales. The black line is the distance between parties in the House. The yellow one shows the average perceived ideological gap between parties over time using all respondents from ANES data. The other three lines show the average ideological gap by partisanship. Table B.6 reports correlations among these variables.

ing reverse causality.

³⁶Full results in Model 1 of Table B.7. Figure B.9 and Model 2 in Table B.7 present similar results using a 5-category measure of partisanship. Together with the findings presented in Figures B.7 and B.8, these results suggest that Republicans may be more sensitive to elite polarization, in line with the thesis of asymmetric polarization (Mann and Ornstein, 2016). They suggest that future research on polarization and voting behavior should investigate whether findings are heterogeneous across party attachment.

³⁷Similarly, Table B.8 and Figure B.14 show that economic evaluation is associated with the average unemployment rate at the state level: A higher unemployment rate decreases the probability of a positive economic assessment. Unfortunately, ANES data do not inform counties' FIPS codes of respondents for multiple survey waves.

3.5 Conclusion

In this paper, I propose a theoretical framework and empirical strategy to investigate how polarizing politics affects two channels through which voters can punish the incumbent party for economic conditions: voting for the opposition and abstention. The *sticking effect* of polarization on electoral accountability predicts that elite polarization decreases both the number of voters who cast a ballot for the opposition and the number of those who abstain in response to a deteriorating economy. Findings from models that analyze presidential election outcomes at the county level support these hypotheses. As elite polarization increases, fewer voters move from the party in government towards either the opposition or abstention as a reaction to a negative economic condition—increasing unemployment. Individual-level findings confirm that partisans (i) become less likely to negatively evaluate the economic performance of their party and (ii) less prone to sanction their party as perceptions of the ideological distance between parties increase.

Together, these findings provide evidence that polarization undermines electoral accountability. The number of voters willing to punish the incumbent party for poor policy outcomes shrinks with polarizing politics. The implications for political representation are stark. By presenting voters with clear ideological options, polarization may increase the public's interest and engagement (Abramowitz, 2010). However, it does not follow that polarization strengthens electoral accountability. Actually, as the environment becomes more polarized, voters tend to rely more on motivated reasoning than objective indicators.

This paper shows with both aggregate- and individual-level data that, like other contextual factors (Powell Jr and Whitten, 1993), polarization clouds voters' ability to attribute responsibility. Institutions are only one of the elements in the political context that can blur the responsibility for economic conditions or reduce voters' willingness to acknowledge it. Polarized politics is another contextual factor moderating electoral accountability. Rather than assigning responsibility to their preferred party for economic failures, voters are likely to resort to motivated reasoning to accommodate party attachment and perceptions about economic conditions under polarized politics. When the polarization of the political environment is high, the link between economic conditions

and economic evaluation weakens among partisans. And if the economy deteriorates, it is not the fault of their party. Similarly, if the economy prospers, it is not because of policies adopted by the party they dislike. My survey analyses suggest that elite polarization affects both partisans' economic assessments and their propensity to blame their parties for negative economic outcomes.

Moreover, this paper demonstrates that voters have two channels to express dissatisfaction with incumbents: voting for the opposition and abstention. Hence, abstention can and should be modeled as an option available to voters similar to vote choices. Indeed, my findings show that elite polarization affects both channels of economic voting in a similar fashion. Future research on how polarized politics shapes voting behavior should explore whether abstention plays a role in the explanation. Finally, by estimating the impact of polarization on the electorate, this paper shows that the polarization of the political environment is consequential. The change in polarization observed in the US over the last thirty years reduces by half the punishment the party in government faces for an increase in unemployment. These results should encourage future research to investigate other consequences of polarization at the aggregate level, where patterns of voting behavior can shape election outcomes.

The U.S. context has some specificities that raise concerns about *whether* and *how* the findings in this paper may travel to other democracies. The two-party system and the strong attachment of voters to parties make American politics an appropriate case to study the impact of polarization on economic voting. In multiparty systems, however, the radicalization of some political parties may or may not increase polarization depending on how other parties place themselves across political issues. Yet, there is evidence that the emergence of radical parties leads to a polarizing environment by emphasizing extreme views on one side of the ideological scale and stimulating a backslide effect on the other side (Bischof and Wagner, 2019). But in multiparty contexts, besides the challenge of conceptualizing elite polarization, voters may show a distinct behavior as there are more options available along ideological dimensions. Williams and Whitten (2015) show that voters tend to hold ideological blocs of parties accountable for economic conditions, moving away from the incumbent party and other parties ideologically close to the incumbent when economic

conditions are poor. Polarization may weaken this behavior. Instead of switching ideological blocs in response to economic conditions, voters may be more like to choose parties within the same ideological bloc as politics become more polarized. This is an open field for future research.

4. ELECTORAL COMPETITION AND THE ADOPTION OF OFFICIAL BALLOT: COSTS OF MAKING VOTERS IN MASS ELECTORATES

4.1 Introduction

In modern democracies, elections are the chief mechanism connecting public preferences with government decisions. Despite their limitations to express public opinion, elections can work as devices that peacefully process and solve political conflicts in a polity (Manin, Przeworski and Stokes, 1999; Przeworski, Rivero and Xi, 2015). However, elections vary significantly both over time and across countries. These variations are not inconsequential. Electoral rules and their operations affect who can and who is likely to cast a ballot, producing distinct distributional effects on political parties' vote share. Among electoral institutions, the rules that define ballots are crucial. They determine how voters can express their preferences for specific candidates and make these preferences countable. Different ways of casting a ballot affect voters' autonomy, influence who is likely to participate in elections, and which type of party is more likely to win (Mares, 2015; Fujiwara, 2015; Aidt and Jensen, 2017; Baland and Robinson, 2008). However, the reasons why elected elites adopt specific ballots is a topic understudied in political science.

In this paper, I analyze the incentives for the adoption of the official or so-called Australian Ballot (AB). In many countries, this electoral reform represents "the transition from de jure to de facto secrecy in vote choice" (Gingerich, 2019, p. 920). As such, part of the literature emphasizes the impact of AB reforms on voters' autonomy (Wigmore, 1889; Mares, 2015; Kuo and Teorell, 2017). Because the official ballot ensures the secrecy of voting, scholars describe it as a mechanism that protected voters from political and economic pressures. In other words, the adoption of AB is arguably an institutional innovation that emancipated voters. However, another part of the literature points to a less noble consequence of AB reforms. Since voters are required to read and write to express their preferences on official ballots, an effect of AB reforms would be the effective disenfranchisement of illiterate citizens (Kousser, 1974; Perman, 2003; Gingerich, 2019).

Given these consequences, scholars have demonstrated that demographic and economic features of constituencies influence politicians' preferences over the adoption of AB reforms (Mares, 2015; Gingerich and Medeiros, 2020).

Although the existing literature explains why certain parties and candidates voted for the implementation of the official ballot, they cannot explain *how* these reforms were passed. These studies have two shortcomings. First, political forces that would benefit from the official ballot were minority parties when the AB was adopted almost everywhere. Urban political parties that expected to benefit from both voters' autonomy and the disenfranchisement of illiterate—such as the German Social Democratic Party (SDP), the Radicals in the UK, and União Democrática Nacional (UDN) in Brazil—were legislative minorities when these countries adopted the official ballot. They could not pass an AB reform without the endorsement of the dominant party or, at least, the support of part of its members. Therefore, some sort of *ad hoc* coalition between minority parties and members of the incumbent party had to be formed. However, dominant parties at that time were electorally strong in rural areas and the official ballot could harm their electoral performance. Thus, a complete explanation of AB adoption must address why members of the incumbent party voted for the official ballot reform.

Secondly, when previous works try to overcome the first limitation, they offer reasons to understand why politicians in the dominant party would vote “nay,” that is, against the AB reform (Mares, 2015; Gingerich, 2019; Gingerich and Medeiros, 2020). They argue, for example, that candidates who could resort to electoral intimidation or depended on illiterate voters to win a seat were less likely to support the reform. Yet, the literature does *not* present the mechanism that can explain *why* representatives in the incumbent party would vote “yea” to pass the AB bill. If these reforms would negatively affect the vote share of incumbent parties, the analyst must explain why politicians in these dominant parties would vote to approve the reform.¹

To overcome these limitations and explain why elected elites passed AB reforms, I explore

¹The apparent absence of incentive to vote “nay” was not an incentive to vote “yea,” since AB reforms could reduce the vote share of dominant parties. Hence, members of the larger party had political reasons to vote against the reform. The puzzle is to understand why some representatives in the majority supported the reform that could weaken this majority.

the features of electoral dynamics and competition when elections became a mass enterprise. The enfranchisement of a large electorate drastically increased the costs of printing ballots, gathering voters, and handing out the ballots to these voters. That was the process of “making voters” before the AB adoption (Limongi, 2015; Alonso, 1996; O’Gorman, 1992). This required candidates to register their “supporters” as regular voters and afford all the costs their voters had to face to cast a ballot. This process was costly and was often afforded by candidates (Limongi, 2015). The logic of competition in mass constituencies forced candidates to make as many voters as possible to win a seat. As a result, elections became a highly costly endeavor. Thus, I argue that electoral contests in mass electorates generated a crucial incentive for elected politicians to support the AB reform. They realized the AB was an opportunity to outsource a meaningful share of election expenses to the state. As such, I show that competition in mass electorates shaped the incentives for passing the AB.

I test this theory with the Brazilian case. Brazil passed the first AB reform for proportional representation elections in 1962 following a long legislative debate that lasted four years. In 1958, federal representatives voted on the AB bill twice, before and after the election in October 1958. They only approved the reform and sent the bill to Senate after the election. In this scenario, I can investigate how changes in electoral competition affected the probability that lawmakers would support the reform. My results show that competition was associated with (i) upward movements in the electorate and (ii) increased support for the AB, particularly among members of the dominant party.

This paper unfolds as follows. In the next section, I describe how elections worked before the adoption of the AB, showing that the challenge of making voters was the main game that candidates had to play. Then, I explain how the official ballot could change that game and present my expectations about the determinants of AB reforms. In the fourth and fifth sections, I introduce the Brazilian case and the data I employ to test my hypothesis. After it, I present the empirical models and preliminary findings, followed by a final section that discusses the theoretical implications of this paper.

4.2 Elections Before AB: Making Ballots and Voters

Nowadays, casting a ballot is a simple act in democracies. On election day, voters head to the polling station, where they find an official ballot waiting for them. Inside the polling booth, each voter selects in secret her preferred candidate. With few exceptions, that is how citizens express their preferences in elections. This ritual that we are familiar with sets voters free from many political and economic pressures. Moreover, it connects elections and democracy. Governments are representative and democratic because they are both chosen in and subject to free elections with widespread participation (Manin, Przeworski and Stokes, 1999). We are so used to this procedure that we often take the democratic role of elections for granted (Przeworski, 2018), and we tend to project this current view of democratic elections to understand early experiences of representative government and electoral reforms under these contexts.²³

At the turn of the 19th to 20th century, however, the ritual of voting in countries that adopted some form of elected government had few similarities with our democratic elections. When elections replaced the bloodline as the mechanism to select leaders, the founders of representative government saw political representation as a system different from and superior to democracy. Unlike the democratic principle that assumes all citizens are equal, electoral representation was based on the principle of distinction (Manin, 1997). This means that elected officials are and should be different from voters. To win elections, candidates cannot be ordinary citizens; instead, they must possess some sort of social ascendancy. The founders of the representative government knew that elections put an “aristocratic” effect in place, which ensures that selected rulers are not ordinary citizens. Rather than trying to change this feature of electoral representation, the founders valued

²I follow Manin (1997) to define a representative government as the political regime that selects leaders through elections and has the following features: the representatives are regularly elected by the governed, the representatives retain partial independence from their constituencies’ preferences, public opinion can be expressed outside the government control, and policy decisions are made after discussion in the parliament. For a definition of representative government in these terms, see Manin (1994).

³Examples of studies that apply the current view of democratic elections to understand early experiences of representative are abundant and encompass seasoned scholars (Acemoglu and Robinson, 2000, 2005; Ansell and Samuels, 2014; Lizzeri and Persico, 2004; Boix, 2003; Przeworski, 2009). In common, these studies tend to conceptualize voters in the early stages of representative government as autonomous agents. As this paper emphasizes, rather than free agents choosing their preferred policy platform, voters were often led by political elites in a process that I call “making voters” (Limongi, 2015).

that elections select leaders based on social distinctions. They expected that only individuals with higher social status would be elected. Madison (1787) summarizes this expectation when he said that the representative government, operating through regular elections, would “refine and enlarge the public views by passing them through the medium of a chosen body of citizens, whose wisdom may best discern the true interest of their country and whose patriotism and love of justice will be least likely to sacrifice it to temporary or partial considerations.” A similar view could be found in 19th-century Europe (Sieyès, 1789; Burke, 2012).

It follows from this notion of representative government that voters were not independent. They should acknowledge the hierarchical superiority and cast their ballots for the candidate who embodied that higher status. In practice, however, such deference was problematic, and elections did not work as intended. This happened because intra-elite conflicts became politically salient almost everywhere soon after the adoption of elections. As a result, elections changed into a stage of partisan conflicts (Morgan, 1989; Hofstadter, 1969). In this context, voters were often resources that politicians would use to win the conflict. A Brazilian politician, who described an election in 1840, depicted the relationship between voters and candidates as a war. In his analogy, voters were like soldiers that the elites would recruit, billet, and order to march on election day. But, these soldiers should be closely overseen; otherwise, they could defect:

“Each of the various contingents [of voters], as they arrived [in town], immediately went to their respective encampment. Once they entered there, it was similar to a military barrack or a real fort; for once they entered there, no one except for the chiefs or officers could, as a rule, leave the place without authorization or someone to conveniently escort him, so that he would not be subject to any temptation to desert. However, day and night, there were always more or less vigilant sentries, lest enemies or spies enter the fort, who could damage the ammunition or bribe soldiers.” (Rezende, 1944, p. 112)⁴

There are records of this situation in which politicians gathered and led voters to cast their ballots in other Latin American countries, Europe, and the United States (Alonso, 1996; Bensel, 2004; O’Gorman, 1992; Morgan, 1989).⁵ A crucial aspect of elections at that time is that voters

⁴Translated from Portuguese by the author.

⁵In the nineteenth-century United States, for example, “coop” was the colloquial name for the warehouse where

were often subject to economic and political pressures. Landlords, industrialists, and other sorts of local leaders could mobilize their subordinates to vote for their candidates. Intimidation and coercion, which are currently unacceptable interference with voters' will, were part of the game. Politicians who resorted to this strategy depicted it as a common and desirable social influence of leaders on ordinary people who had to acknowledge the social distinction. However, when they assessed the same strategy being employed by their opponents, it was reported as a source of violence, corruption, and fraud that adulterates elections by violating people's will (Posada-Carbó, 2000; Limongi, 2014; Morgan, 1989).

Two chief consequences follow from that electoral context. First, voters were not autonomous as we currently think they must be in representative democracies. The last paragraph stressed that point. Second, candidates had to assume the costs of "making voters" (Limongi, 2015). The process of making voters required that candidates had to register their supporters to vote, transport them to the polling place, keep them gathered and away from the influence of other candidates, and provide the ballot that voters would cast. Once a candidate made his voters by providing the ballots and overseeing voters until the pooling station, he could be sure that these voters would cast ballots for him. Therefore, a politician knew in advance how many votes he would receive. But, this dynamic of making voters was costly. And the expenses candidates had to afford increased with the electoral competition. As the level of competition among candidates increased in the district, they would have to make as many voters as possible to win a seat.

Over the last decades of the 19th century and the beginning of the 20th, representative elections went through significant changes. First, reforms that extended suffrage to lower classes enlarged the number of voters. Second, political parties were becoming organized, stable groups that represented and coordinated segments of the electorate. Third, urbanization was bringing new types of voters who were members of the working or middle classes and could not be completely controlled by politicians. These three changes are related to each other. Establishing which of these factors

campaign workers held voters, providing them food, drink, and entertainment at the expense of the candidate for days before the election. On election day, campaign workers carefully escorted these voters to the polling place (Bensel, 2004)

caused the others is beyond the scope of this paper. The crucial point is to observe that elections changed, and these changes affected the relationship between candidates and voters. Manin (1997) characterizes this moment as a transition from a government of local nobles to a party democracy.⁶

The bottom line for this paper is to understand how this transformation affected the process of making voters. Many voters were now more independent from the influence of candidates. These voters increased the electoral uncertainty faced by candidates and brought new political actors to the contest, such as working parties. Yet, politicians still had to afford the costs of making voters: printing and distributing ballots, but this time in a mass electorate. In this paper, I argue that the increasing costs of making voters prompted elected politicians to pass AB reforms.

4.3 Incentives for Electoral Reform

4.3.1 Expected Consequences of the AB Adoption

The adoption of official ballots could significantly affect election outcomes. As Gingrich (2019) describes it in detail, AB reforms are consequential because they could trigger two effects. On the one hand, the adoption of the official ballot is an institutional change that arguably increased voters' autonomy. On the other hand, the AB reform may effectively disenfranchise large groups of voters—the poor, less-educated, illiterate citizens.

The first argument about the political consequences of AB reforms stresses that the official ballot would undermine the influence of intimidation and corruption on voting choice. Before the AB, a candidate had to hand ballots out to voters and supervised them until they cast these votes in the ballot box. With this ritual to make voters, candidates were able to observe a voter's choice. Hence, effective sanctions could be employed to punish those who did not vote for the candidate supported by their superiors. The AB reform would weaken these conditions because voters now find the ballot at the polling station, and they can express their preferences away from the sight

⁶In nobles' government—or "parliamentarianism"—representatives were selected by relatively small constituencies because they inspired the trust of their fellow citizens as "a result of their network of local connections, their social prominence or the deference they provoked" (Manin, 1994, p. 147). In party democracy, due to the enlarged electorate that stems from suffrage extension, most citizens no longer vote for candidates based on their personal relationship, but for someone who represents their preferred party, that is, the political group that is aligned with citizens' social cleavage (Manin, 1994, p. 150).

of powerful political actors. In other words, AB would be the institutional change that marks “the transition from de jure to de facto” secret voting in many countries (Gingerich, 2019, p. 920). Thus, some scholars emphasize that AB reforms can, to some extent, emancipate voters (Mares, 2015; Gingerich and Medeiros, 2020). A large number of citizens, which includes tenants and employees, would become “independent” voters under the AB.

Another implication of the AB reform is that politicians who resort to vote-buying could no longer fully monitor the vote choice. As such, the official ballot would generate a credible commitment problem between vote buyers and sellers. AB reforms created a game with incomplete information for these actors. Without conditions to efficiently oversee a voter’s choice, the incentives for candidates to use bribes in the election would drastically decrease. John Wigmore summarized these two positive effects attributed to the AB reform when he said that it compels both the dishonest and the honest man to vote in secrecy. Hence, the AB “renders it impossible” for the former “to prove his dishonesty”, and “relieves” the latter from “grosser forms of intimidation (...) and pernicious coercion” (Wigmore, 1889, p. 32).

However, the adoption of the AB is also associated with an undemocratic effect. Because voters are required to read to express their preferences on official ballots, AB reforms can erode effective participation in elections. According to this argument, the AB would be a hurdle to keep specific groups of voters from participating: Illiterates would no longer be able to cast a valid ballot (Gingerich, 2019; Kousser, 1974; Perman, 2003) as effective participation with the AB requires literacy skills to read written names, identify the preferred candidate or parties, and correctly indicate the choice.

