Participation and Competition in Top-Two Elections:

Tradeoffs in Election Reform

June 18, 2025

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Key Words: Primary Elections, Nonpartisan Elections, Election Reform, Participation, Competitiveness, California, Electoral Institutions, Political Behavior

Abstract:

American states continue to experiment with new forms of electoral institutions, including varieties of nonpartisan elections. One such rule, the "top-two" procedure, allows all voters to choose any candidate in the primary, advancing whichever two candidates obtain the most votes to the general election. These general elections may feature two candidates of the same party. This paper uses data from California, the largest state to adopt this rule, to examine participation and competition in the last five elections before the top-two procedure (2002-2010) and the first five after it (2012-2020), investigating the potential tradeoff between the roll-off and increased competition. We find that while roll-off occurs with copartisan elections, the compensating increases in competition are substantial. Furthermore, with this system, the meaningful competition shifts towards the higher turnout general elections, which calls into question whether there is much of a participatory cost at all. Additionally, we leverage the unusual cases of write-in candidates to illustrate the electoral dynamics of these elections, illustrating the difficulty of implementing accountability with cross-party elections while demonstrating the behavioral potential of copartisan elections.

In 2012, California became the largest state to shift most state and federal elections to a nonpartisan election system. The "top-two" replaced a traditional partisan primary: any voter can choose any candidate in the primary, and the two leading candidates advance to the general election. Although other states use variants of this innovation, California's size and high profile make the state a key test case for the reform. This paper uses descriptive data to reframe the debate about the tradeoffs resulting from adopting the top-two. We find that same-party general elections, often occurring in safe partisan districts, increase both meaningful participation and between-candidate competition relative to the old partisan primary system.

Passed as Proposition 14 in 2010, advocates argued the new law would reduce polarization and provide other benefits (McGhee 2010).[1] Scholars have given this mixed reviews, particularly regarding moderation (e.g. Nagler 2015; Ahler, Citrin, and Lenz 2016; McGhee and Shor 2017; Grose 2020). When two candidates of the same party compete in the general election, the moderate may have an advantage (Alvarez and Sinclair 2015; Grose 2020). Yet, parties might "sidestep" the reform (Crosson 2021; Hill 2022) by manipulating candidate entry and controlling resources, as they do across electoral contexts (Cohen et al. 2008; Hassell 2018). The mixed moderation findings are often compared to an apparent downside of same-party general elections: some "orphaned" voters—voters without an available candidate of their party—skip participating (Fisk 2020; Patterson 2020).

Nevertheless, the tradeoffs could be framed differently. Although evaluating moderation is important, the rules also impact representation along other lines, such as race or gender

[1] McGhee's article includes both a summary of the expectations and a diagram of the differences between systems. His diagrams are helpful for anyone unfamiliar with the rules.

(Sadhwani 2020; Sadhwani and Mendez 2018; Stauffer and Fisk 2021). Furthermore, other potential benefits, such as increased competition, are broadly associated with improved policy outcomes in other contexts (Gamm and Kousser 2021). The extent individual officeholders seek to provide public, rather than private, goods should depend both on the size of the required winning coalition and the ease with which leaders can replace coalition members (Bueno de Mesquita et al. 2005; Bueno de Mesquita and Smith 2022). As a consequence, we focus on individual-level competitiveness, instead of party-level competitiveness. We also focus on participation at the level of the specific contest, rather than the number of voters casting a ballot in the election. Although general election roll-off is one kind of participatory cost in this sense, a more complete evaluation of the nature of the winning coalition should consider what candidates must do to win both stages of the election, including accounting for the importance of each vote (higher in more competitive elections). With this theoretical lens, the question becomes whether participatory costs outweigh competitiveness gains, a trade-off directly involving the unique mechanism of this class of nonpartisan rules, the same-party general election.

Our evaluation is set against a background of an ongoing crisis of partisanship in state and federal politics, with Washington mired in dysfunction and "meager evidence of accountability" in state legislatures (Rogers 2023, 4). We find copartisan general elections create meaningful competition in districts lacking cross-party competition, although we also confirm the existence of substantial roll-off. We then reconsider participation, focusing on the safe seats of the stronger party, the Democrats. We observe that the relevant comparison is between participation in the primaries under the old rule and the "last Democrat"—primary or general election—under the new rule. This perspective lowers the participatory costs: same-party general elections involve more voters than the old partisan primaries. These voters cannot rely on party cues to guide their choice

and, as our final section illustrates by examining the subset of elections with write-in finalists, even poorly-resourced copartisan candidates can produce surprisingly strong challenges. We conclude by arguing this approach to analyzing competition and participation should be used to study other similar state election reforms.