It is a well-documented fact that Democratic Party leaders in the US South knew about the disenfranchising effect of AB reforms, and their crucial motivation to adopt it was the effective disenfranchisement of less-educated African Americans (Perman, 2003). Gingerich (2019) shows that Brazilian politicians were also aware of the consequences of AB reforms on the participation of illiterates. In both countries, empirical evidence indicates that the adoption of official ballots indeed eroded the political participation of poor, less-educated voters (Kousser, 1974; Gingerich,

2019).

Therefore, AB reforms were consequential decisions. This institutional change can influence who is likely to vote and who is likely to be voted. Whereas the disenfranchising effect would change the composition of the electorate, enhancing voters' autonomy could alter voters' choices. The literature provides pieces of evidence for both effects. Mares (2015) shows that the 1903 secrecy-enhance reforms in Germany, which included the adoption of the official ballot, increased the electoral support for the Social Democratic Party in areas with more less-educated workers. Baland and Robinson (2008) found that the electoral support for the Chilean landowners' political party decreased after the AB reform. Gingerich (2019) demonstrates that the introduction of the AB increased the percentage of wasted votes in Brazil.

Based on the consequences that an AB reform could cause, the literature shows that candidates and parties who expected to benefit from the reform were more likely to support it (Mares, 2015; Gingerich and Medeiros, 2020). That was the case for both the SDP in Germany and the UDN in Brazil. The former was a left-wing party expecting to benefit from the “autonomy” workers would gain with the AB. The latter was a party supported by middle-class families in Brazil and saw the official ballot as a chance to decrease the power of its rival party—Partido Social Democrático (PSD)— which was strong in rural areas. In other words, urban parties had reasons to believe that they would benefit from both effects of the AB reform: increasing the autonomy of certain groups of voters and disenfranchising poor citizens. Mares (2015) also demonstrates that German candidates in districts whose economic features did not provide conditions to resort to voting intimidation were more likely to support the reform. Gingerich and Medeiros (2020) found that candidates whose electoral fate heavily relied on districts with many illiterates were less likely to support the reform in Brazil.

In sum, the literature shows that the demographic and economic features of the district matter to understand the incentives lawmakers had to support the AB reform. However, these conditions are often necessary but insufficient to explain why countries passed AB reforms. They are necessary since some political actors anticipated they could benefit from the official ballot by increasing their

vote shares. This expectation led political actors to include the AB reform in the political agenda. In Brazil, for instance, UDN was the chief advocate of the AB reform for years. Nonetheless, these economic and demographic features of the district are not sufficient conditions because urban parties and candidates who expected to benefit from the adoption of AB were minority groups in the parliament.⁷ To introduce the official ballot, these minority groups needed the support of members of the incumbent or dominant party, which had a strong influence on poor and rural districts. Hence, dominant parties likely benefited from intimidation, bribe, and illiterates' votes before the AB.

Therefore, an *ad hoc* coalition between legislative minorities and some members of the dominant party was frequently necessary to pass an AB reform. Yet, why did members of dominant parties support an institutional change that could decrease the political power of their parties? The literature does not address this puzzle. Previous studies explain why elected officials from dominant parties would vote “nay,” that is, against the reform: Politicians in these parties were more likely to use both intimidation and illiterates' votes. But this cannot explain why representatives from dominant parties voted “yea” to pass the AB reform. Showing that candidates who did not depend on illiterate voters or could not resort to intimidation were more likely to support the AB is not enough to explain the incentives for politicians in dominant parties to support the reform. Their parties would still lose votes and seats after the institutional change. In this paper, I uncover the incentives underlying the support for the AB among politicians whose parties would be harmed by the reform. Whereas their parties would not benefit from the AB, these politicians could use this institutional change to outsource the financial cost of making voters.

4.3.2 Costs of Making Voters and the AB Reform

To fill the gap in the literature, I claim that electoral competition during a specific moment of representative government is the missing piece to understanding the adoption of official ballots.

⁷The German SDP, for example, held only 14% of seats in the Reichstag when the secret ballot act was passed in 1903. Radicals were a small parliamentary movement in 1872 when the UK passed the secret ballot act. These examples illustrate that at the early stage of representative government, urban parties were legislative minorities almost everywhere.

Historical phases of elections (Manin, 1997) created distinct patterns of electoral competition, which in turn shaped the incentives of politicians to pass electoral reforms.

AB reforms are typically associated with the period when both mass electorates and political parties organized as electoral machines emerged. The large size of the electorate increased the costs of making voters; it was especially true in competitive districts, where candidates had to make as many voters as possible to be elected. The strategies to make voters—which involved printing ballots, transporting, lodging, and monitoring voters—became unaffordable for many candidates. Political competition enhanced the costs of elections in such a way that many politicians could no longer overcome the barriers imposed by electoral expenses. The speech of Franco Montoro, a Brazilian senator, in the Congress illustrates the financial crisis that candidates had to face to make voters in mass electorates:

“The current law that requires printing, transporting, and distributing ballots at the expense of the candidates, is undemocratic and violates the public interest. It benefits the wealthy and drives men of lesser means away from the elections. Thus, it stimulates the ‘plutocracy’, with the selection of men who act on behalf of financial groups and are indifferent to the problems faced by the people” (Franco Montoro, 1959).⁸

As the Brazilian electorate increased during the 1950s, the cost of making voters became extreme in highly populated districts, like the state of São Paulo, as Nicolau Tuma, a federal representative, complained in a Congressional session that discussed the AB reform:

“In a district like São Paulo city, that has 1.2 million voters, a candidate must print two, three, four million ballots. That is equivalent to an expense of one hundred or one hundred fifty thousand cruzeiros” (Nicolau Tuma, 1959).⁹

But the cost of making voters was increasing across all districts due to the change of the political system towards a mass electorate. As a representative estimated, each candidate would have to spend at least CR\$1,000,000.00 to print the ballots and distribute them to voters:

“If you, Mr. President of Congress, pay attention to the newspapers, or any publications in Brazil, you will see that paper is one of the products whose cost has

⁸Translated from Portuguese by the author.

⁹Translated from Portuguese by the author.

mostly risen, whatever its purposes. A thousand ballots—if this feudal, archaic, old-fashioned, anti-democratic, and anti-social system of the individual ballot persists—will cost at least 200 cruzeiros. An envelope, if we still employ the envelopes of letters used by many country representatives to send the ballot to their voters, will cost 10 cruzeiros [each]. For this reason, Mr. President, *no* candidate will spend less than one million cruzeiros, which may increase depending on the state’s population, just to print the ballots and take them to voters.” (Fernando Ferrari, 1959).¹⁰

These quotations show that many candidates saw the AB reform as an opportunity to outsource part of the costs of making voters to the state. Electoral competition increased these expenses associated with printing ballots because, in highly competitive contexts, candidates had to make as many voters as possible to have the chance to win a seat. Thus, I predict that:

Prediction: *Electoral competition increased the probability that representatives, particularly among those in the dominant party, would support the AB reform.*

Based on this prediction, I expect that by increasing the cost of making voters, the district-level competition positively affected the support for AB reforms. As I discuss in the empirical section, the impact of electoral competition on support for the AB depended on how much candidates relied on illiterates’ votes to be elected (Gingerich and Medeiros, 2020). Competition would increase the probability of supporting the reform among representatives from dominant parties who did not need illiterates to win a seat. For these lawmakers, the reform would reduce the extremely high cost of printing ballots. This motivation is the missing piece to understanding why members of dominant parties voted to approve the official ballot.

4.4 The AB Reform in Brazil

The 1945 general election inaugurated the first democratic experience in Brazil.¹¹ After fifteen years, voters could select the president and members of a new Congress. The country had been ruled by the same leader, Getúlio Vargas, since the coup in 1930. Although Vargas was ousted from office before the 1945 elections, his administration shaped the transition towards democracy and influenced the formation of the three major parties (Gomes, 2005). The Social Democratic

¹⁰Translated from Portuguese by the author.

¹¹Brazil had elections since mids of the 19th century. But, like in most countries, this early electoral experience was not democratic as elections were not competitive.

Party (PSD) was the conservative party founded by interveners appointed by Vargas to rule states and large municipalities during his dictatorship (Hippolito, 1985). From 1945 to the military coup in 1964, the PSD was the largest party in Congress, always winning more than 30% of the seats in the House of Representatives. Except for two short spans, the PSD was part of every federal administration.

The National Democratic Union (UDN) was also a conservative party, but it combined almost every politician who had been in opposition to Vargas' autocracy (Benevides, 1981). It included a group of urban liberal candidates who were supported by the middle class. As such, this party was associated with urban voters, although many of its members had a conservative rural basis as well. The UDN was the opposition party for most of the period. The third-largest political force was the Brazilian Labor Party (PTB), a left-wing group that was created by former members of Vargas' government to organize and control the emerging working class in Brazil. This labor party that represented urban workers was also the political organization directly associated with Getúlio Vargas, who was elected president in 1950. In many circumstances, the PTB aligned with the PSD to form a coalition in Congress. Jointly, these three political parties—PSD, UDN, and PTB—always held more than 75% of seats in the House of Representatives (*Câmara dos Deputados*).

Being in the opposition and holding urban constituencies, the UDN was the first political party to support the adoption of Australian Ballots. Members of the party claimed that PSD's electoral success was due to intimidation of voters and manipulation of the electoral law. Illiterates were not supposed to vote at that time. In practice, however, any person who was able to sign her name could participate in elections. As we have seen in the previous section, it happened because candidates provided ballots to their voters. In other words, literacy skills were not a high obstacle to casting a ballot. The UDN accused the PSD of cheating elections with intimidation and votes of illiterates.¹²

In 1955, after a convoluted contention between the PSD and UDN that almost led the country to violent conflict, the AB was introduced for presidential and vice-presidential elections. To pass this reform, the UDN was supported by the independent electoral agency—the Superior Electoral

¹²It is noteworthy that many candidates running under UDN label, particularly those in rural areas, also resorted to the same electoral practices that the party claimed being violations of the election typically used by the PSD.

Court (TSE)—and a part of the military. The official ballot for presidential elections was approved by Congress and implemented in the same year. One year later, the official ballot was extended to every office achieved by a plurality rule: Senators, governors, and mayors. In both reforms, the AB was adopted because some politicians from PSD and PTB voted for approving it. However, proportional elections were not included in these reforms. Why did Congress pass the official ballot only for plurality rule elections? The argument in this paper can help to explain it. Many plurality elections involved larger districts and mass electorates, such as the whole country for presidential elections and the entire state for gubernatorial and senate ones. Making voters in this context was too expensive. Because (i) the financial cost is not so high for candidates running in proportional representation elections, (ii) there are many candidates in this type of election, which makes it difficult to design the ballot, and (iii) the consequences of AB reforms were still uncertain, Congress did not approve the AB for elected offices attained by a proportional rule: Federal and state representatives, and city councilors.

This situation was gradually changing, however. In the 1962 general election, Brazil implemented the AB for proportional representation elections in every state's capital, in the district of Guanabara, and in the entire state of São Paulo. Those were highly populated areas compared to the rest of the country. But the legislative process to implement the Australian Ballot in proportional representation elections was long and complex. The House of Representatives approved it for the first time and sent the bill to the Senate in November 1958, just one month after the general election that took place in the same year. The bill proposed by the House would implement the AB for every proportional rule election. However, at the upper house, the bill was amended several times and had to wait for almost four years until being approved. The final project that the Senate sent back to the House adopted the AB only in the populated areas aforementioned. When the bill was back to the House, it was already the election year (1962), and there was not enough time to propose new legislation before the election. For this reason, the bill was approved with the text passed by the Senate.

4.5 Measuring AB support and Political Competition

Since I am interested in factors influencing politicians’ support for the AB reform, I use roll call votes in the House of Representatives in June and November 1958 to measure the outcome of my empirical model: Representatives’ support for the AB.¹³ These roll call votes in 1958 are more relevant to test my hypothesis because they discussed the implementation of the official ballot in all districts, whereas the 1962 vote was restricted to the project that came from the Senate.

Table 4.1: Roll Call Votes by Party

Party	June 1958				November 1958			
	Nay	Abst.	Yea	Total	Nay	Abst.	Yea	Total
PSD	20	64	34	118	23	56	39	118
UDN	12	44	24	80	0	25	52	77
PTB	2	43	17	62	6	29	29	64
PSP	1	19	8	28	4	11	14	29
PR	2	9	6	17	4	9	5	18
PL	1	3	3	7	0	4	3	7
Small Left*	0	6	3	9	1	3	4	8
Small Right**	2	2	1	5	0	4	1	5
Total	40	190	96	326	38	141	147	326

Note: *PRT, PTN, and PSB; **PRP and PDC.

Table 4.1 shows the distribution of votes across political parties and roll call votes in 1958. On June 26th, 96 representatives voted to pass the bill, but the House did not achieve the quorum of 163 votes to approve the reform. On November 8th, the House approved the bill with 147 “yea” votes. The majority moved from abstention in June towards supporting the reform five months later. Abstention fell 26% in November, whereas voting “yea” increased 54%. Between these roll call votes, there was an election for the House of Representatives in October.

In June, even the UDN was divided about this project—44 abstentions and 12 “nay” votes. Part

¹³Roll call voting data from the House of Representatives are available on <https://www.camara.leg.br/>.

of the UDN thought the AB would benefit the PSD in the 1958 election because this party would have privileged access to electoral advertisements on the radio. Therefore, some members of the UDN argued that using their ballots to “make voters” was the only manner they could reach voters and reduce the campaign advantage of the PSD.¹⁴ They wanted to pass the reform after the election. It is also noteworthy that 39 members of the PSD voted for the AB reform in November 1958.¹⁵ Without the support of these lawmakers attached to the traditional, rural-based political party, the bill would not be approved. On the other hand, 25 representatives from the UDN abstained, whereas 35 from the PTB either voted nay or abstained. According to the literature, these two parties were expected to benefit from the reform.

To understand why the three large parties were divided, we must consider the trade-off between the cost of making voters and votes of illiterates. The interaction between these two factors drove the choice of representatives. Competition increased the support for the AB reform among those who did not rely on illiterate votes to win a seat. Because I am still collecting the share of illiterate voters in municipalities where candidates received votes, I focus on competition in this current version of the paper.

Measuring political competition in open-list proportional representation (OLPR) elections is not a simple task. In this electoral system, seats are first distributed across parties’ lists—or coalitions of parties’ lists—based on the number of district quotas that each list of candidates obtained. A district quota is the total of valid votes in the district divided by its magnitude, which is the number of representatives this district can elect. Once the seats are allocated across parties, they are then assigned to politicians within party lists based on candidates’ performance. For instance, if party A won two seats, the two candidates in party A with more personal votes will be elected.

Unless the candidate is strong enough and has more personal votes than the district quota—which means she knows for sure she will be elected—or too weak such that there is no chance of being elected, the level of uncertainty faced by candidates in OLPR systems is high. Most

¹⁴This claim illustrates that many candidates of the party that advocated in favor of the AB reform also resorted to the intimidation of voters and votes of illiterates.

¹⁵95 PSD representatives participated in both roll call votes in 1958. Only 8 of them voted yea twice.

candidates are in a gray area: They have a bunch of votes that make them relatively competitive, but their chances of winning a seat depend on two factors that they cannot control. First, because they are not able to achieve the district quota alone, their prospects rely on the general performance of their party or coalition list. Second, because their personal votes are close to the number of votes that other candidates in their party list have received, their position in the list is unknown before the election.

Figure 4.1 illustrates this uncertainty with the example of the 1954 election for federal representatives in the state of Bahia. Each line in the graph represents a party or coalition list, and each point is a candidate. The x-axis is the position of the candidate in her list, whereas the y-axis shows the percentage of a district quota that a candidate was able to achieve with her personal votes. If the candidate was not elected, she is represented by a hollow dot. Candidates above 1 in the district quota are strong enough to believe they will be reelected. Most candidates, however, lie between 0.75 and 0.25 quota. Within a list, those candidates are close to each other, which means that they do not know who might be elected in the future. This uncertainty is even higher because their chances depend on both the coalition their party will form and the composition of the lists—two factors candidates could not control.

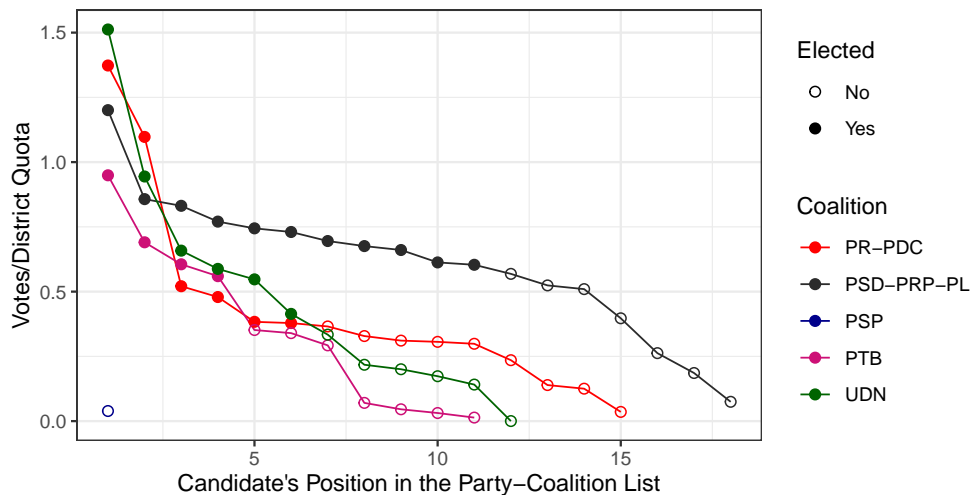


Figure 4.1: Candidates and Party Lists in the State Bahia 1954 Election

The bottom line of this example is that individual measures of electoral performance are not helpful for many candidates running in OLPR systems. For this reason, I measure political competition at the district level—the Brazilian states. The composition of the contest and the level of competition in the state were the best information available for many candidates to assess their electoral prospects. With this information from the previous election, they could project how many votes will be necessary for the next election and, as a result, the estimated cost of making voters. To measure political competition in the district, I compute the following indicator:

$$C_{jt} = \frac{ENC_{jt}}{S_j} \quad (4.1)$$

where the level of competition C in state j at time t is the ratio of the effective number of candidates in the district (ENC_{jt}) to the magnitude of the state (S_j). To compute ENC_{jt} , I use the widely known formula to calculate the effective number of parties (Laakso and Taagepera, 1979), but at the candidates' level:

$$ENC_{jt} = \frac{1}{\sum_{i=1}^n p_i^2} \quad (4.2)$$

where p_i^2 is the squared proportion of votes that candidate i received.¹⁶ Equation 4.1 provides the level of competition in each district. Larger numbers of C_{jt} suggest high competition. If $C_{jt} = 1$, there is one effective candidate for each seat available in the district. When $C_{jt} < 2$, there are fewer than 2 effective candidates per seat in the state. This variable ranges from 0.58 to 2.24 in the data set—which includes the 1954 and 1958 elections—with a mean equal to 1.57 and a median of 1.64.

The number of abstentions in June 1958 (Table 4.1) suggests that many representatives did not hold a strong position against the bill. These lawmakers were facing a trade-off. Although they had to afford the costs of printing ballots for a growing electorate—the number of voters within states increased on average by 20% between the 1950 and 1954 elections—district-level competition (Equation 4.1) decreased by 18% over the same period. Thus, the cost of making voters was high

¹⁶Election results available on the website of the Superior Electoral Court (TSE).

but did not skyrocket due to electoral competition in 1954, the last election before the House voted on the AB bill for the first time. Representatives who resorted to votes of illiterates and economic intimidation decided to abstain in June, assuming that the cost of making voters would be similar to what they observed in 1954.

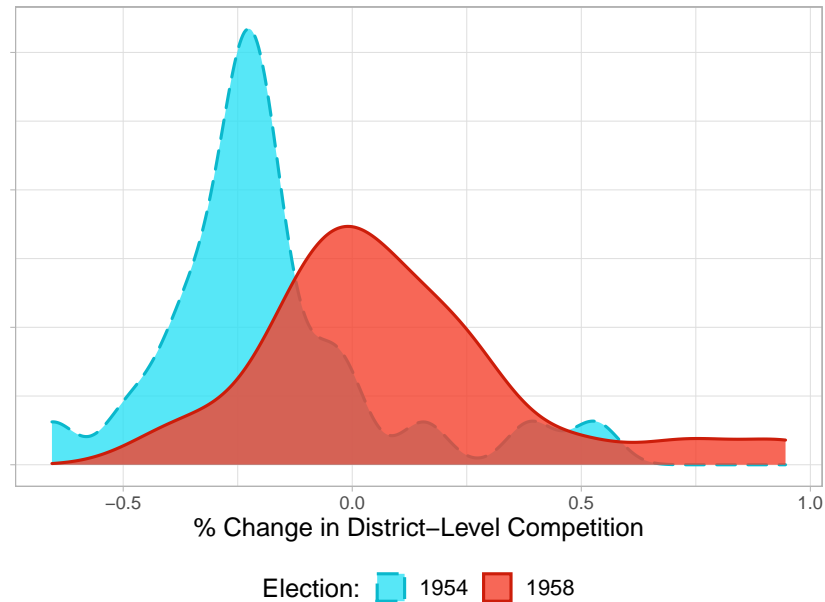


Figure 4.2: Distribution of % Change in District-Level Competition

Note: % Changes indicate the difference between district-level competition at t and $t - 1$ divided by competition at $t - 1$: 1954-1950 (blue distribution) and 1958-1954 (red distribution).

However, the election in October 1958 was much more competitive in many districts. Unlike in 1954, district-level competition increased in most states. Figure 4.2 shows the distribution of percentage change in district-level competition in both elections. In 1954, most states experienced a decrease in competition. But in the 1958 election, 14 states witnessed an increase in electoral competition. Compared to 1954, the electorate increased by 25% and the average competition across districts increased by 10% in 1958. Figure 4.3 displays the predicted percentage change in the number of voters in the state as a function of the percentage change in competition from election

$t - 1$ to t .¹⁷ The positive relationship between these variables suggests that higher competition increased the cost of elections in mass electorates: Candidates needed to print more ballots in order to make more voters in a competitive environment.

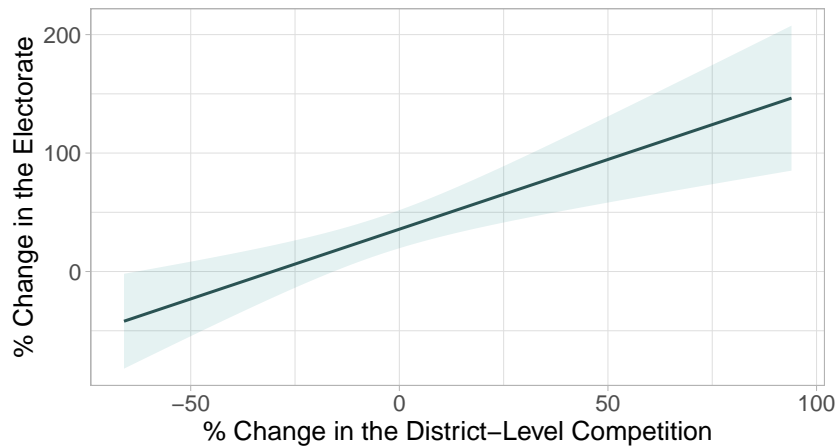


Figure 4.3: Association Between Competition and the Size of the Electorate

In response to this change in competition, the support for the AB reform drastically increased among representatives who previously abstained—69 out of 164 representatives changed their position from abstention to a “yea” vote. Most of them were elected in districts with higher competition in 1958.¹⁸ As a result, the bill was approved by the House of Representatives just one month after the election. In the next section, I present the major empirical test I intend to estimate once I have all data. Next, I employ the information available to test whether district-level competition affected support for the official ballot.

¹⁷Figure 4.3 plots the marginal effect from model 3 in Table reftab:cs1. This Table also shows other model specifications that estimate the relationship between competition and the size of the electorate. All models report a positive association.

¹⁸Rio de Janeiro, Bahia, Pernambuco, and Rio Grande do Sul were states where competition increased in 1958. 26 representatives from these states changed from abstention to support the reform between June and November.

4.6 Model Specifications

4.6.1 Competition and Illiterates' Votes

My argument predicts that electoral competition triggered support for the AB reform due to the growing cost of making voters in mass electorates. However, since the official ballot could disenfranchise illiterates, the effect of competition on support for the AB likely depends on how much candidates relied on the votes of illiterates to be elected. Representatives whose electoral bases were not comprised of poor, economically dependent, low-educated people voted to pass the official ballot because they no longer wanted to afford the high cost of printing ballots. But, those whose constituency was mostly illiterates did not support the AB reform in response to competition (Gingerich and Medeiros, 2020). For these representatives, competition increased their reliance on illiterates, and the official ballot could disenfranchise a large sector of their electoral bases (Gingerich, 2019). Therefore, they would be more likely to oppose the reform as competition moved up. For this reason, my ideal empirical strategy will estimate the support for the AB reform as a function of the interaction between district-level competition and the share of illiterates in areas where representatives used to make their votes:

$$P(y_{it} = 1) = \beta_1 C_{jt} + \beta_2 \text{Illit}_{it} + \beta_3 C_{jt} * \text{Illit}_{it} + \beta \mathbf{x}_{it} + \epsilon_{it} \quad (4.3)$$

where $P(y_{it} = 1)$ is the probability of representative i will support the official ballot after election t , C_{jt} is the district-level competition, Illit_{it} is illiterate votes, and \mathbf{x}_{it} is a set of controls. Table 4.2 summarises the expected direction of parameters:

Table 4.2: Summary of Theoretical Expectations

		Competition	
		Low	High
Illiterate Votes	High	$\beta_2 < 0$	$\beta_3 < 0$
	Low		$\beta_1 > 0$

Representatives whose voters were illiterate would have the incentive to oppose the AB reform ($\beta_2 < 0$). High competition, in turn, will increase the support for the official ballot ($\beta_1 > 0$). Yet, the effect of competition among those who depended on illiterates to win a seat will be weak or even vanish ($\beta_3 < 0$).¹⁹ For this empirical test, I will use the 1960 Census to control for demographic and economic characteristics of a representative's electoral bases, that is, the municipalities where i received votes.²⁰

To estimate Equation 4.3, I am collecting information from the 1960 Census, which is not in a spreadsheet format, to transform it into a data set. In this dissertation, I leave the interaction from Equation 4.3 aside to focus on empirical strategies that can estimate the overall impact of competition on support for the AB reform.

4.6.2 Alternative: State Fixed Effects and Diff-in-Diff Setting

I investigate how district-level competition affected the adoption of the official ballot in three steps: Tests 1, 2, and 3.

In Test 1, I exploit the fact that 269 lawmakers participated in both roll calls in 1958, before and after the election. With this sample, I can implement a strategy similar to a difference-in-difference setting with a continuous treatment (Callaway, Goodman-Bacon and Sant'Anna, 2021): the electoral competition faced by these representatives in the 1958 election. According to my argument, lawmakers from districts with higher competition in 1958 would be more likely to support the AB reform in November of the same year. This empirical strategy increases the internal validity of my findings because it restricts the sample to those who were present in both roll call votes in 1958. In this model, I regress the probability of voting yea in roll call votes in 1958 on the district-level competition in 1958—which is zero for all representatives in the roll call vote before the election—and a time indicator that takes the value of 1 if the roll call vote took place in November, that is, after the election. In this strategy, I control for the representative's performance

¹⁹ $\beta_3 < 0$ also implies that the magnitude of the negative effect of illiterates on the support for the AB reform ($\beta_2 < 0$) increases with the competition.

²⁰These controls will include the level of inequality in agricultural landholding, the percentage of the working-age population employed in agriculture, and the percentage employed in industry, the number of registered voters by municipalities.

in the 1958 election—the ratio of a candidate’s personal votes to the district quota—his political parties, and state fixed effects.

Next, Test 2 investigates why some representatives changed their vote after the 1958 election. Since abstention was the strategy of most representatives who did not support the AB reform in the first roll call vote (Table 4.1), I estimate a model in which the outcome variable indicates whether a representative changed from abstention in June to a yea vote in November 1958. Because I now am interested in the change in behavior over time, the explanatory variable in Test 2 is the percentage change in the district-level competition between the 1954 and 1958 elections.²¹ In this strategy, I control for the representative’s electoral performance in the 1958 election, political parties, and state fixed effects.

Finally, my argument also predicts that electoral competition can explain why members of the dominant party supported the AB reform. As such, in Test 3, I estimate models only with representatives from the PSD, the strongest and rural-based party in 1950s Brazil. The dependent variable now indicates whether a member of the PSD voted yea. This time, the explanatory variable is the level of competition—Equation 4.1—faced by the representative in the last election before the roll call vote—the 1954 election for the roll call vote in June 1958 and the 1958 election for roll call votes in November 1958 and June 1962.²² Once again, my models control for state fixed effects, a representative’s electoral performance, his party affiliation, and, this time, a categorical variable indicating the roll call vote.

Together, these three strategies show that competition can explain why representatives supported the reform after the election (Test 1), why some of them moved from abstention to a yea vote (Test 2), and why members of the dominant party voted to pass the official ballot (Test 2).

²¹Results are robust for a model that uses the level of competition in the district in 1958. See Table C.2 in Appendix 3.

²²Results are robust for a model that uses changes in district-level competition. See Table C.3 in Appendix 3.

4.7 Preliminary Results

4.7.1 Test 1: Electoral Competition and AB Reform in November 1958

The two roll call votes in 1958 provide an ideal scenario to test the impact of electoral competition on official ballot adoption. Brazilian representatives voted on the AB bill twice, rejecting the reform before the 1958 election but approving it afterward. With this timeline, I can implement a strategy similar to a difference-in-difference design with continuous treatment: electoral competition. To do so, I estimate the following equation:

$$P(y_{it} = 1) = \beta_1 D_{j1958} + \alpha_1 T + \alpha_2 \text{CandDQ}_{it} + \alpha_d \text{State} + \theta \text{Party} + \epsilon_{it} \quad (4.4)$$

where D_{j1958} is the treatment that measures the level of competition in i 's electoral district in 1958—which takes the value of zero if the roll call took place before the 1958 election— T indicates whether the roll call happened in November 1958, CandDQ_{it} captures the electoral performance of representative i as a share of the district quota in the election before the roll call vote, and **Party** and **State** are vectors of fixed effects. According to my theory, β_1 should be positive, indicating that competition in the 1958 election increased support for the AB reform.

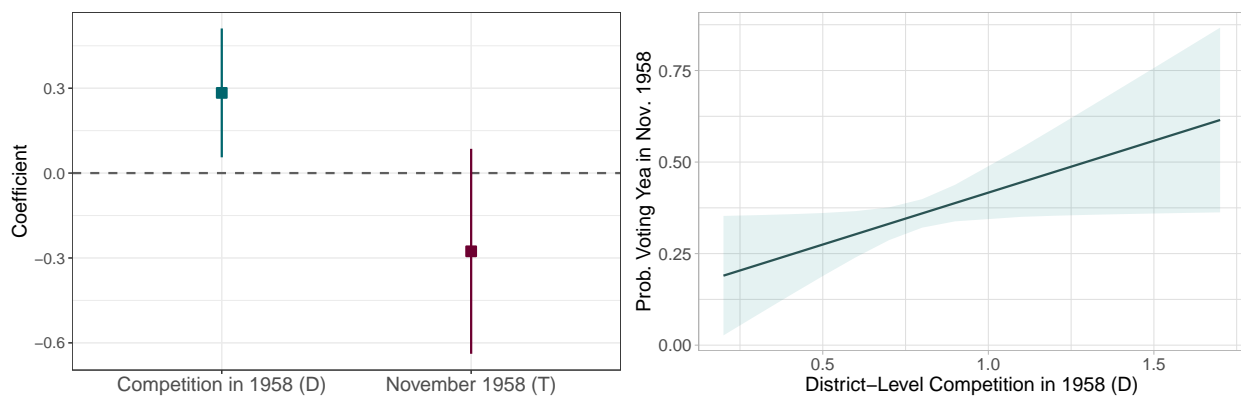


Figure 4.4: The Effect of Competition in 1958 on Support for the AB Reform

Note: Model estimated as per Equation 4.4. The outcome indicates whether the representative voted “yea” in the roll call. Full results in Table C.4.

Figure 4.4 shows the results of Test 1. Panel A presents the coefficients for D_{j1958} and T from Equation 4.4. As expected, district-level competition in the 1958 elections has a positive and statistically significant effect on support for the AB reform. Panel B displays predicted probabilities of voting yea in November 1958 across levels of competition. A representative from a state with relatively high competition— $C_{jt} > 1.5$ —is twice more likely to support the AB bill than a lawmaker from a district with relatively low competition— $C_{jt} < 0.5$. These results support my prediction that competition increased the probability of passing the official ballot.

4.7.2 Test 2: Moving from Abstention to Yea

Table 4.1 shows that most representatives abstained in the first roll call vote. After the election, though, the majority moved to support the bill. Thus, in my second test, I estimate whether competition in the 1958 election explains the choice of representatives who abstained in the first roll call vote but supported the bill afterward.²³

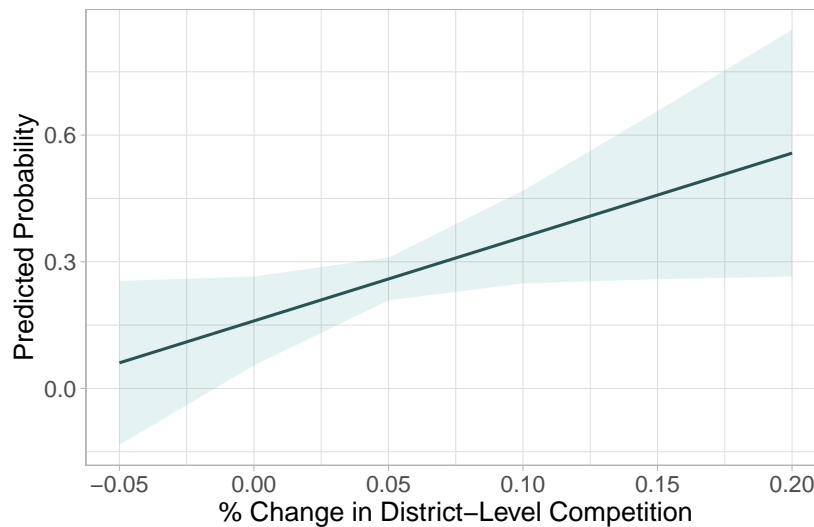


Figure 4.5: Competition and Change in Roll Call Votes: From Abstention to Yea

Note: The outcome indicates whether the representative changed from abstention to supporting the AB reform from June to November 1958. Full results in the first column of Table C.2

²³Table C.5 in Appendix 3 indicates that abstention in June 1958 was also correlated with district-level competition in the previous election in 1954. However, the results are not robust for models that control for state fixed effects.

In this model, I regress an indicator of whether the representative moved from abstention in June 1958 to voting yea in November as a function of the percentage change in competition between 1954 and 1958, holding constant all covariates in Equation 4.4.²⁴

Figure 4.5 shows that positive changes in district-level competition increased the probability of changing from abstention to supporting the bill between the 1958 roll call votes. A lawmaker from a district where competition increased by 15% is 30% more likely to vote for the AB reform than a representative from a state in which competition stayed the same. These findings suggest that higher competition explains why representatives changed their position toward the official ballot after the 1958 election.

4.7.3 Test 3: Support for AB in the Dominant Party

The literature has failed to explain why members of large, rural-based parties would support the AB reform. My argument predicts that the cost of making voters when competition increases in mass electorates encouraged representatives in the dominant party, particularly those who did not depend on illiterates to be elected, to vote for the approval of the official ballot. To test this prediction, I regress the probability of members of the PSD voting for the AB reform on the competition they faced in their districts.

In Figure 4.6, I present the predicted probability that a PSD lawmaker would support the AB bill across values of district-level competition. The results demonstrate that representatives in districts with higher competition were more likely to vote for the reform. Whereas a PSD lawmaker in a district with almost no competition - one effective candidate per seat - had nearly no chance to support the official ballot, a co-partisan who faced more than two effective candidates had a predicted probability of voting for the reform of around 50%. These findings show that competition stimulated some members of large, rural-based parties to support the adoption of the AB.

²⁴This model does not control for time because there is just one roll call vote, November 1958.

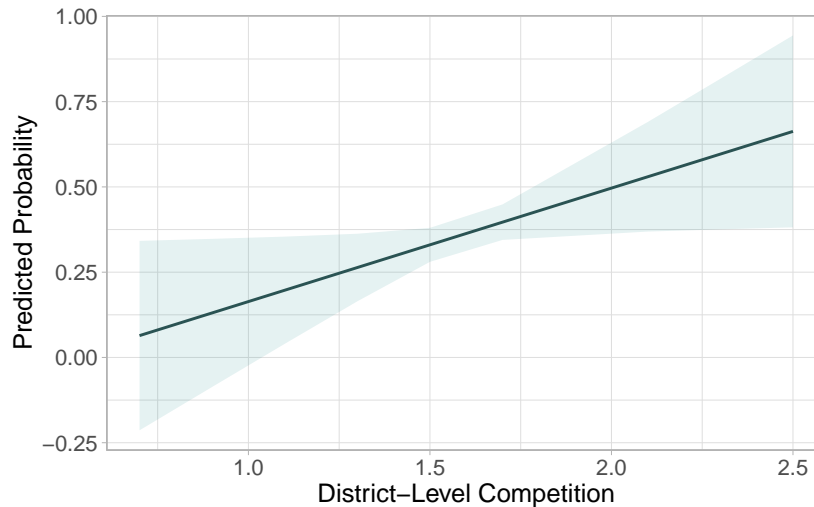


Figure 4.6: Competition and Support for the AB Reform Among PSD Lawmakers

Note: The outcome indicates whether members of the PSD voted “yea” in the roll call vote. Full results in the second column of Table C.3

4.8 Conclusion

The adoption of AB was consequential in many countries, but this reform has received little attention in the literature. Previous work demonstrated that urban-based parties supported and rural-based ones opposed the official ballot. However, rural-based parties formed legislative majorities when the AB was approved in most countries. Thus, AB reforms were passed by *ad hoc* coalitions that counted on the support of members of traditional parties that would not benefit from the institutional change.

In this paper, I propose a new explanation. Before the AB, candidates had to print and distribute ballots to their voters. This was the procedure of making voters in the early stage of representative governments: political regimes in which leaders are elected. The costs of making voters increased with the suffrage extension, especially in competitive districts where candidates had to make as many voters as possible to have a chance of winning a seat. Under these circumstances, many politicians saw the official ballot as a manner to outsource these expenses. This explanation demonstrates that even lawmakers from rural-based parties had incentives to support the AB

reform.