Competition for Safe Seats

Although California's Citizens Redistricting Commission—adopted, with the top-two, in time for the 2012 election (McGhee and Shor 2017)—increased the number of competitive seats, many state legislative and congressional districts remained dominated by Democrats. Copartisan elections allow competitive general elections in parts of the state in which cross-party competitive districts could not be drawn. Consider California's 50th Assembly District, which then covered Santa Monica to West Hollywood in Los Angeles County.[2] In 2012, President Obama won three-quarters of the two-party presidential vote share there, on par with his county-wide vote. Yet, in 2012, only 1,705 votes separated the general election candidates—how?

As described in Alvarez and Sinclair (2015), and shown in Table 1, three Democrats and one Republican split the June 2012 AD50 primary vote. Although incumbent Democrat Betsy Butler came in first, Democrat Richard Bloom narrowly beat Republican Brad Torgan for second place. In November, reversing the order from the primary, Bloom beat Butler in a competitive election, a contest requiring both candidates to fight hard for every vote. Yet, the concerns Fisk (2020) and Patterson (2020) raise about roll-off manifested themselves in this election, too: Bloom

[2] All of the elections data in this paper is drawn from the official reported California election results and registration data (California Secretary of State 2025).

and Butler, combined, had 18% fewer general election votes than did the candidates in the presidential election.

In 2014, Torgan returned to challenge Bloom, providing a sense of what might have happened in 2012 if Torgan had won only a very small number of additional primary votes and advanced. With party labels now distinguishing the candidates, Bloom won with approximately the party's presidential vote share, although roll-off (from the 2014 gubernatorial vote) was smaller, at only about 6%. Having a same-party general election in 2012, in terms of competitiveness between candidates, likely shifted AD50 from a landslide to a coin flip.

Table 1: California's 50th Assembly District, 2012-2014.

Year	Name	Party	Prim. %	Gen. %	Top Ticket Dem. %	All AD50 Gen. Votes	Top Ticket Votes	Roll Off %
2012	Bloom	DEM.	25.6	50.5	72.8	185,185	226,154	18.1
	Butler	DEM.	25.8	49.5				
	Torgan	REP.	24.4					
	Osborn	DEM.	24.3					
2014	Bloom	DEM.	73.4	71.5	73.5	109,206	116,377	6.2
	Torgan	REP.	26.6	28.5				

Not every same-party general election is competitive, but facing a copartisan candidate in a safe seat amounts to the *only* way such elections can be close. Figure 1, below, illustrates the complete absence of any competitive safe-seat cross-party elections in the decade before or after the adoption of the top-two. District partisanship in Figure 1 is the Republican presidential vote share from 2008 (for 2002-2010) or 2012 (for 2012-2020). After 9/11, a few Republicans won just inside the "Democratic" side, and Democrats made advances in marginal Republican seats in the Trump era, but those are exceptions that prove the rule: district winners typically get within a few percentage points of their party's presidential vote share. The same-party general elections with

the top-two break this trend. A regression estimating winner's vote share (see Appendix 1) emphasizes that the competitiveness of same-party elections does not depend on the district's partisan composition controlling for open seats, write-in opponents, and the election year.

The safe-seat general election competitiveness arises directly from the same mechanism creating the roll-off. Figure 2 plots competitiveness and roll-off in safe Democratic seats from 2012-2020 (safe: 2012 Republican presidential vote share under 40%). The y-axis is a candidate performance measure, subtracting President Obama's 2012 presidential two-party vote share from the winning Democrat's vote share. For most cross-party elections, this difference is small and close to zero. In contrast, some of the same-party general elections have a twenty or thirty-point gap, with the vast majority below the Obama percentage. The x-axis displays roll-off percentages, compared to participation in the district's top-of-ticket election each year. While there is some roll-off for nearly all elections, it is greater for the same-party contests: typical roll-off for same-party elections corresponds with some of the most extreme roll-off in cross-party elections. An increase in competition could justify the decreases in participation, even if this was the only perspective on it; nevertheless, in the next section, we turn to a concept that uses both the primary and general election stages to examine participation from a different angle.

Figure 1: Winner's General Election Vote Share, California State Legislative and U.S. House Elections, 2002-2020.