With election results and roll call votes from Brazil, I show that electoral competition increased the support for the official ballot even among members of the largest, traditional party, the PSD. After collecting the 1960 Census data, I intend to explore whether the reliance on illiterate votes moderated the relationship between competition and support for the AB. Representatives who received votes in municipalities with a large share of less-educated voters would be less likely to support the official ballot in response to electoral competition. My preliminary results show that changes in the size of the electorate correlate with district-level competition, and the latter is associated with the decision of lawmakers in favor of the Australian ballot.

5. CONCLUSION

The three essays in this dissertation test hypotheses about how the political context in which elections take place affects the relationship between representatives and voters. In each of these essays, I show how a specific feature of the electoral context—electoral systems, elite polarization, and the cost of making voters—shape democratic representation by driving candidates’ strategies, influencing vote choices, or creating incentives for electoral reforms.

In the first chapter, I investigate how candidates running for reelection obtain an electoral advantage in a political environment expected to undermine any competitive superiority due to incumbency: preferential PR systems. Contrary to the expectation of the dominant view in the literature, my findings from Brazil show that incumbents can exploit this environment to expand their support to other localities in the district. Moreover, I demonstrate that incumbents receive more resources from political parties and face fewer co-partisans in their electoral bases. Brazilian legislative elections combine all characteristics that, according to the literature, would make incumbents vulnerable: large districts with too many candidates and excessive intraparty competition. This suggests that incumbency advantage will also be present in other countries that use preferential PR systems. But Brazilian PR elections demonstrate that the electoral advantage from incumbency does not depend on the rank of candidates on the ballot. Incumbents can obtain an advantage in PR elections even without the ability to strategically place their names on the top of the ballot.

Future research can explore whether the expansionist strategy of incumbents in PR elections may depend on the district’s features—e.g., its size in terms of both area and magnitude and the geographic distribution of its population. Further, scholars can explore other resources besides partisan politics that incumbents may employ to gain an advantage in preferential PR elections. Are candidates running for reelection in these systems rewarded for channeling government spending and service provisions to their constituencies? Do they take advantage of media coverage in districts with other incumbents? These are questions to be tested in preferential PR elections. Like

single-member district systems, PR elections with preference votes tend to personalize the vote choice. As political entrepreneurs, incumbents use all possible resources to enhance their electoral chances. Rather than undermining strategies that can create an incumbency advantage, the high competition in preferential PR systems may encourage incumbents to invest in these strategies.

The second essay in this dissertation explores the impact of polarization on economic voting. Using U.S. presidential elections, I show that elite polarization weakens electoral accountability. As the political environment becomes more polarized, voters are more likely to stick with their parties rather than rely on policy performances to cast their votes. This essay is part of my broad, comparative research agenda on the radicalization of politics. In the future, I intend to extend the analysis to European democracies. Is radicalizing politics weakening accountability in multi-party systems? To investigate this question, I am working on measures of political radicalization in the context of multiple parties and implementing empirical models that estimate the movement of voters across ideological families of political parties across successive elections. In multi-party systems, polarization may reduce the number of voters who choose parties across ideological positions in successive elections. Rather than switching ideological blocs in response to policy performance, voters may be more likely to choose parties ideologically close to each other as politics become more polarized.

In the third chapter of this dissertation, I develop my argument to study electoral reforms. This essay is part of my project to understand why elected officials pass electoral reforms that, at first glance, can harm their prospects in future elections. Besides the adoption of Australian ballots, these reforms include, for instance, the extension of suffrage to lower-income citizens and electoral changes that increase the personalization of the voting choice in proportional elections. I argue that these changes in electoral rules are driven by a mechanism neglected by the literature: the competition to make voters. This comprises the repertoire of practices that candidates must perform to convert support into votes. Distinct historical phases of elections—aristocratic competition, party democracy, and audience democracy—required different strategies to make voters: bringing voters to the ballot box, making voters loyal to the party, and mass communication, respectively. Each

of these procedures to make voters triggered incentives for specific electoral reforms: suffrage extension, the official ballot, and preference votes. This project exemplifies the connection between mass and elite behavior. Voting behavior is a determinant factor of decisions made by elites. But elite behavior also affects voting choice, as the second chapter of this dissertation on polarization and accountability highlights. The interaction between mass and elite behavior is a promising research area, which must be further investigated to understand how the political environment shapes democratic representation.

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APPENDIX A.

CHAPTER 2

The Getis-Ord local statistic is computed as follows:

$$G_{ipt}^* = \frac{\sum_{q=1}^n w_{p,q} X_{qt} - \bar{X}_t \sum_{q=1}^n w_{p,q}}{\sqrt{\frac{\sum_{q=1}^n X_{qt}^2}{n} - (\bar{X}_t)^2} \sqrt{\frac{n \sum_{q=1}^n w_{p,q}^2 - (\sum_{q=1}^n w_{p,q})^2}{n-1}}} \quad (\text{A.1})$$

where:

- $w_{p,q}$ is the weight matrix—inverse distance between polling stations p and q
- x_{qt} is the number of votes for candidate i in polling station q at time t
- n is the number of polling stations in the district

Table A.1: Difference Across Groups—Matching Analysis

Variable	Untreated	Treated
Observations	573	573
Female	11%	12%
Age	49.6	48.2
College	79.2%	75.5%
Federal	31.5%	20.9%
Change Party	43.9%	36.4%
Different Office	18.3%	6.9%
Old Hotspots ($t - 1$)	606.2	635.8
District Magnitude	42.2	44.8
Incumbet at $t - 1$	27%	32%

Table A.2: Difference Around the Threshold of Electability—Fuzzy RDD

Variable	Below	Above
Observations	1977	1083
Female	18%	12%
Age	48.2	48.4
College	61%	77%
Federal	27.3%	29.5%
Change Party	55.7%	45%
Different Office	24.7%	11.5%
Old Hotspots ($t - 1$)	673	551
District Magnitude	52	41.7
Incumbet at $t - 1$	03%	21%

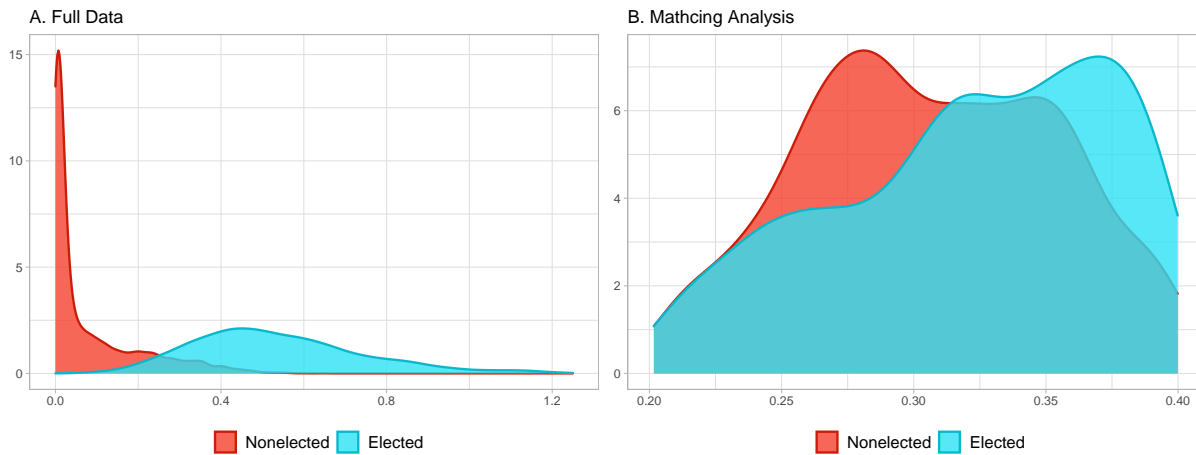


Figure A.1: Distribution of Candidates' District Quota

Note: The full data include all 8,380 candidates who ran two consecutive elections between 2010 and 2018. The matching data use propensity score to pair candidates from a sample that limits observations to candidates with a share of the district quota between 0.2 and 0.4, numbering 1,146 cases.

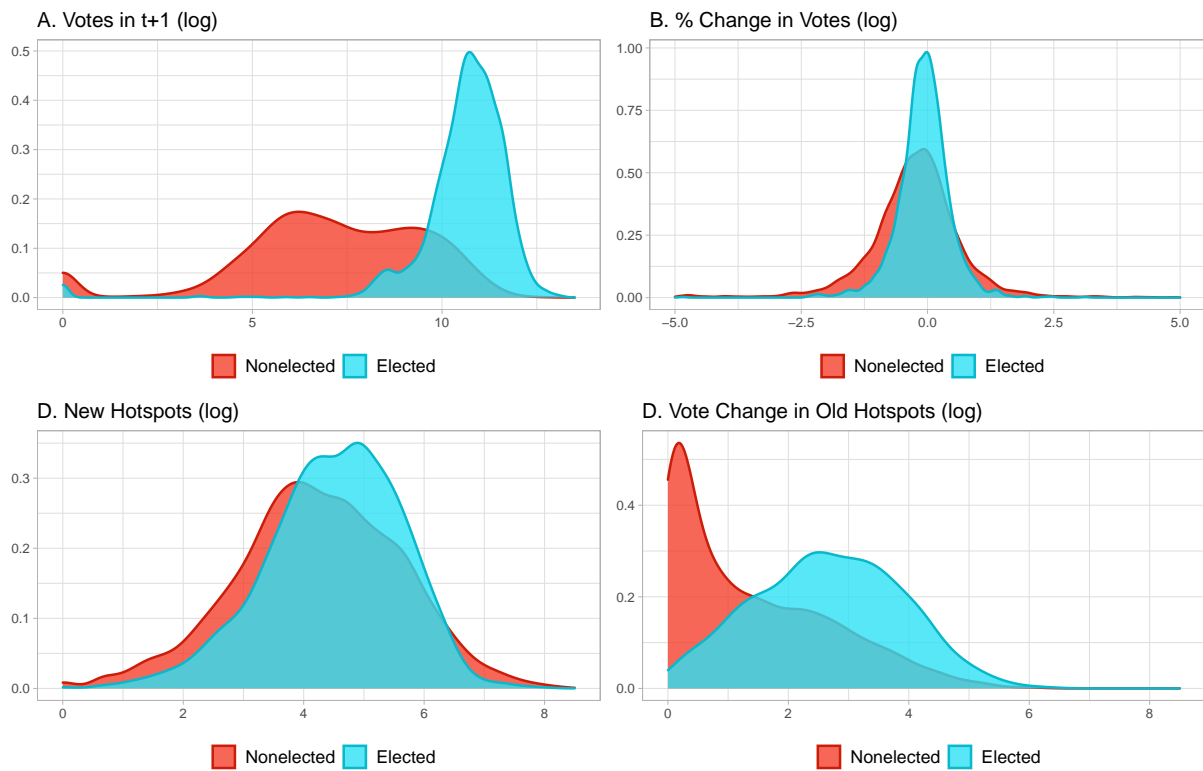


Figure A.2: Distribution of Outcomes in the Full Data

Note: The full data include all 8,380 candidates who ran two consecutive elections between 2010 and 2018.

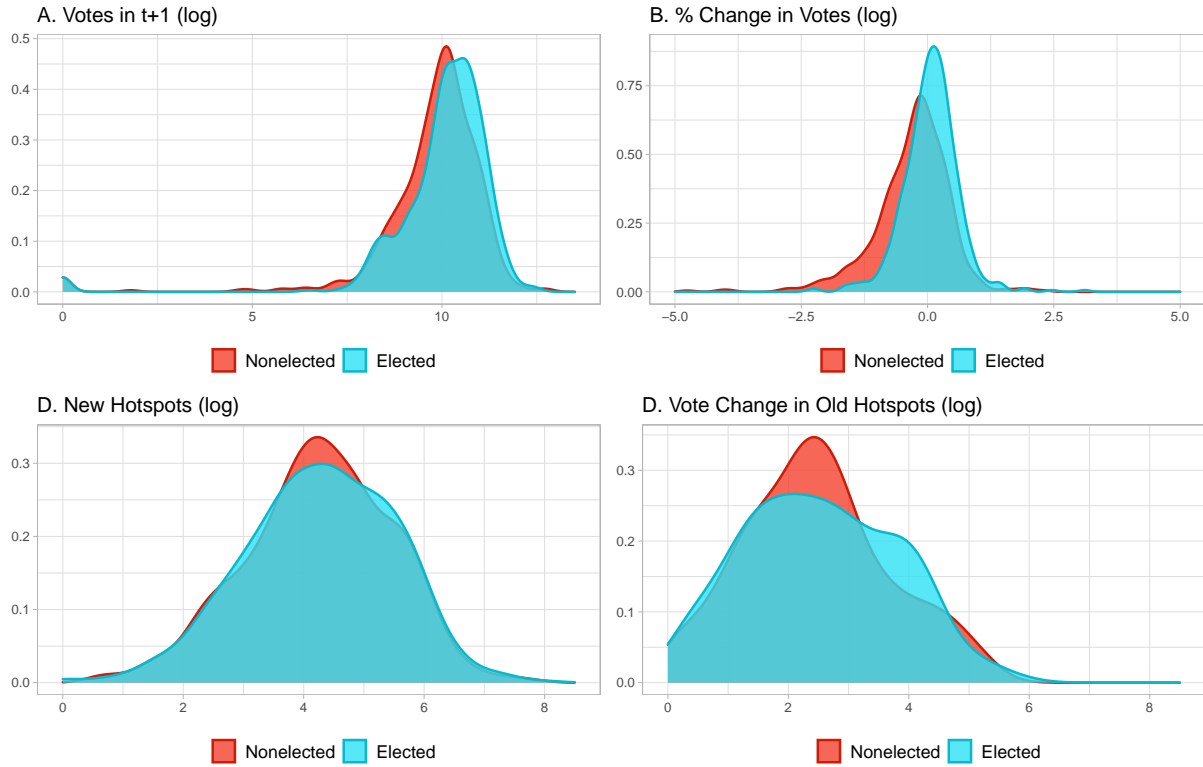


Figure A.3: Distribution of Outcomes in the Matching Analyses

Note: The matching data use propensity score to pair candidates from a sample that limits observations to candidates with a share of the district quota between 0.2 and 0.4, numbering 1,146 cases.

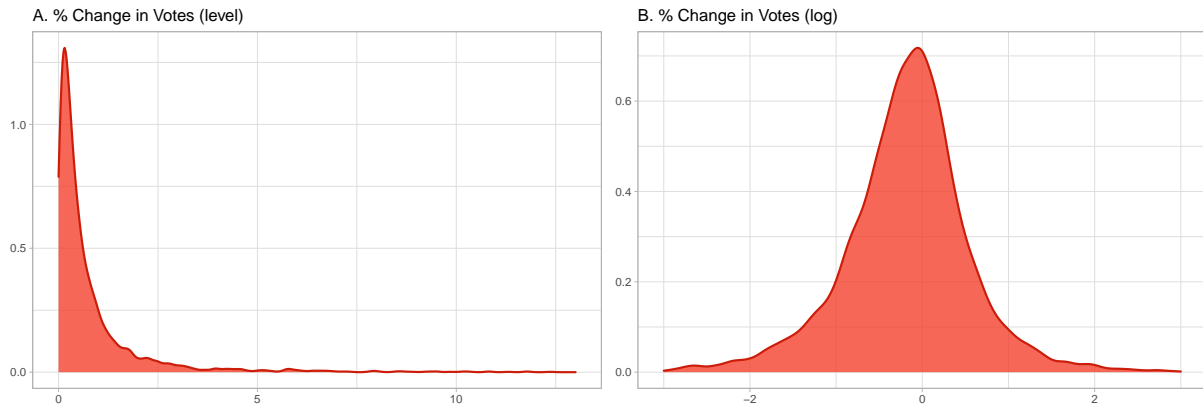


Figure A.4: Distribution of % Vote Change Between $t - 1$ and t

Note: The full data include all 8,380 candidates who ran two consecutive elections between 2010 and 2018.

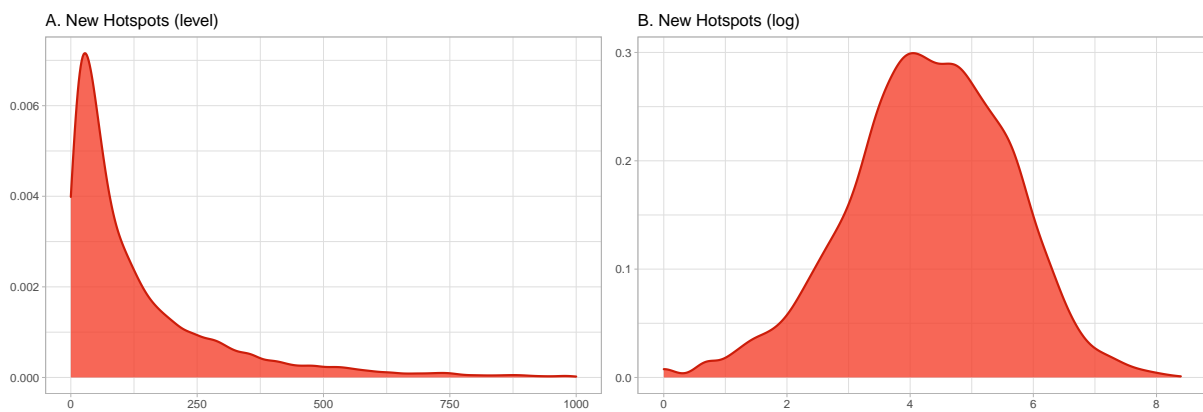


Figure A.5: Distribution of New Hotspots

Note: The full data include all 8,380 candidates who ran two consecutive elections between 2010 and 2018.

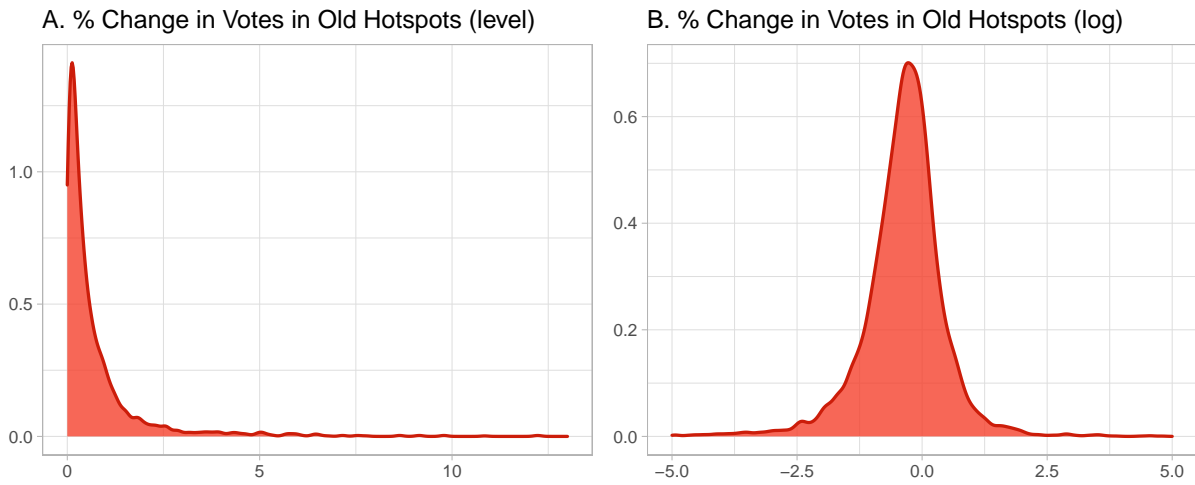


Figure A.6: Distribution of % Vote Change in Old Hotspots

Note: The full data include all 8,380 candidates who ran two consecutive elections between 2010 and 2018.

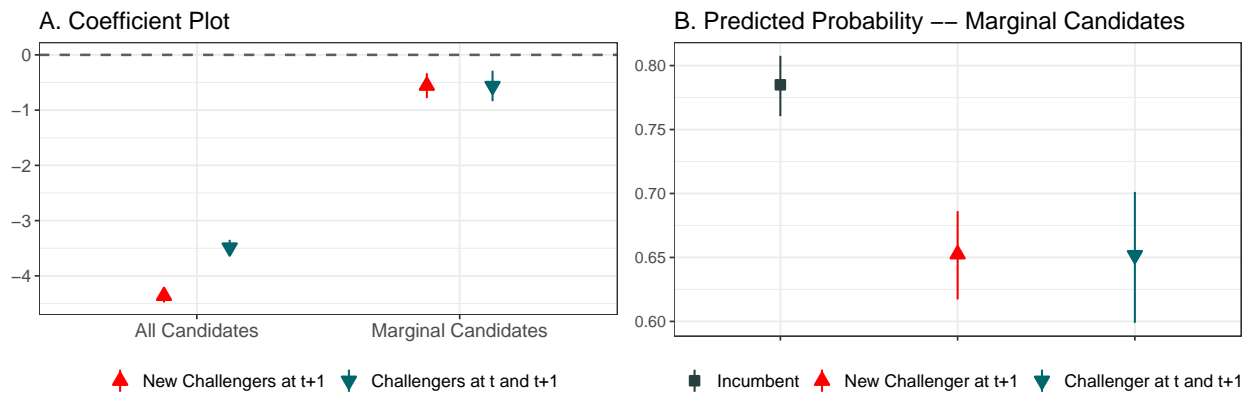


Figure A.7: Incumbency Advantage in Brazilian OLPR Elections

Note: The sample All Candidates has 47,412 observations with every candidate for federal or state representative in 2014 and 2018. Marginal Candidates, in turn, include only those whose personal votes lay between 0.3 and 0.6 of a district quota.

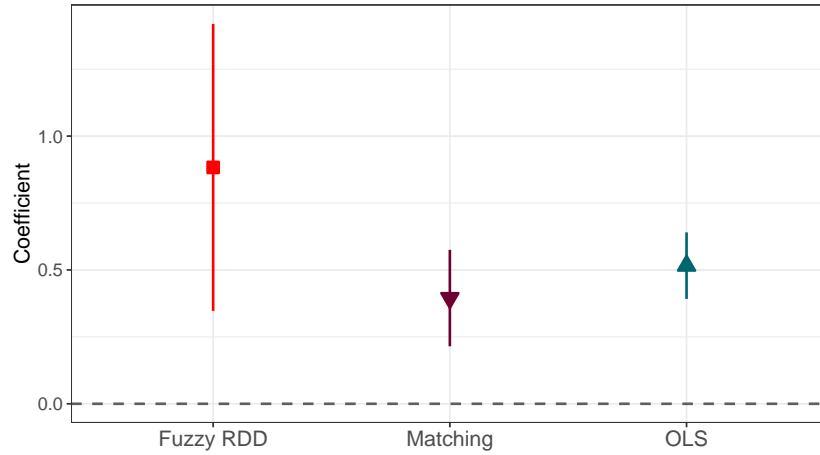


Figure A.8: The Effect of Incumbency on Vote Change Between $t - 1$ and t (log)

Note: Results from OLS estimation, matching analysis, and Fuzzy RDD.

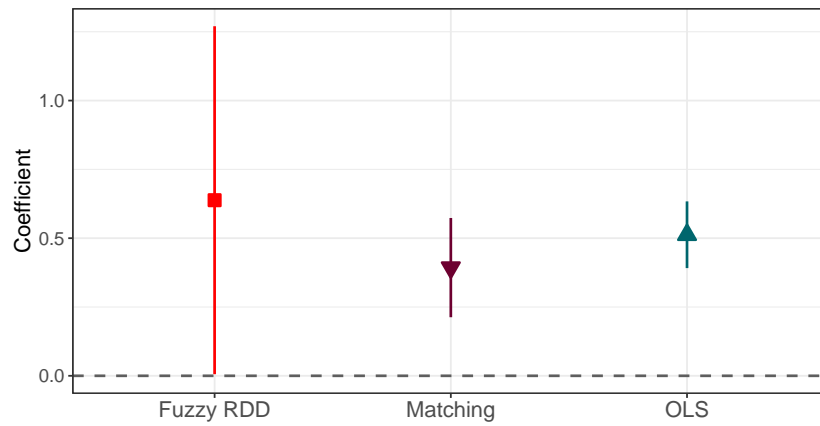


Figure A.9: The Effect of Incumbency on a Candidate's Vote at t (log)

Note: Results from OLS estimation, matching analysis, and Fuzzy RDD.

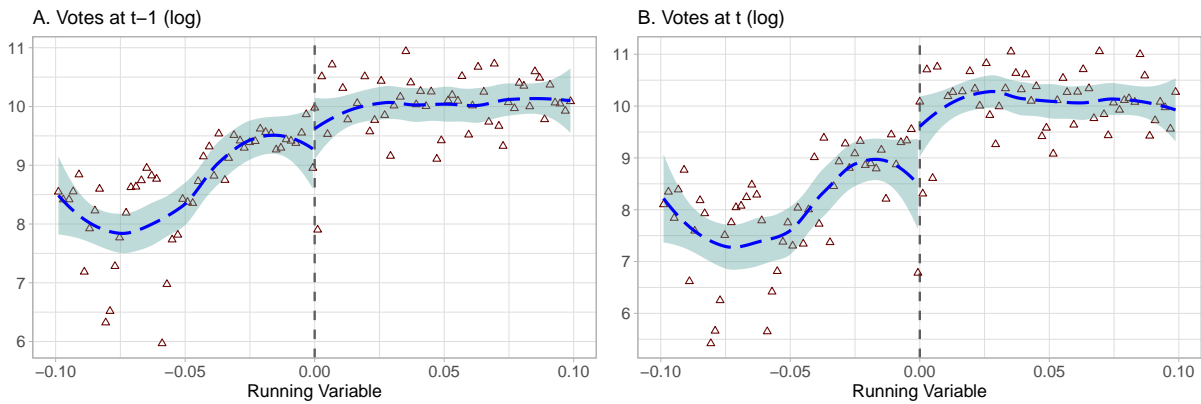


Figure A.10: Robustness Check—No Jump in Candidates' Votes at $t - 1$

Table A.3: Overall Incumbency Advantage (Figures 2.5 and A.8)

	<i>Dependent variable:</i>			
	Prob. of Being Elected at t		% Δ in Votes (log)	
	<i>Logistic Models</i>		<i>Linear Models</i>	
	All Obs.	Matching	All Obs.	Matching
Incumbent at t (Elected at $t - 1$)	1.092*** (0.102)	1.088*** (0.146)	0.516*** (0.063)	0.395*** (0.092)
Federal Representative	-0.134 (0.211)	-0.253 (0.404)	0.106 (0.090)	0.110 (0.252)
Candidate DQ at $t - 1$	1.239*** (0.408)	4.616 (7.183)	0.113 (0.112)	-2.814 (4.489)
Candidate Votes at $t - 1$ (log)	1.338*** (0.113)	0.526 (2.129)	-0.077*** (0.014)	0.988 (1.322)
Incumbent at $t - 1$	-0.134 (0.093)	-0.483*** (0.162)	-0.015 (0.059)	-0.157 (0.100)
Changed Party at t	-0.229*** (0.082)	-0.397*** (0.147)	-0.023 (0.037)	-0.026 (0.091)
Different Office at t	-0.310** (0.121)	-0.423* (0.222)	0.024 (0.045)	0.048 (0.131)
District Magnitude (log)	1.492*** (0.296)	0.560 (2.014)	0.505*** (0.125)	1.390 (1.250)
Female	-0.047 (0.119)	0.031 (0.213)	-0.064 (0.048)	0.092 (0.132)
College Degree	0.218** (0.097)	0.218 (0.165)	0.197*** (0.040)	0.206** (0.103)
Age (log)	-1.795*** (0.173)	-1.890*** (0.306)	-0.612*** (0.076)	-0.639*** (0.188)
Constant	-10.252*** (1.584)	-0.742 (22.122)	0.868* (0.528)	-9.566 (13.732)
State Fixed Effects	Yes	Yes	Yes	Yes
Election Fixed Effect	Yes	Yes	Yes	Yes
Observations	8,377	1,146	8,377	1,146
R ²			0.041	0.081
Adjusted R ²			0.037	0.049
Log Likelihood	-2,226.125	-666.170		
Akaike Inf. Crit.	4,530.249	1,410.341		
Residual Std. Error			1.612 (df = 8338)	1.411 (df = 1107)
F Statistic			9.37*** (df = 38;8338)	2.55*** (df = 38;1107)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.4: Incumbency Advantage and Electoral Bases (Figure 2.6)

	<i>Dependent variable:</i>			
	New Hotspots (log)		% Δ Old Hotspots (log)	
	All Obs.	Matching	All Obs.	Matching
Incumbent (Elected at t-1)	0.252*** (0.037)	0.310*** (0.049)	0.253*** (0.033)	0.194*** (0.049)
Federal Representative	0.042 (0.054)	-0.076 (0.127)	0.158*** (0.048)	0.025 (0.126)
Candidate DQ at t-1	-0.335*** (0.059)	-0.204 (0.467)	-0.104** (0.052)	0.400 (0.465)
Candidate Votes at t-1 (log)	-0.055 (0.035)	-0.113** (0.053)	0.038 (0.031)	0.044 (0.053)
Incumbent at t-1	-0.036 (0.022)	-0.041 (0.049)	0.016 (0.020)	0.077 (0.048)
Changed Party at t	0.071*** (0.027)	-0.010 (0.070)	-0.027 (0.024)	-0.119* (0.069)
Different Office at t	0.445*** (0.075)	0.274* (0.165)	0.106 (0.066)	-0.301* (0.164)
District Magnitude (log)	-0.021 (0.028)	-0.031 (0.071)	0.137*** (0.025)	0.011 (0.070)
Female	0.077*** (0.023)	0.147*** (0.055)	0.098*** (0.021)	0.058 (0.055)
College Degree	-0.408*** (0.046)	-0.245** (0.101)	-0.239*** (0.040)	-0.420*** (0.100)
Age (log)	0.061*** (0.015)	0.019 (0.032)	0.671*** (0.013)	0.539*** (0.032)
Constant	-0.389 (0.312)	-0.203 (0.706)	0.461* (0.275)	2.755*** (0.701)
State Fixed Effects	Yes	Yes	Yes	Yes
Election Fixed Effect	Yes	Yes	Yes	Yes
Observations	8,361	1,146	8,380	1,146
R ²	0.046	0.133	0.575	0.642
Adjusted R ²	0.041	0.103	0.573	0.630
Residual Std. Error	0.966 (df = 8322)	0.754 (df = 1107)	0.853 (df = 8341)	0.749 (df = 1107)
F Statistic	10.48***(df=38;8322)	4.46***(df=38;1107)	297.49***(df=38;8341)	52.26***(df=38;1107)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.5: The Impact of New and Old Hotspots on Electoral Success (Figure 2.7)

	<i>Dependent variable:</i>	
	Probability of Being Elected at t	
	<i>Linear Model</i>	<i>Logistic Model</i>
Incumbent at t (Elected at $t - 1$)	0.352*** (0.012)	0.637*** (0.124)
Incumbent at $t - 1$	0.010 (0.011)	-0.239** (0.114)
Number of New Hotspots (log)	0.014*** (0.003)	0.266*** (0.060)
% Δ in Votes in Old Hotspots (log)	0.082*** (0.003)	3.777*** (0.141)
Federal Representative	-0.017 (0.016)	-0.042 (0.264)
Candidate DQ at $t - 1$	0.352*** (0.020)	0.221 (0.466)
Candidate Votes at $t - 1$ (log)	0.031*** (0.003)	3.669*** (0.191)
Changed Party at t	-0.024*** (0.007)	-0.106 (0.104)
Different Office at t	-0.023*** (0.008)	-0.985*** (0.182)
District Magnitude (log)	0.005 (0.023)	3.155*** (0.386)
Female	0.010 (0.009)	-0.048 (0.145)
College Degree	0.002 (0.007)	0.050 (0.120)
Age (log)	-0.103*** (0.014)	-1.413*** (0.215)
Constant	0.226** (0.096)	-36.590*** (2.430)
State Fixed Effects	Yes	Yes
Election Fixed Effect	Yes	Yes
Observations	8,358	8,358
R ²	0.546	
Adjusted R ²	0.544	
Log Likelihood		-1,470.655
Akaike Inf. Crit.		3,023.309
Residual Std. Error	0.290 (df = 8317)	
F Statistic	250.454*** (df = 40; 8317)	

Note:

*p<0.1; **p<0.05; ***p<0.01

Table A.6: Incumbency Effect on Party Decisions (Figure 2.8)

	<i>Dependent variable:</i>			
	Party Fund Resources		Average Num. of Co-partisans in Hotspots	
	II Obs.	Matching	All Obs.	Matching
Incumbent at t (Elected at $t - 1$)	169,024.200*** (14,522.580)	106,737.600*** (29,014.450)	-0.397*** (0.059)	-0.273*** (0.090)
Federal Representative	203,292.800*** (20,632.760)	489,458.200*** (79,499.350)	0.004 (0.120)	0.144 (0.330)
Candidate DQ at $t - 1$	264,346.100*** (25,596.230)	869,384.300 (1,418,489.000)	-0.201* (0.116)	-9.752** (4.051)
Candidate Votes at $t - 1$ (log)	28,404.050*** (3,228.249)	-42,905.330 (417,808.200)	0.034** (0.014)	2.248* (1.181)
Incumbent at $t - 1$	69,916.020*** (13,570.410)	-10,972.150 (31,614.260)	-0.081 (0.055)	0.142 (0.098)
Changed Party at t	-23,354.580*** (8,547.295)	-15,835.710 (28,752.450)	-0.021 (0.036)	-0.197** (0.088)
Different Office at t	-49,741.550*** (10,264.230)	-76,885.740* (41,375.400)	-0.155*** (0.044)	-0.176 (0.132)
District Magnitude (log)	-81,325.570*** (28,713.280)	-67,132.140 (395,074.400)	0.425*** (0.138)	2.946** (1.172)
Female	71,610.140*** (11,054.920)	183,596.800*** (41,769.520)	0.068 (0.047)	-0.045 (0.127)
College Degree	10,757.710 (9,194.960)	39,368.520 (32,530.270)	0.084** (0.038)	-0.002 (0.099)
Age (log)	-90,102.560*** (17,367.890)	-113,194.500* (59,503.420)	-0.111 (0.072)	-0.171 (0.194)
Constant	346,176.900*** (120,867.800)	710,531.300 (4,339,457.000)	0.728 (0.542)	-23.073* (12.372)
State Fixed Effects	Yes	Yes	Yes	Yes
Election Fixed Effect	Yes	Yes	No	No
Observations	8,377	1,146	5,525	820
R ²	0.318	0.262	0.239	0.238
Adjusted R ²	0.315	0.236	0.234	0.202
Residual Std. Error	369,220.200 (df = 8338)	446,045.200 (df = 1107)	1.250 (df = 5487)	1.172 (df = 782)
F Statistic	102.291*** (df = 38; 8338)	10.326*** (df = 38; 1107)	46.564*** (df = 37; 5487)	6.589*** (df = 37; 782)

Note:

*p<0.1; **p<0.05; ***p<0.01

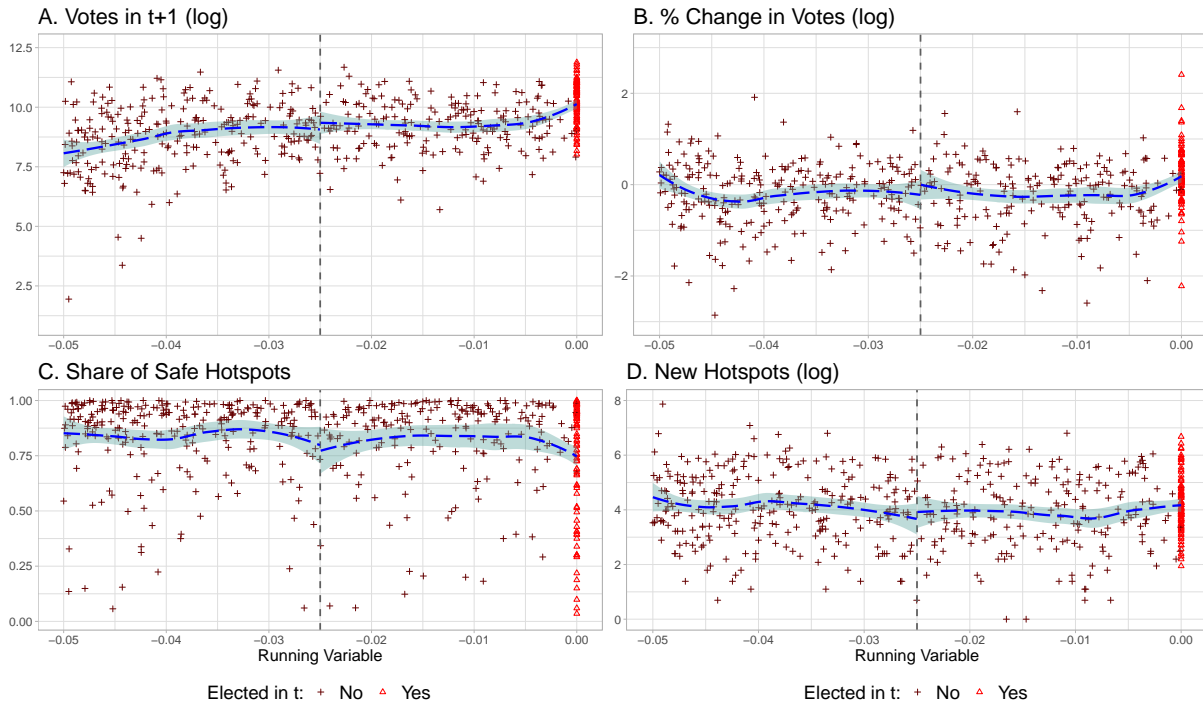


Figure A.11: Robustness Check—No Discontinuity Before the Threshold

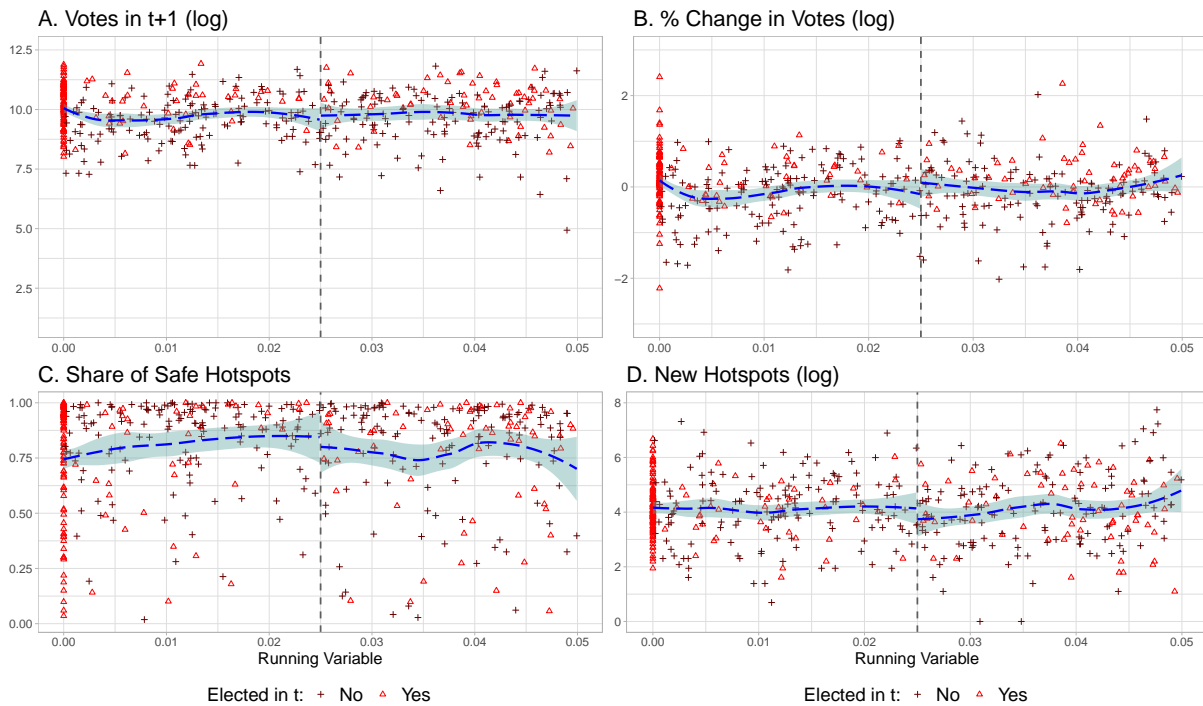


Figure A.12: Robustness Check—No Discontinuity After the Threshold

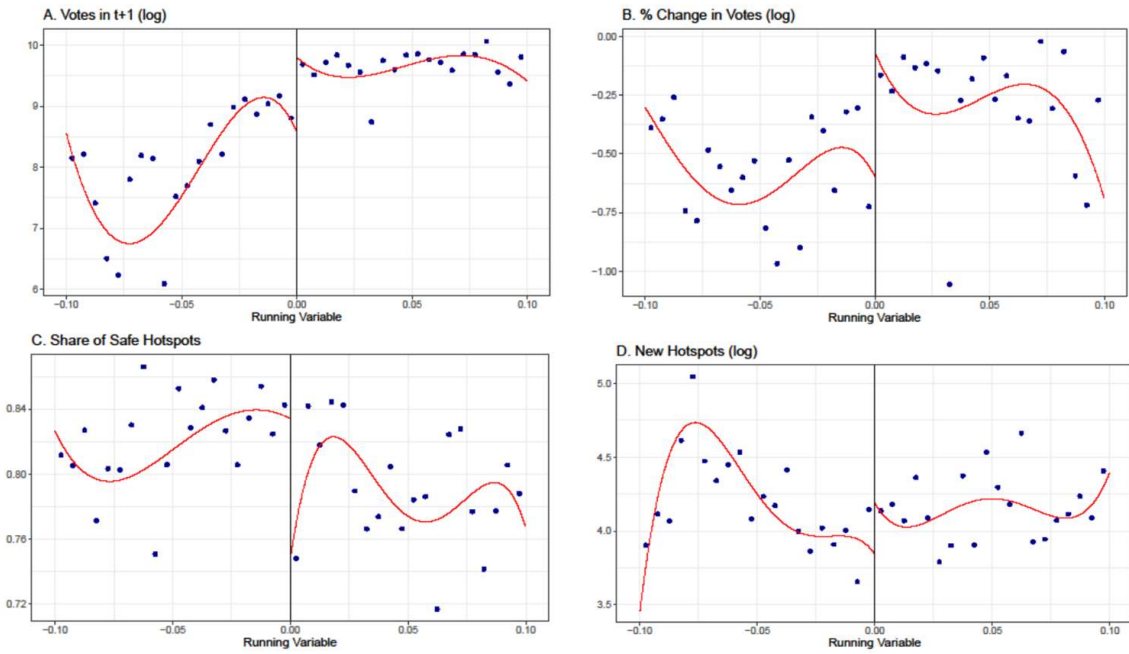


Figure A.13: Robustness Check — Discontinuity at Threshold with Fewer Bins

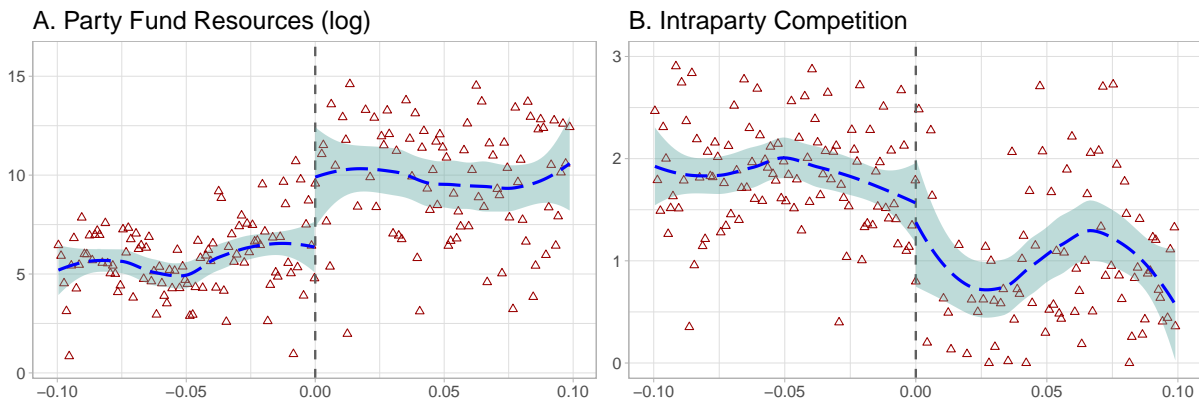


Figure A.14: Discontinuity in Outcomes From Figure 2.8

APPENDIX B.

CHAPTER 3

Table B.1: Descriptive Statistics—County Data

Statistic	N	Mean	St. Dev.	Min	Max
Unemployment Rate	24,798	6.1	2.7	0.9	35.6
Elite Polarization	24,798	0.8	0.1	0.6	0.9
Share Black	24,798	0.1	0.1	0.0	0.9
Share Hispanic	24,798	0.1	0.1	0.0	1.0
Share Asian	24,798	0.01	0.02	0.0	0.4
Share Young Voters	24,798	0.3	0.1	0.03	0.9
Share Elderly	24,798	0.2	0.04	0.01	0.5
Total Population	24,798	94,479.3	306,765.8	55	10,105,708
Log Population	24,798	10.2	1.4	4.0	16.1
Share College	24,798	0.2	0.1	0.0	0.8
Log College	24,798	0.2	0.1	0.0	0.6
Per Capita Income (Deflated)	24,798	39,331.0	11,713.4	8,215.6	222,608.7
Log PC Income	24,798	10.5	0.3	9.0	12.3
Share Manufacture	24,798	0.1	0.1	0.0	2.9
Log Manufacture	24,798	0.1	0.1	0.0	1.4
Rural-Urban Code	24,798	5.2	2.7	0	9
Close Election (State)	24,798	0.1	0.1	0.000	0.9
Republican Presidency	24,798	0.5	0.5	0	1
Incumbent Candidate	24,798	0.6	0.5	0	1
Log(Incumbent/Abstention)	24,798	-0.5	0.6	-3.1	5.0
Log(Opposition/Abstention)	24,798	-0.5	0.6	-3.4	4.0
Log(Incumbent/Opposition)	24,798	-0.01	0.8	-3.4	3.4
Log(Abstention/Opposition)	24,798	0.5	0.6	-4.0	3.4
Lag Log(Inc/Abs)	24,798	-0.5	0.6	-3.3	5.0
Lag Log(Opp/Abs)	24,798	-0.6	0.6	-3.5	4.2
Lag Log(Inc/Opp)	24,798	0.1	0.7	-3.3	3.4
Lag Log(Abs/Opp)	24,798	0.6	0.6	-4.2	3.5

Table B.2: Descriptive Statistics—Survey Data

Statistic	N	Mean	St. Dev.	Min	Max
Perceived Ideological Gap	21,534	0.6	0.3	0.0	1.0
Female	21,534	0.5	0.5	0	1
Black	21,534	0.1	0.3	0	1
Hispanic	21,534	0.1	0.3	0	1
Asian	21,534	0.03	0.2	0	1
Other Race	21,534	0.04	0.2	0	1
Log Age	21,534	3.8	0.4	2.8	4.5
College Degree	21,534	0.4	0.5	0	1
Income (Category)	21,534	13.4	7.4	1	28

Table B.3: Full Results of SUR Models (Figure 2.4)

	<i>Dependent variable:</i>		
	$\log\left(\frac{\text{Incumbent}}{\text{Opposition}}\right)$	$\log\left(\frac{\text{Abstention}}{\text{Opposition}}\right)$	$\log\left(\frac{\text{Incumbent}}{\text{Abstention}}\right)$
Local Unemployment Rate	-0.114*** (0.005)	-0.030*** (0.006)	-0.092*** (0.006)
Polarization	-0.026 (0.053)	-1.362*** (0.101)	0.607*** (0.065)
Log PC Income	-0.090*** (0.010)	-0.070 (0.013)	-0.058*** (0.012)
Share Black	0.156*** (0.014)	-0.041** (0.018)	0.152** (0.017)
Share Hispanic	0.205*** (0.016)	0.185*** (0.020)	0.096*** (0.020)
Share Asian	0.317*** (0.097)	1.357*** (0.125)	-0.755*** (0.120)
Share Young Voters	-0.298*** (0.033)	0.176*** (0.043)	-0.060 (0.041)
Share Elder Voters	-0.591*** (0.049)	-0.758*** (0.064)	0.116* (0.062)
Log Population	0.013*** (0.002)	0.022 (0.002)	0.012*** (0.002)
Log Share College Degree	-0.095** (0.037)	-0.874*** (0.049)	0.240** (0.047)
Log Share Manufacture	-0.064** (0.027)	-0.262*** (0.035)	0.239*** (0.034)
Close Election (State)	-0.066*** (0.021)	-0.003 (0.027)	-0.084*** (0.026)
Republican Presidency	0.118*** (0.003)	-0.048*** (0.004)	0.240*** (0.004)
Incumbent Candidate	0.209*** (0.003)	0.085*** (0.004)	0.151*** (0.004)
Lagged log(Inc/Opp)	0.990*** (0.002)		
Lagged log(Abs/Opp)		0.767*** (0.004)	
Lagged log(Inc/Abs)			0.974*** (0.026)
Unemp. Rate*Polarization	0.123*** (0.006)	0.040*** (0.008)	0.084*** (0.079)
Constant	0.785 (0.108)***	1.188*** (0.139)	-0.146 (0.133)
Rural-Urban Code	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes
Observations	24,798	24,798	24,798
Multiple R ²	0.934	0.785	0.840
Adjusted R ²	0.933	0.784	0.839
Residual Std. Error	0.205	0.262	0.255

Note:

*p<0.1; **p<0.05; ***p<0.01

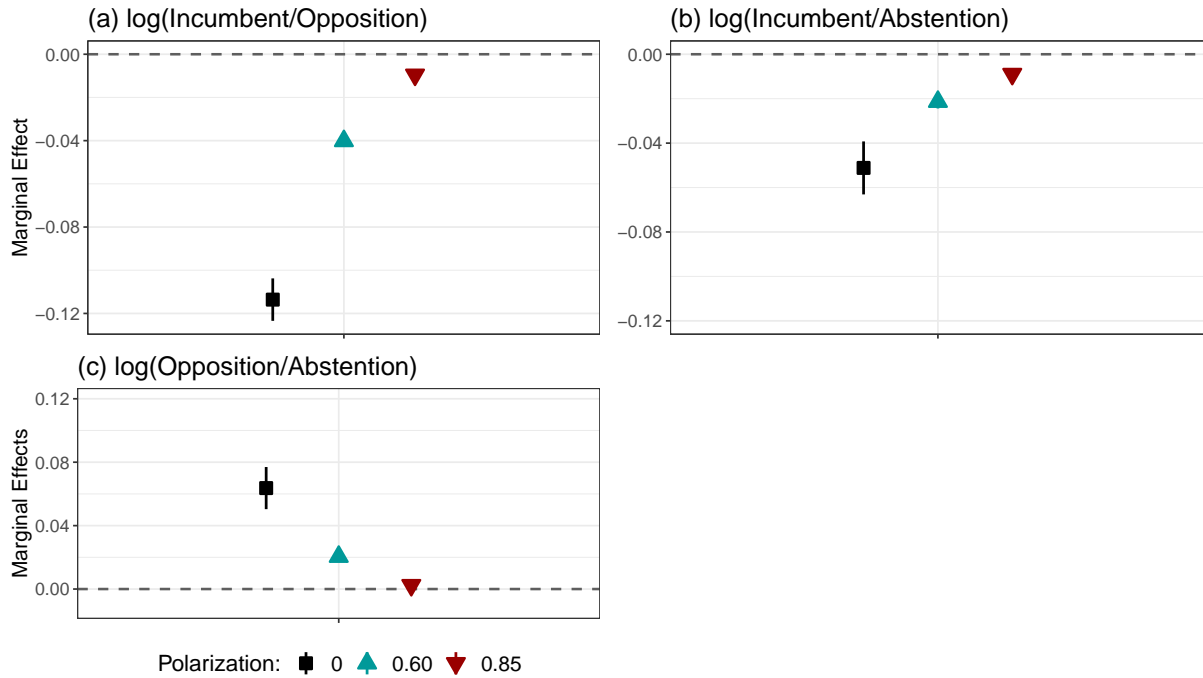


Figure B.1: SUR Models Without Third Parties

Note: Marginal effects estimated from SUR models specified as per Equation 2.2. Black squares indicate the hypothetical marginal effect of unemployment when there is no polarization. They are estimated coefficients for unemployment rate ($\hat{\beta}_{1,j}$). Light-green triangles and dark-red upside-down triangles represent marginal effects of unemployment when polarization is moderate (0.6) and high (0.85). Negative effects imply that the category in the denominator of the respective log-ratio benefits from unemployment at the expense of the one in the numerator.

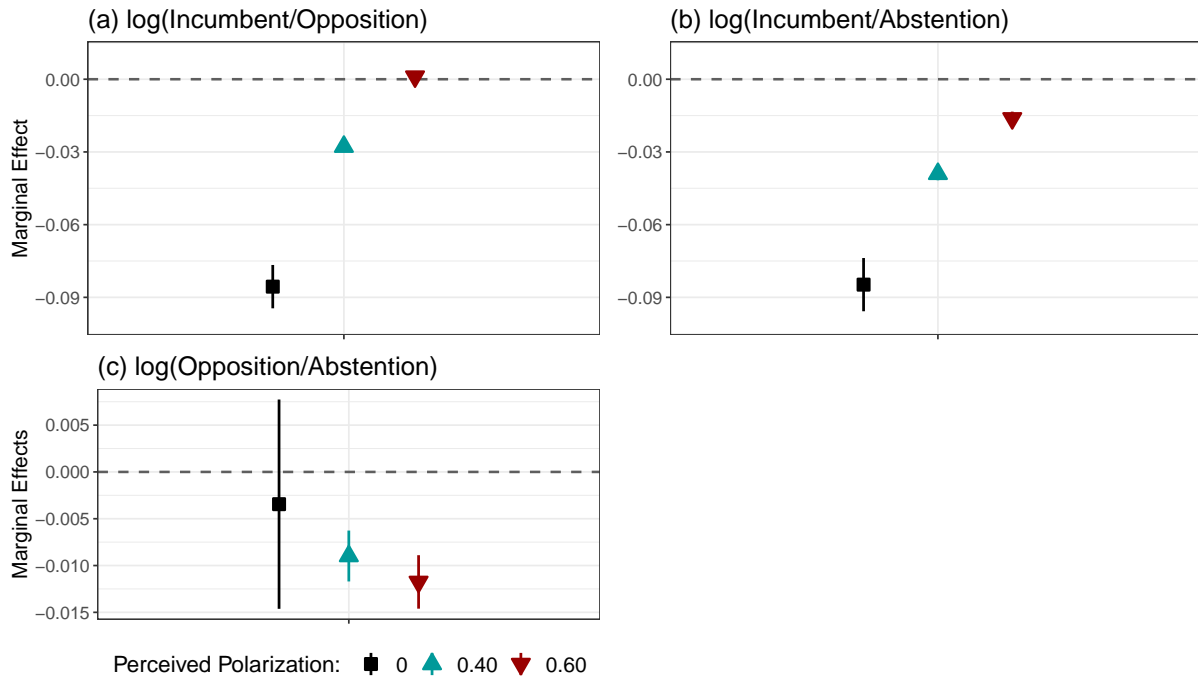


Figure B.2: SUR Models With the Perceived Ideological Gap From ANES Data

Note: Marginal effects estimated from SUR models specified as per Equation 2.2. Black squares indicate the hypothetical marginal effect of unemployment when there is no polarization. They are estimated coefficients for unemployment rate ($\hat{\beta}_{1j}$). Light-green triangles and dark-red upside-down triangles represent marginal effects of unemployment when the perceived ideological distance between parties is low (0.4) and high (0.6) in the sample. Negative effects imply that the category in the denominator of the respective log-ratio benefits from unemployment at the expense of the one in the numerator.

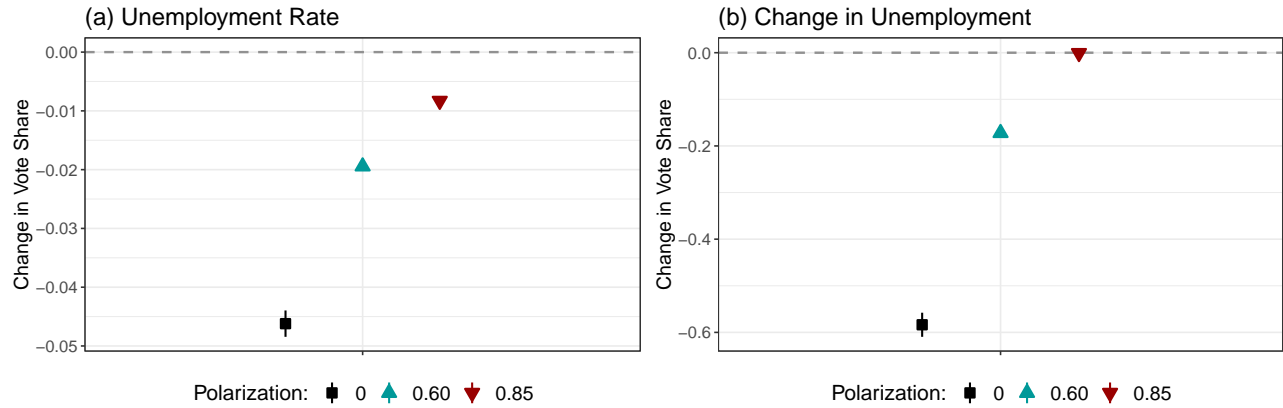


Figure B.3: Marginal Effects of +1SD Shock: Level of and Change in Unemployment Rate

Note: Marginal Effects from OLS models that regresses the vote share for the incumbent party on predictors from Equation 2.2. Panel A shows the marginal effect of the level unemployment rate; Panel B presents the results of a model that uses the change in unemployment rate.