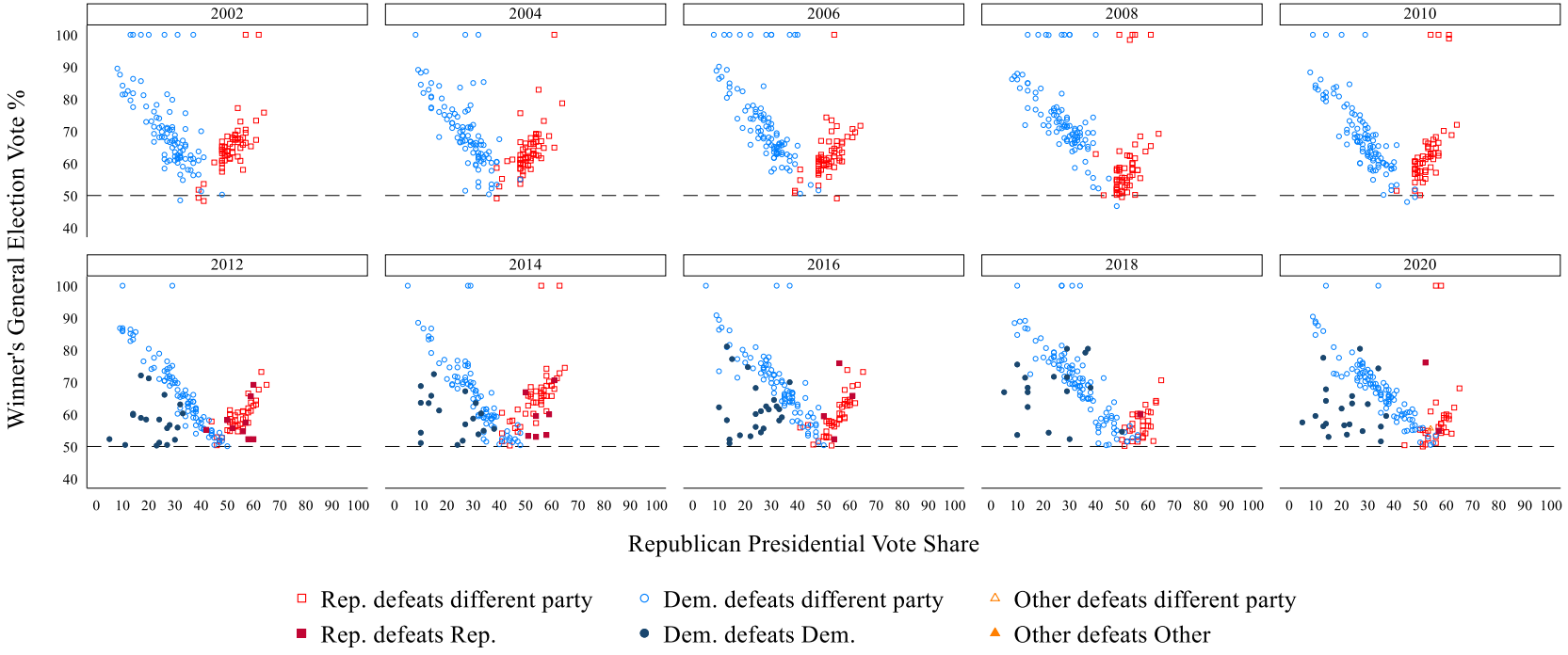
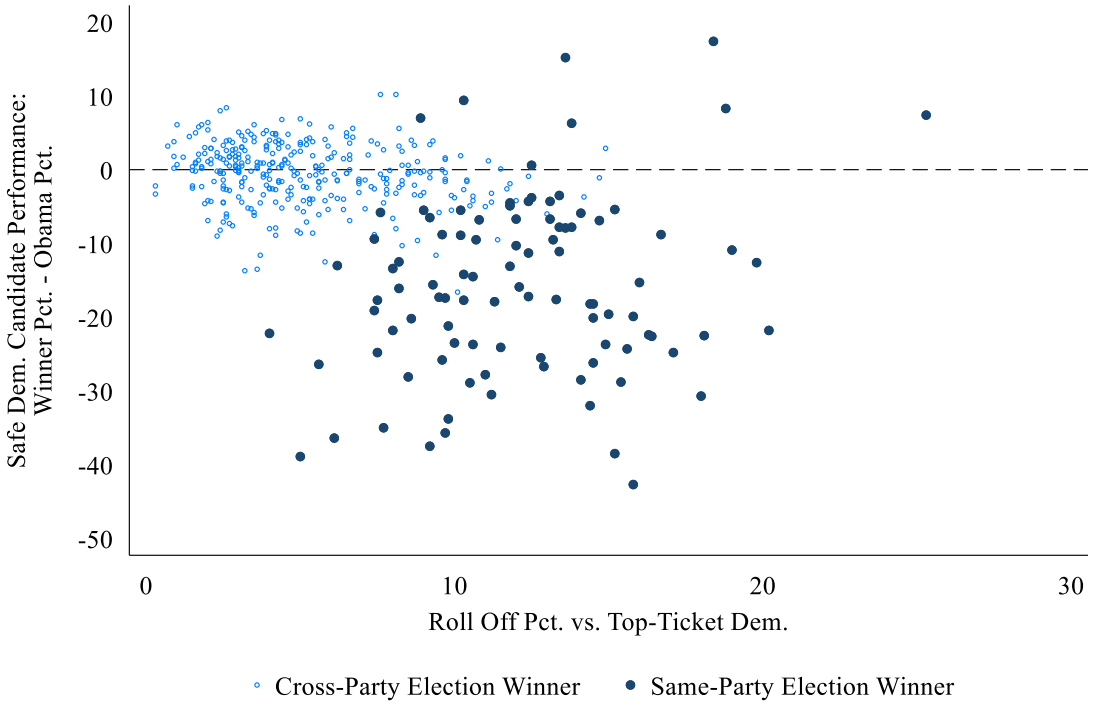