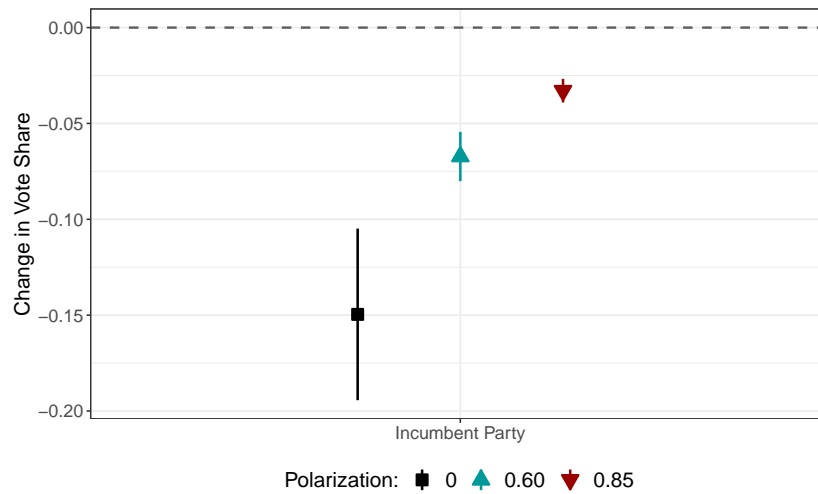


Figure B.4: Marginal Effects of +1SD: QCEW Data

Note: Marginal Effects from an OLS model that regresses the vote share for the incumbent party on predictors from Equation 2.2. This model uses a measure of unemployment rate computed with data from Quarterly Census of Employment and Wages (QCEW).

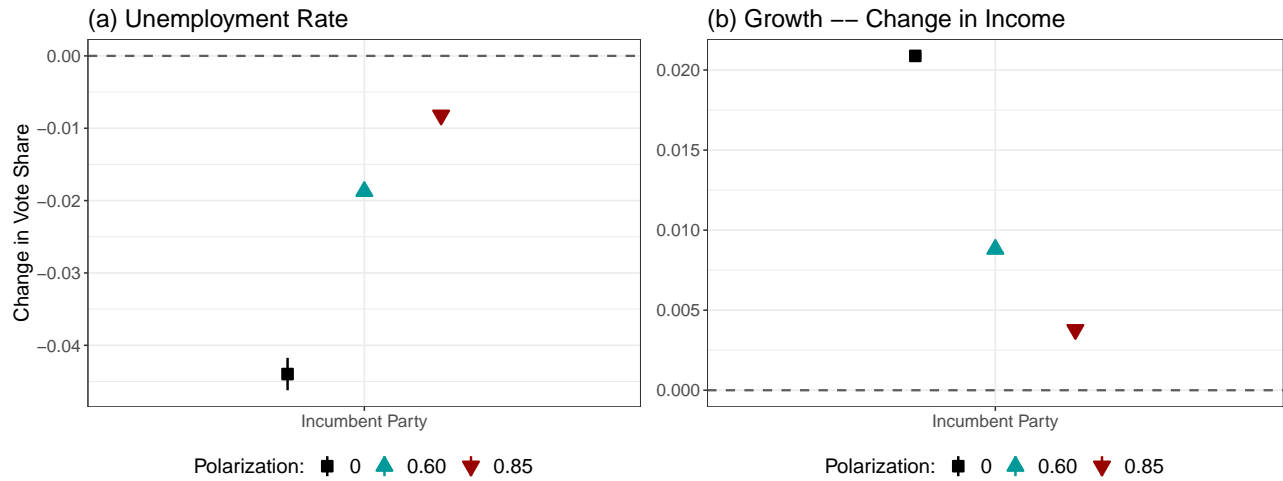


Figure B.5: Marginal Effects of +1SD: Unemployment Rate and Growth

Note: Marginal Effects from an OLS model that regresses the vote share for the incumbent party on predictors from Equation 2.2. This model includes both unemployment rate (Panel A) and the average percentage change in deflated income over four years as a proxy for local growth (Panel B). Growth, as expected, has a positive effect on the vote share for the incumbent party, but its magnitude decreases with polarization.

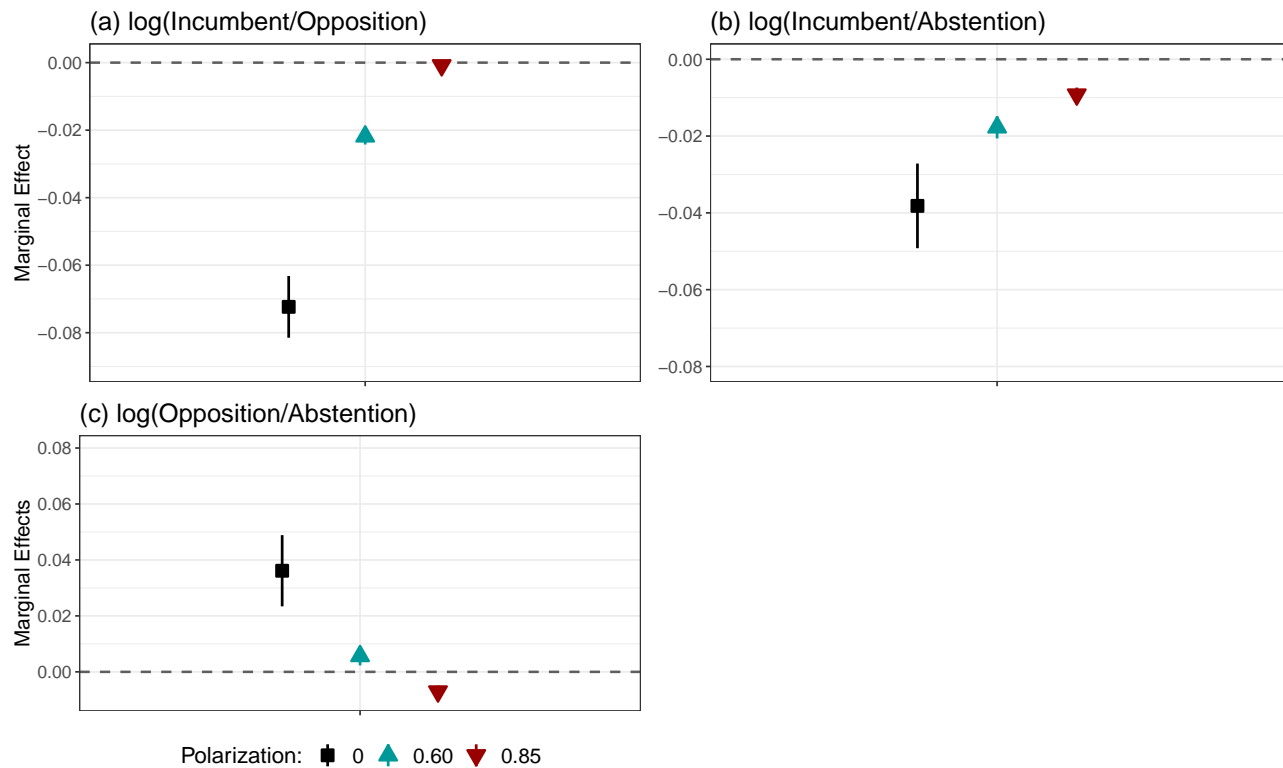


Figure B.6: SUR Models That Control for Time Trend

Note: Marginal effects estimated from SUR models specified as per Equation 2.2. Black squares indicate the hypothetical marginal effect of unemployment when there is no polarization. They are estimated coefficients for unemployment rate ($\hat{\beta}_{1j}$). Light-green triangles and dark-red upside-down triangles represent marginal effects of unemployment when the perceived ideological distance between parties is low (0.4) and high (0.6) in the sample. Negative effects imply that the category in the denominator of the respective log-ratio benefits from unemployment at the expense of the one in the numerator.

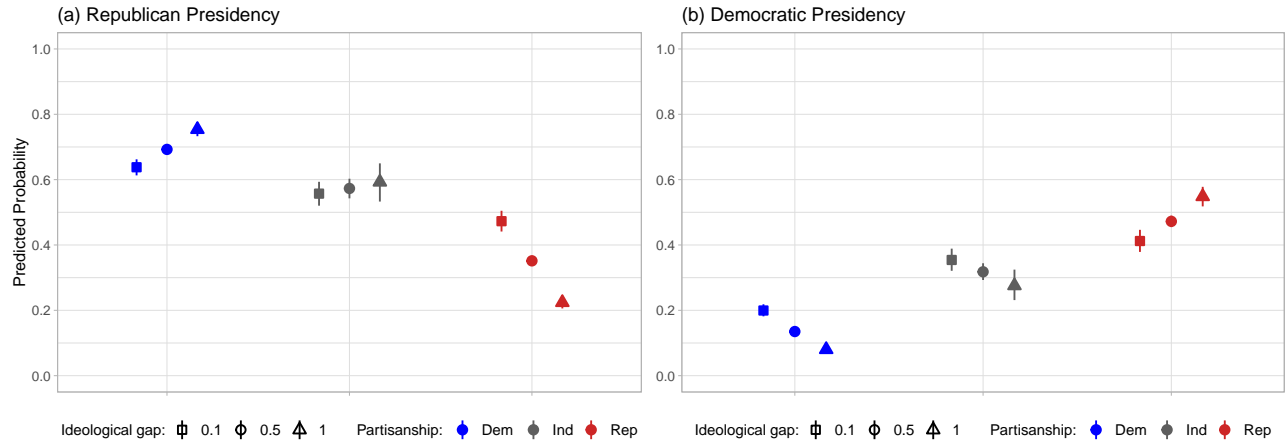


Figure B.7: Probability of a Negative Evaluation of the Economy

Note: Panels indicate the party holding the Presidency at the time of the survey. Colors show the partisanship of the respondent and icons indicate the level of perceived polarization.

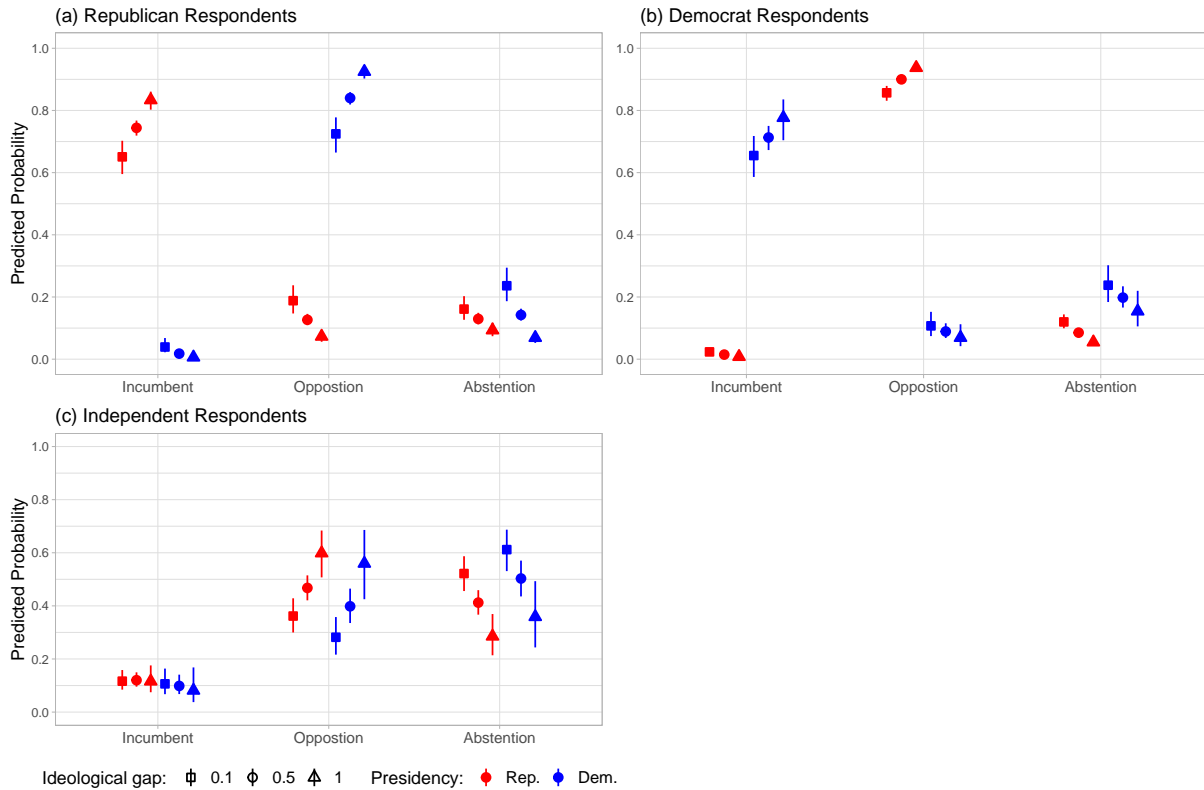


Figure B.8: Voting Choice Given a Negative Economic Evaluation

Note: Predicted probabilities estimated from multinomial logistic regressions. Panels show the partisanship of respondents. Colors indicate which party held the presidency at the time of the survey. Shapes indicate the ideological gap between parties perceived by respondents.

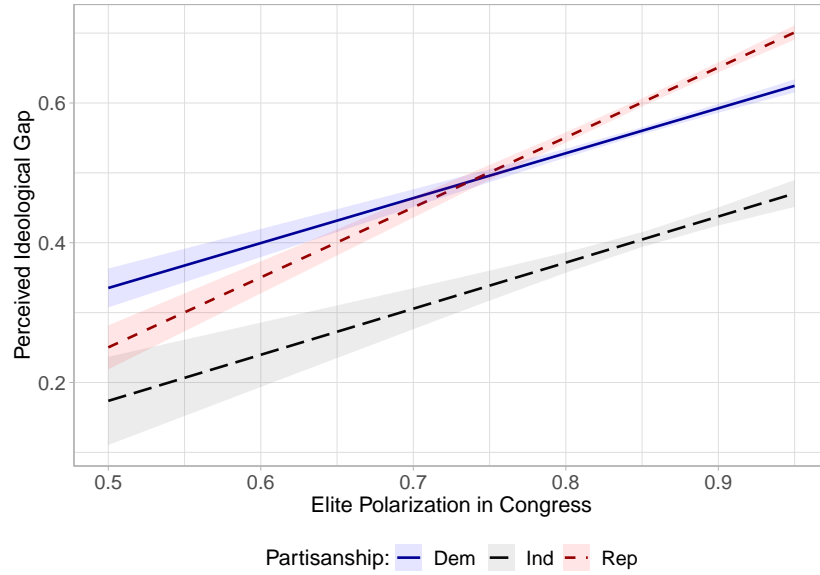


Figure B.9: Relationship between Elite and Perceived Polarization by Partisanship

Note: Predicted ideological gap estimated from a linear model that interacts party attachment with observed elite polarization at the national level. See Model 1 in Table B.7 for full results.

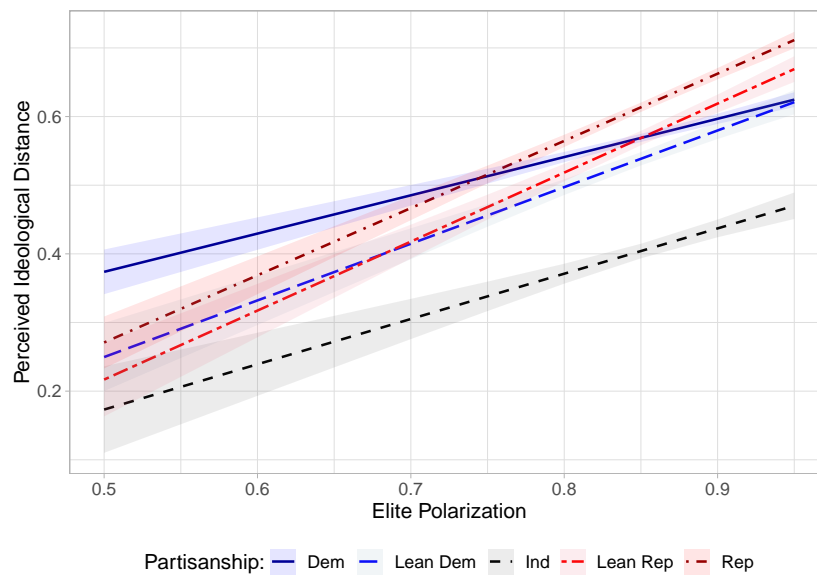


Figure B.10: Relationship between Elite and Perceived Polarization by Partisanship—5 Categories

Note: Predicted ideological gap estimated from Model 2 in Table B.8, which interacts party attachment (5 categories) with observed elite polarization at the national level.

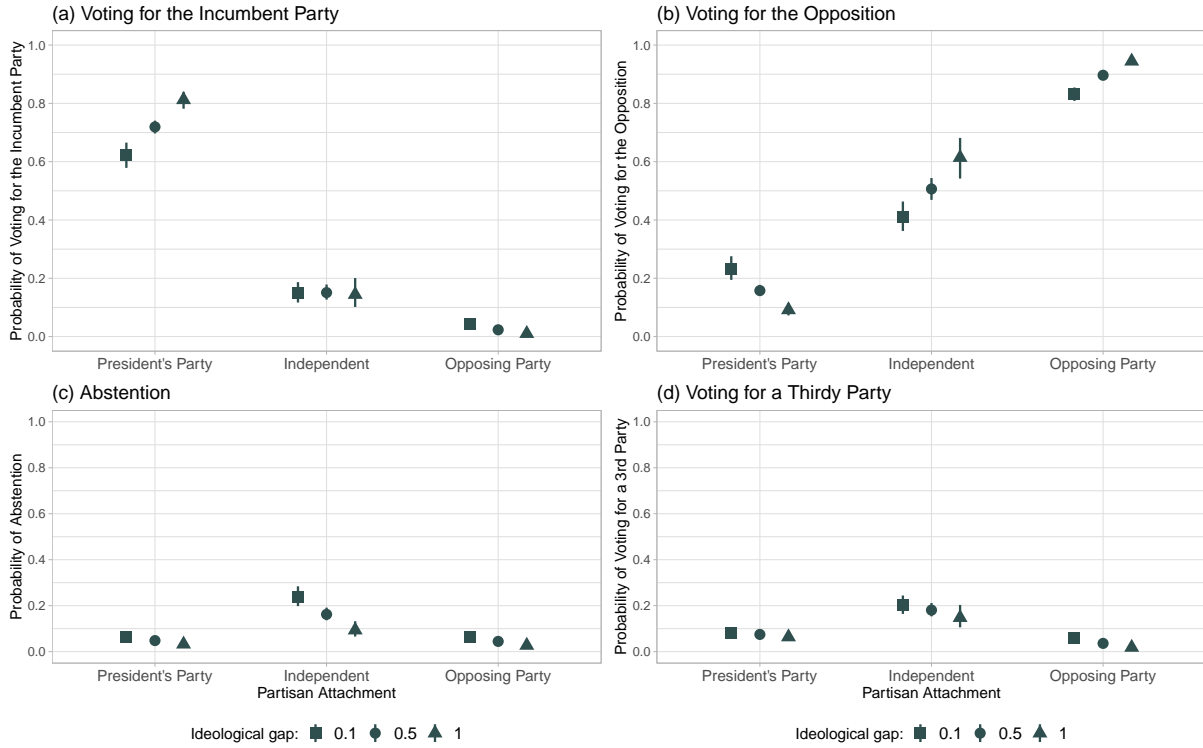


Figure B.11: Voting Choice Given a Negative Economic Evaluation: 3rd Parties

Note: Panels indicate respondent's voting choice. Shapes indicate the ideological gap between parties perceived by respondents.