Figure 2: General Election Competition and Roll-Off. Displays difference between Democratic winner's vote share and Obama's 2012 vote share as well as the percentage decline of participation relative to district top-of-ticket voting in CA 2012-2020 legislative and U.S. House districts with at least two candidates and a Republican vote share under 40%.



The General is the Primary

V.O. Key's famous observation of the American South of the 1940s—in many districts, the primary "is in reality the election"—holds true in many places today (Key 1984, 407). Primary elections are venues for an electoral link "in the cases that matter most," open seats without meaningful cross-party competition (Hirano and Snyder 2019, 2). The top-two does much the same, but with a twist: when two candidates of the same party advance, the *general* election takes on the significance of the traditional partisan *primary* election, choosing the ultimate winner among the candidates of the dominant party. The findings about roll-off (Figure 2, above) should be set in this context. For the participatory cost to be truly a trade-off, the roll-off must be so severe that fewer participants make the ultimate (meaningful) choice. In fact, the top-two nets greater participation *despite* the roll-off in the most relevant election.

For this analysis, we focus on safe Democratic seats—a majority of California legislative elections, seats like AD50 in our motivating example. In 2002-2010, 463 of 765 Assembly, Senate, and U.S. House elections (61%) took place in districts with a 2008 Republican presidential vote share under 40%. Democrats won 457 of them (99%).[3] These winners made up 95% of the total Democrats elected in this period for these offices. In 2012-2020, safe Democratic seats—using the 40% Republican threshold, but from 2012—covered 442 of 765 Assembly, Senate, and U.S. House elections (58%). Democrats won them all, including every AD50 election in these years. Despite the redistricting commission and Democratic advances into Republican areas later in the decade, these victories still comprise 79% of all Democrats elected to these offices.

[3] The six defeats involved only two Republicans in districts with a 39% Republican presidential vote share.

We examine the "last-Democrat" elections, in which the Democratic winner defeated the final alternative Democrat. In the partisan primary era, this had to be in the primary. In the top-two era, it could be either the primary or general election. In our AD50 example, Richard Bloom did not defeat the last Democrat until the general election in 2012. To measure coalition size across contexts, we examine the winner's obtained share (total votes) out of the potential pool of voters (all registered voters). Figure 3 displays the results, ignoring for the moment uncontested elections.[4] The averages for the partisan primary era are quite low: Republicans were ineligible to participate in the Democratic primary, many independents did not, and turnout overall was not particularly high.

Many elections are uncontested. In the partisan primary era, at least two Democrats ran in only 156 of the 457 Democratic safe-seat elections. Since the general elections were foregone conclusions, many districts lacked any meaningful election. Even in contests with at least two Democrats, the partisan primary winners needed only tiny coalitions, with the average winner obtaining votes from about 11% of the district's registered voters. Since not every election was vigorously contested, this also could be well above what was needed to win. Compared to this, it would be difficult for any alternative system to be worse, a fact all the more remarkable given the widespread disapproval voters directed at California government at the time.

In the top-two era, at least two Democrats ran in in 227 of the 442 safe seats, resulting in 130 cross-party general elections and 97 copartisan general elections. Winners headed to cross-party general elections obtained a greater support share than did winners in traditional partisan primaries—on average, 16%, compared to 11%. While larger, the exact difference is not

[4] In the appendix, we also replicate this figure using all votes cast in the primary and general election in these races and the results are broadly the same (see Figure A-3).

particularly important: what matters is that this equals or exceeds the partisan primary results. Comparing partisan primary results to the copartisan general elections reveals a much larger difference, as is apparent in Figure 3. Democratic winners in copartisan, often competitive, general elections obtain an average share of 34% of the support of the district's registered voters. The proportion of registered voters supporting the ultimate winner in the final choice between Democrats is about three times greater with the top-two copartisan general elections than with the contested partisan primaries.

In the partisan primary era, meaningful elections were rare in safe seats. Figure 4 breaks down the contests by era, district, outcome type, and primary competitiveness. In only 53 of the 457 safe-seat Democratic victories in 2002-2012 did the winner obtain between 45-65% of the vote in the primary. As mentioned above, most were uncontested or not seriously in doubt, with the winner obtaining over 65% of the vote. Furthermore, in 31 elections, the winner earned under 45% of the primary vote; while those elections are more competitive, a split field shrinks the size of the required winning coalition, and deeply fractured fields also raise representational concerns.

After the reform, safe-seat Democratic winners obtained 100% of the vote for Democratic candidates in 50% (221 of 442)[5] of the elections, down from 67% (305 of 457) with partisan primaries. There are two other very important differences as well about fractured fields. First, in only 15 of 442 elections was under 45% of the primary vote adequate effective to win the seat in the following cross-party election. In the 24 cases with fractured fields resulting in same-party elections, the winner then had to win over 50% in the general election against another Democrat. Second, in 13 of those 24 same-party cases, the primary's *second-place* Democrat overcame the

[5] See the next section: in six elections, the winner earned proportion equal to 100%, with rounding, since the opponents were write-ins; 215 elections were entirely unopposed.

first-place Democrat in the general election. Returning to the motivating example, Richard Bloom came in 2nd in 2012's AD50 with only one-in-three primary votes for the Democratic candidates—but he gained enough support in the larger general election pool to win a majority in the general election.

Figure 3: Democratic Winner's Vote of District Total Registered Voters, Facing Last Democrat. State Legislative or U.S. House Districts with Republican Presidential Vote Share Under 40%.