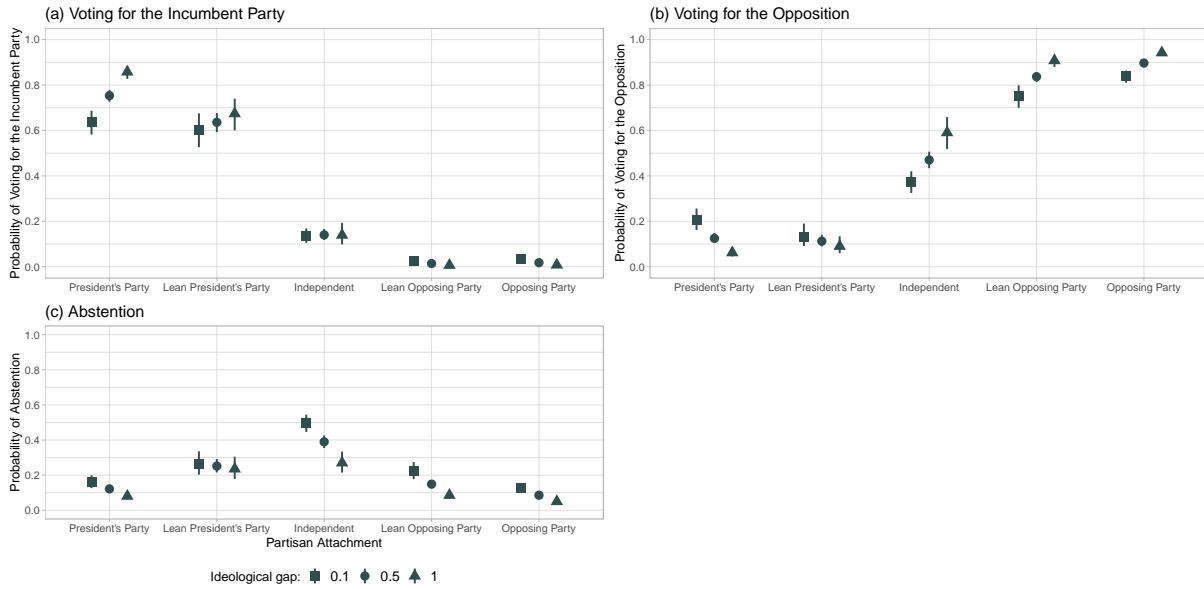


Figure B.12: Voting Choice Given a Negative Economic Evaluation: 5 Categories Partisan Attachment

Note: Panels indicate respondent's voting choice. Shapes indicate the ideological gap between parties perceived by respondents.

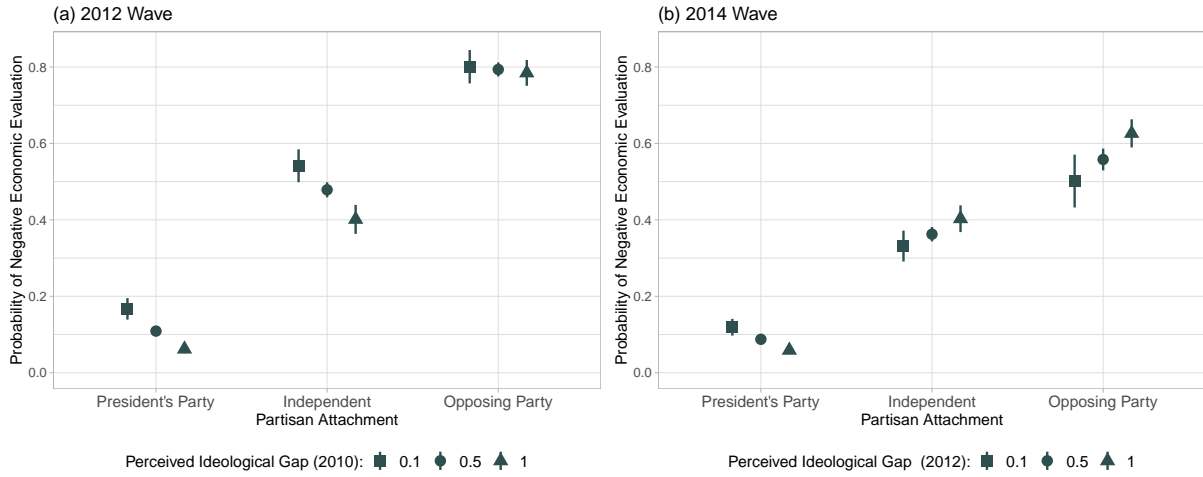


Figure B.13: Negative Evaluation of the Economy—CCES Panel Study

Note: Panels indicate the survey wave. All variables are measured at the time of the wave, except for perceived polarization, measured two years before. Panel data from the Cooperative Congressional Election Study (CCES).

Table B.4: Ordered Logistic Models (Figure 2.6)

	<i>Dependent variable:</i>	
	Economic Evaluation (1)	Economic Evaluation (2)
Perceived Ideol. Gap (*Independent)	0.187 (0.122)	0.185 (0.122)
Member of President's Party	0.457*** (0.078)	0.462*** (0.078)
Member of Opposing Party	-0.158*** (0.079)	-0.162*** (0.079)
Female	-0.161*** (0.027)	-0.161*** (0.027)
Black	0.354*** (0.042)	0.347*** (0.044)
Hispanic	0.166*** (0.044)	0.197*** (0.047)
Asian	0.232*** (0.084)	0.269*** (0.086)
Other Race	0.036 (0.072)	0.033 (0.072)
Log Age	-0.131*** (0.036)	-0.129*** (0.036)
College Degree	0.067** (0.030)	0.071** (0.031)
Income	0.009*** (0.002)	0.009*** (0.002)
President's Party*Ideol. Gap	1.043*** (0.143)	1.046*** (0.143)
Opposing Party*Ideol. Gap	-0.845*** (0.145)	-0.845*** (0.145)
Intercept 1 2	0.883*** (0.158)	0.842*** (0.197)
Intercept 2 3	2.851*** (0.159)	2.816*** (0.198)
State Fixed Effects	No	Yes
Election Fixed Effects	Yes	Yes
Akaike Inf. Crit.	39,525.69	39,537.33

Note:

*p<0.1; **p<0.05; ***p<0.01

Table B.5: Multinomial Logistic Models (Figure 2.7)

	<i>Sample and Dependent Variable:</i>					
	President's Party Opposition/Incumbent	President's Party Abstention/Incumbent	Opposing Party Opposition/Incumbent	Opposing Party Abstention/Incumbent	Independents Opposition/Incumbent	Independents Abstention/Incumbent
Economic Evaluation (Same)	-0.597*** (0.187)	-0.513*** (0.168)	-0.818*** (0.235)	-0.575** (0.261)	-1.024*** (0.235)	-0.836*** (0.217)
Economic Evaluation (Better)	-1.951*** (0.311)	-0.759*** (0.190)	-2.292*** (0.284)	-1.849*** (0.328)	-1.683*** (0.340)	-1.494*** (0.287)
Perceived Ideological Gap (*Econ. Worse)	-1.326*** (0.226)	-0.821*** (0.202)	1.750*** (0.323)	0.503 (0.346)	0.472 (0.328)	-0.717** (0.325)
Female	-0.115 (0.085)	-0.160** (0.064)	-0.256*** (0.098)	-0.318*** (0.111)	-0.215* (0.129)	-0.319*** (0.120)
Black	-0.479*** (0.179)	-0.469*** (0.116)	0.642*** (0.180)	0.597*** (0.202)	0.265 (0.222)	-0.025 (0.211)
Hispanic	-0.098 (0.157)	-0.187* (0.112)	-0.342** (0.161)	-0.186 (0.187)	-0.140 (0.209)	-0.236 (0.194)
Asian	0.015 (0.287)	0.334 (0.207)	-0.370 (0.282)	-0.147 (0.320)	-0.034 (0.357)	0.078 (0.333)
Other Race	0.074 (0.224)	0.077 (0.160)	0.080 (0.280)	0.390 (0.301)	-0.542* (0.279)	-0.091 (0.235)
Log Age	-0.419*** (0.115)	-0.620*** (0.084)	0.087 (0.126)	-0.490*** (0.142)	0.217 (0.177)	-0.513*** (0.160)
College Degree	0.076 (0.096)	-0.331*** (0.075)	0.393*** (0.117)	0.193 (0.131)	-0.030 (0.155)	-0.184 (0.146)
Income	0.001 (0.007)	-0.021*** (0.005)	0.019** (0.008)	-0.010 (0.009)	0.012 (0.010)	-0.022** (0.009)
Econ. Same*Ideol. Gap	-0.589* (0.322)	0.179 (0.275)	-0.671 (0.409)	-0.393 (0.457)	-0.891** (0.437)	0.126 (0.419)
Econ. Better*Ideol. Gap	-0.417 (0.506)	-0.012 (0.294)	-0.721 (0.486)	-0.412 (0.565)	-2.004*** (0.633)	0.296 (0.503)
Constant	-0.735 (0.713)	1.677*** (0.512)	1.093* (0.648)	2.880*** (0.734)	-1.327 (0.918)	3.395*** (0.832)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Election Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Akaike Inf. Crit.	10,996.400	10,996.400	10,278.080	10,278.080	4,284.390	4,284.390

Note:

*p<0.1; **p<0.05; ***p<0.01

Table B.6: Correlation Matrix—Elite Polarization and the Perceived Gap by Partisanship

	Elite Polarization	All Voters	Republicans	Democrats	Independents
Elite Polarization	1	0.863	0.898	0.827	0.592
All Voters	0.863	1	0.983	0.957	0.838
Republicans	0.898	0.983	1	0.900	0.849
Democrats	0.827	0.957	0.900	1	0.695
Independents	0.592	0.838	0.849	0.695	1

Note: Variables plotted in Figure 2.8.

Table B.7: The Perceived Ideological Gap and Observed Elite Polarization by Partisanship (Figures B.8 and B.9)

	<i>Dependent variable:</i>	
	Perceived Ideological Gap	
	(1)	(2)
Observed Elite Polarization (OEP)	0.643*** (0.040)	0.557*** (0.047)
Independents (3 Categories)	−0.170** (0.083)	
Republicans (3 Categories)	−0.264*** (0.049)	
Dem. Leaners (5 Categories)		−0.258*** (0.071)
Independents (5 Categories)		−0.252*** (0.085)
Rep. Leaners (5 Categories)		−0.381*** (0.076)
Republicans (5 Categories)		−0.314*** (0.059)
Female	−0.005 (0.004)	−0.006* (0.004)
Black	0.002 (0.006)	−0.002 (0.006)
Hispanic	−0.062*** (0.006)	−0.063*** (0.006)
Asian	−0.062*** (0.011)	−0.062*** (0.011)
Other Race	−0.001 (0.009)	0.002 (0.009)
Log Age	0.003 (0.005)	−0.001 (0.005)
College Degree	0.072*** (0.004)	0.072*** (0.004)
Income	0.003*** (0.0003)	0.003*** (0.0003)
OEP*Ind. (3 Cat.)	0.017 (0.096)	
OEP*Rep. (3 Cat.)	0.359*** (0.058)	
OEP*Dem. Leaners (5 Cat.)		0.268*** (0.084)
OEP*Ind. (5 Cat.)		0.102 (0.099)
OEP*Rep. Leaners (5 Cat.)		0.448*** (0.089)
OEP*Rep. (5 Cat.)		0.422*** (0.069)
Constant	−0.010 (0.041)	0.083* (0.046)
State Fixed Effects	Yes	Yes
Observations	21,575	21,575
R ²	0.130	0.133
Adjusted R ²	0.127	0.130
Residual Std. Error	0.260 (df = 21508)	0.259 (df = 21504)
F Statistic	48.495*** (df = 66; 21508)	47.199*** (df = 70; 21504)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table B.8: Unemployment and Economic Perception—Linear Regression Models

	<i>Dependent variable:</i>			
	Economic Evaluation			
	(1)	(2)	(3)	(4)
Mean Unemployment Rate (State)	−0.026*** (0.002)	−0.018*** (0.006)	−0.027*** (0.002)	−0.020*** (0.006)
Perceived Ideological Gap	0.067 (0.045)	0.093** (0.043)	0.079*** (0.018)	0.115*** (0.018)
Member of President’s Party	0.247*** (0.029)	0.187*** (0.028)	0.402*** (0.017)	0.389*** (0.016)
Member of Opposing Party	−0.105*** (0.029)	−0.055** (0.028)	−0.250*** (0.017)	−0.235*** (0.016)
Female	−0.054*** (0.010)	−0.054*** (0.009)	−0.055*** (0.010)	−0.055*** (0.009)
Black	0.196*** (0.015)	0.124*** (0.015)	0.198*** (0.015)	0.128*** (0.015)
Hispanic	0.147*** (0.016)	0.073*** (0.017)	0.145*** (0.016)	0.071*** (0.017)
Asian	0.107*** (0.031)	0.091*** (0.030)	0.109*** (0.031)	0.092*** (0.030)
Other Race	0.031 (0.025)	0.018 (0.024)	0.031 (0.025)	0.018 (0.024)
Log Age	−0.033** (0.013)	−0.041*** (0.012)	−0.031** (0.013)	−0.039*** (0.013)
College Degree	−0.005 (0.011)	0.028*** (0.011)	−0.007 (0.011)	0.023** (0.011)
Income	0.007*** (0.001)	0.003*** (0.001)	0.007*** (0.001)	0.003*** (0.001)
President’s Party*Ideol. Gap	0.267*** (0.052)	0.349*** (0.050)		
Opposing Party*Ideol. Gap	−0.248*** (0.052)	−0.303*** (0.050)		
Constant	1.907*** (0.057)	1.503*** (0.082)	1.898*** (0.055)	1.506*** (0.082)
State Fixed Effects	No	Yes	No	Yes
Election Fixed Effects	No	Yes	No	Yes
Observations	21,202	21,202	21,202	21,202
R ²	0.180	0.259	0.174	0.248
Adjusted R ²	0.180	0.256	0.173	0.245
Residual Std. Error	0.705 (df = 21187)	0.672 (df = 21132)	0.708 (df = 21189)	0.676 (df = 21134)
F Statistic	333.204*** (df = 14; 21187)	106.774*** (df = 69; 21132)	371.104*** (df = 12; 21189)	103.908*** (df = 67; 21134)

Note:

*p<0.1; **p<0.05; ***p<0.01

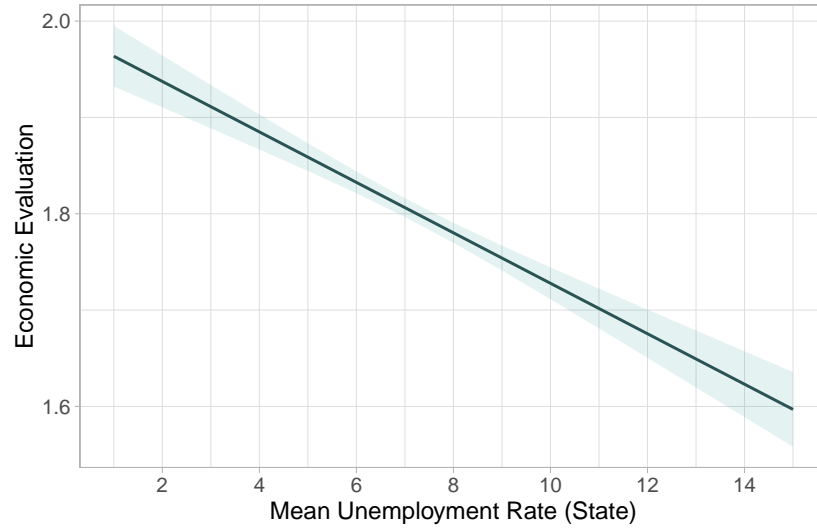


Figure B.14: Relationship Between Unemployment Rate and Economic Evaluation (Model 1 in Table B.8)

APPENDIX C.

CHAPTER 4

Table C.1: Competition and the Size of the Electorate (Figure 4.3)

	<i>Dependent variable:</i>		
	Number of Voters (log) (1)	(2)	%Δ in the Number of Voters (3)
District Competition (level)	0.373** (0.144)		
% Δ in District Competition		0.551*** (0.148)	1.177*** (0.298)
District Magnitude	0.008 (0.007)	0.006 (0.006)	−0.001 (0.008)
Lagged Number of Voters (log)	0.954*** (0.044)	0.976*** (0.042)	
Election Fixed Effect			−0.132 (0.178)
Constant	0.033 (0.549)	0.427 (0.439)	0.433*** (0.148)
Observations	49	49	49
R ²	0.966	0.970	0.291
Adjusted R ²	0.964	0.968	0.243
Residual Std. Error (df = 45)	0.321	0.301	0.550
F Statistic (df = 3; 45)	426.125***	486.976***	6.144***

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C.2: Changing Support for the AB: From Abstention to Yea (Figure 4.5)

	<i>Dependent variable:</i>	
	Changed from Abstention to Yea	
	(1)	(2)
% Δ in District Competition	1.987** (0.965)	
District Competition (level)		6.018** (2.923)
PSD	-0.154** (0.074)	-0.154** (0.074)
PTB	-0.026 (0.083)	-0.026 (0.083)
PSP	-0.011 (0.118)	-0.011 (0.118)
PR	-0.221* (0.133)	-0.221* (0.133)
Small Left	-0.031 (0.184)	-0.031 (0.184)
Small Right	-0.203 (0.143)	-0.203 (0.143)
Personal Votes/District Quota	0.0003 (0.011)	0.0003 (0.011)
Constant	0.327** (0.156)	-11.335** (5.702)
State Fixed Effects	Yes	Yes
Observations	269	269
Log Likelihood	-133.835	-133.835
Akaike Inf. Crit.	327.669	327.669

Note: *p<0.1; **p<0.05; ***p<0.01

Table C.3: Support for the AB Reform Among PSD Members (Figure 4.6)

	<i>Dependent variable:</i>	
	Yea Vote	
	(1)	(2)
% Change in District Competition	2.418** (0.968)	
District Competition (level)		2.134** (1.046)
Personal Votes/District Quota	0.175 (0.144)	0.165 (0.142)
Constant	-0.885 (1.264)	-5.361** (2.430)
State Fixed Effects	Yes	Yes
Roll Call Fixed Effect	Yes	Yes
Observations	332	332
Log Likelihood	-178.993	-180.129
Akaike Inf. Crit.	409.985	412.258

Note: *p<0.1; **p<0.05; ***p<0.01

Table C.4: Support for the AB Reform in November 1958 (Figure 4.4)

	<i>Dependent variable:</i>
	Yea Vote
District Competition (level)	0.283** (0.138)
November 1958	−0.276 (0.220)
PSD	−0.137** (0.056)
PTB	−0.086 (0.064)
PSP	−0.019 (0.091)
PR	−0.207** (0.102)
Small Left	−0.072 (0.141)
Small Right	−0.140 (0.110)
Personal Votes/District Quota	−0.0002 (0.012)
Constant	0.401*** (0.121)
State Fixed Effects	Yes
Observations	538
Log Likelihood	−327.182
Akaike Inf. Crit.	716.364
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Table C.5: Abstention in the Roll Call Vote in June 1958

	<i>Dependent variable:</i>	
	abstain	
	(1)	(2)
District Competition (level)	0.268*** (0.079)	0.417 (0.547)
PSD	-0.041 (0.069)	-0.072 (0.071)
PTB	0.139* (0.081)	0.105 (0.084)
PSP	0.068 (0.105)	0.002 (0.111)
PR	-0.080 (0.128)	-0.014 (0.127)
Small Left	-0.023 (0.171)	-0.134 (0.182)
Small Right	-0.104 (0.148)	-0.247 (0.152)
Personal Votes/District Quota	0.200*** (0.077)	0.173** (0.076)
District Magnitude	0.006*** (0.002)	
Constant	-0.112 (0.151)	-0.224 (1.042)
State Fixed Effects	No	Yes
Observations	326	326
Log Likelihood	-216.554	-193.711
Akaike Inf. Crit.	453.107	447.422
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	