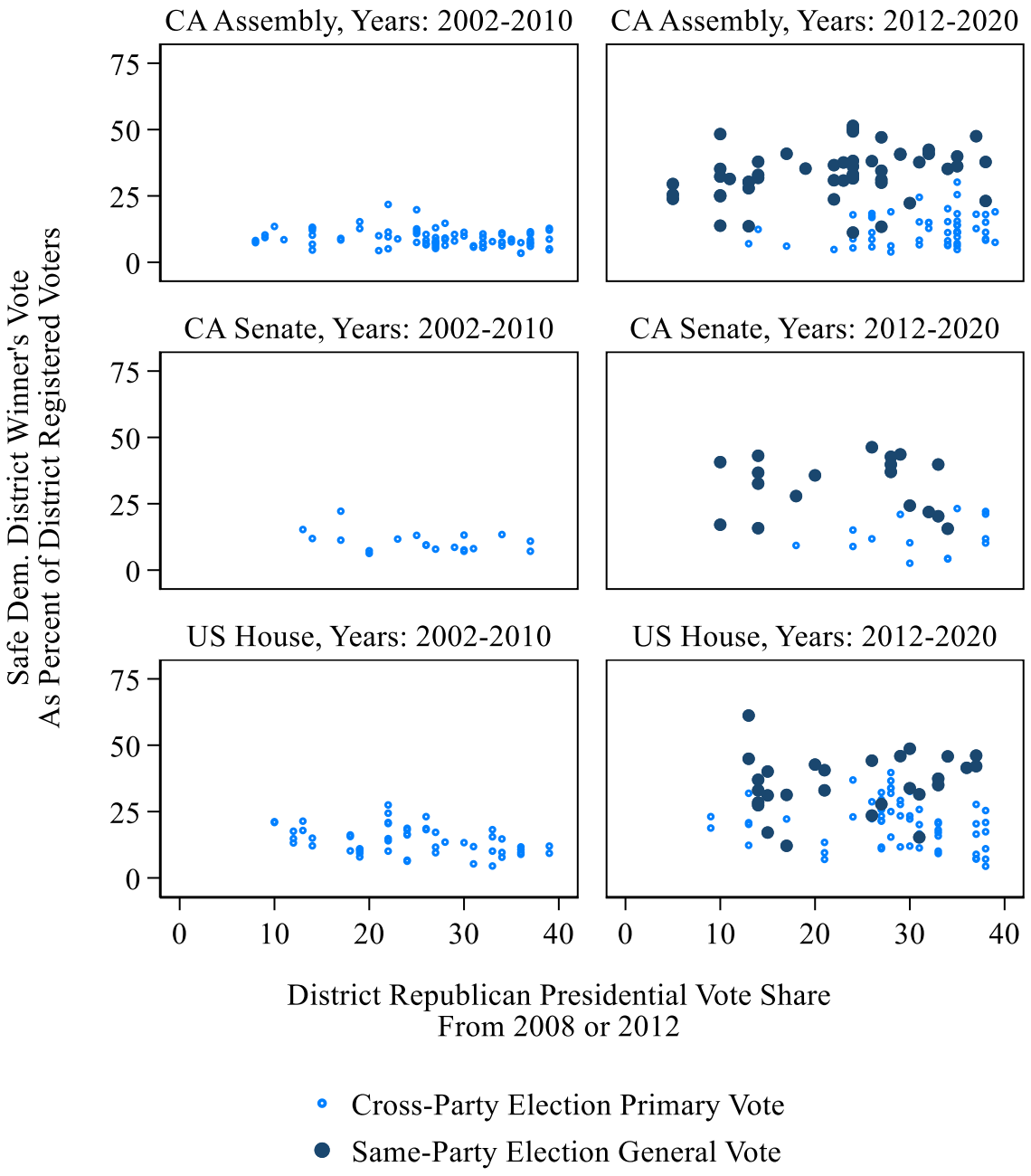
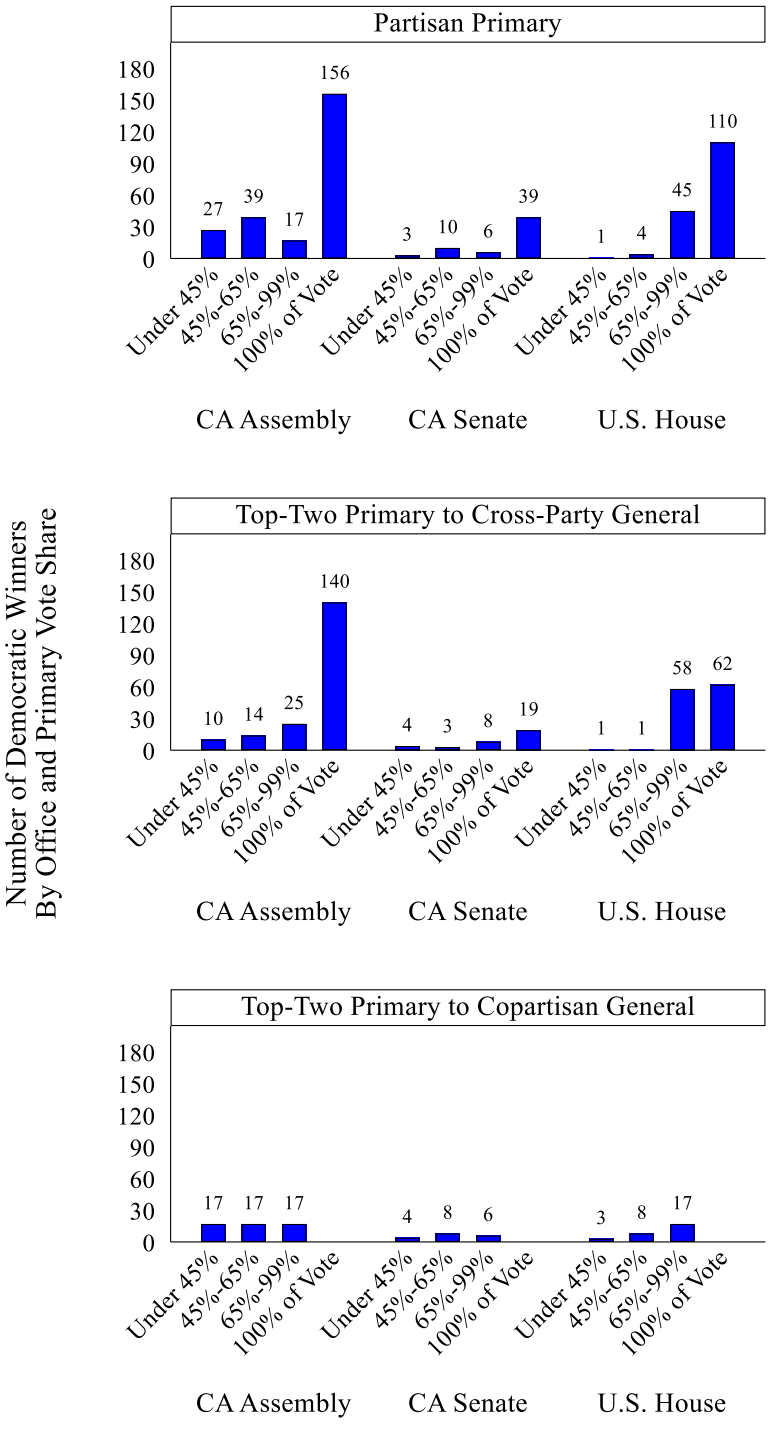


Figure 4: Democratic Winner's Primary Democratic Vote Share, in State Legislative or U.S. House. District Republican Presidential Vote Share Under 40%, 2002-2020.



The general election roll-off depicted in Figure 2 is notable and, as part of a holistic evaluation of the top-two, worth considering alongside the increase in competition displayed in Figure 1. Figures 3 and 4 re-frame the question about participation, complicating the apparent tradeoff between participation and competition. Viewed as a comparison about the winning Democrat's coalition size, considering both the primary and the general election, it is possible that the top-two *increases* participation (evidence: larger winning coalitions in the ultimate choice between Democrats), *despite* the roll-off. Was it worth it, in AD50 in 2012, to have some roll-off in the general election in exchange for deciding between Bloom and Butler in the larger general electorate? There were 62,413 votes cast in the primary and 185,185 votes cast in the general election in that race, even with the roll-off. Behaviorally, since there is some uncertainty about precisely which voters will roll off, campaigns also have an incentive to try to win votes from all of the opposite-party coalition, as well, even if many of those voters ultimately stay home. Below, we argue this result matters because party polarization has almost eliminated the possibility of cross-party accountability.

Polarization & Political Behavior

The close correspondence between district presidential vote share and legislative candidate vote share, and the close relationship between state and federal legislative election outcomes (see Figure 1.1, Rogers 2023, 3), suggests that accountability typically must occur at the party level. Most voters will favor one party up and down the ballot, with somewhat idiosyncratic swing voters deciding close elections. This behavior presents challenges for a constitution defined by separation-of-powers and federalism; for meaningful individual officeholder accountability to

operate, voters must be able to make decisions about individual candidates. Same-party general elections mean voters cannot simply default to party cues to decide between candidates.

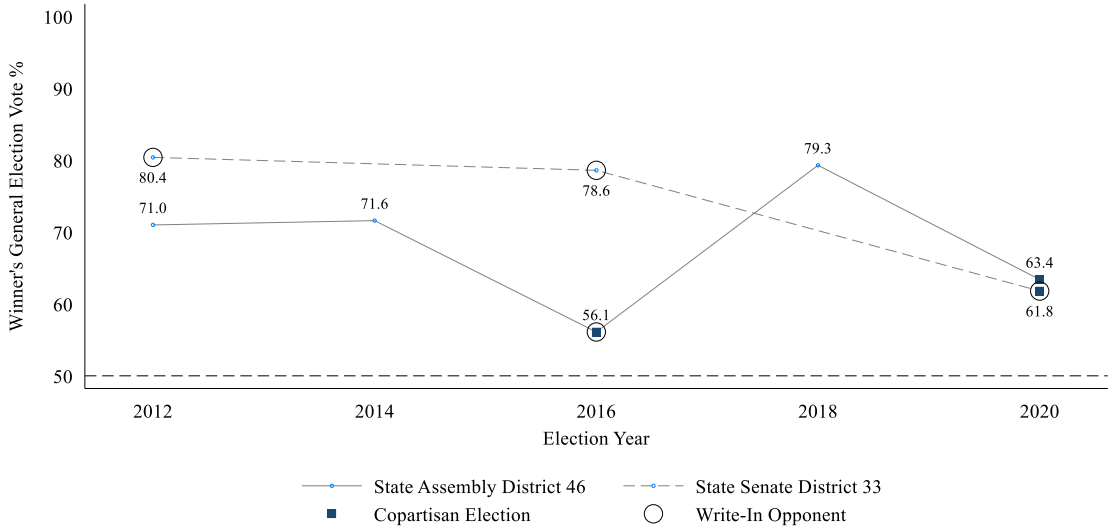
While other studies have used regression discontinuity approaches to compare like cases and understand the impact of same-party contests (Crosson 2021; Patterson 2020), there is also a subset of top-two elections for which we already know a great deal about equivalence: elections with write-in finalists. In this period, no write-in candidate wins. They share the absence of a preexisting plan for ballot access. They have correspondingly fewer resources. They typically earn under 1% of the primary vote. The top-two, though, propels some of those write-ins to the general election ballot, where they have the same partisan cues printed as other candidates.[6] Write-ins can reveal the baseline voting behavior in the absence of long-planned and highly-resourced campaigns.

Same-party general elections with a write-in candidate advancing from the primary are more competitive than cross-party elections featuring candidates originating as primary write-ins, even though cross-party write-ins obtain many times the vote they won in the primary. In most elections with write-in losers in the general election, the winning candidate obtains approximately the party's presidential vote, just as shown in Figure 1; in the regression (Appendix Table 1), the variable for "write-in" is insignificant, with only a small estimated coefficient. If voter behavior is largely a combination of uninformed partisan voting with some idiosyncratic noise, this is what we would expect to see: the write-ins do as well (or poorly) as the regular candidates in cross-party competition. Yet, same-party write-in contests result in comparatively more competitive elections even for established candidates. Although uninformed partisan vote in cross-party contests follows

[6] Curiously, in one district, two write-ins tied for second, forcing the only "top-3" election. See Appendix 3.

the party cue, uninformed and mostly random choice between two candidates of the same party has the consequence of tightening a same-party election, potentially empowering the smaller number of voters with more knowledge about specific candidate performance.

Figure 5: Winner's Vote Share, CA AD46 and SD33, 2012-2020. The Democratic Party's 2012 presidential vote share was 76% in AD46 and 80% in SD33.



Two elections illustrate these dynamics: Democrat-on-Democrat contests in AD46 in 2016 and SD33 in 2020 (see Figure 5). Adrin Nazarian won every election in AD46 between 2012 and 2020. Yet, he had his lowest vote total in the 2016 same-party election against Angela Rupert. He won only 56% of the general election vote, despite Rupert only commanding 131 write-in primary votes and campaign finance reports indicating that he out-raised her $785,784.84 to $59,382.00 (California Secretary of State 2023). His second lowest total came in a regular same-party contest in 2020; he won over 70% of the vote in his three cross-party elections. In SD33 in 2020, Lena Gonzalez had recently won a special election to take over a safe seat from Ricardo Lara. Against

an opponent with merely 205 primary write-in votes, she obtained only 61% of the general vote, lagging around 20 points behind the Democratic presidential vote share. These results underscore that even strong candidates should take any same-party opposition seriously.

Conclusion

American politics is experiencing a period of intense polarization. Most elections between Democrats and Republicans are decided down-ballot on party label alone, with individual candidates generally receiving a share of the vote proportional to their party's top-of-ticket strength. The prospect for any kind of accountability in that environment, with many lopsided states comprised of lopsided districts, is remote. The exception in California comes from Democrat-on-Democrat general elections, a feature only possible due to the top-two rules. In these elections, some Republicans will not vote; yet, in the old partisan primaries, *no* Republicans were able to vote, and fewer Democrats and independent voters participated as well. The overall consequence of these Democratic copartisan elections is an increase in participation in the most consequential choice. While the debate about whether the top-two results in moderation continues, and is beyond the scope of this data, we demonstrate that these same-party elections bring some competition to places that otherwise would not have it. Winners must have a relatively broader coalition accept them, and the potential for competitiveness means the members in those coalitions are more important. Larger coalitions made up of hard-to-replace members should result in a political process which increases public goods production (Bueno de Mesquita and Smith 2022).

These results are for California, but the issues extend to other types of nonpartisan systems where individual, instead of party-oriented, competitiveness provides the key to accountability. Elections in which at least two candidates carry the same party identification require voters to

evaluate something else, and non-partisan structures can shift the most important choice into a higher-participation general election. Washington uses a very similar system to California, and Alaska recently adopted a top-four with ranked-choice voting. The roll-off with the top-two could be considered analogous to incomplete rankings with ranked-choice rules, and so this type of analysis could be deployed there after a few more cycles of elections establish a pattern in the results. As other states continue to consider alternative election systems, we hope these findings encourage scholars to perform similar analyses. While ideological moderation remains a goal for many reform advocates, increased individual-focused competitiveness and participation in the most critical choice are also important outcomes.

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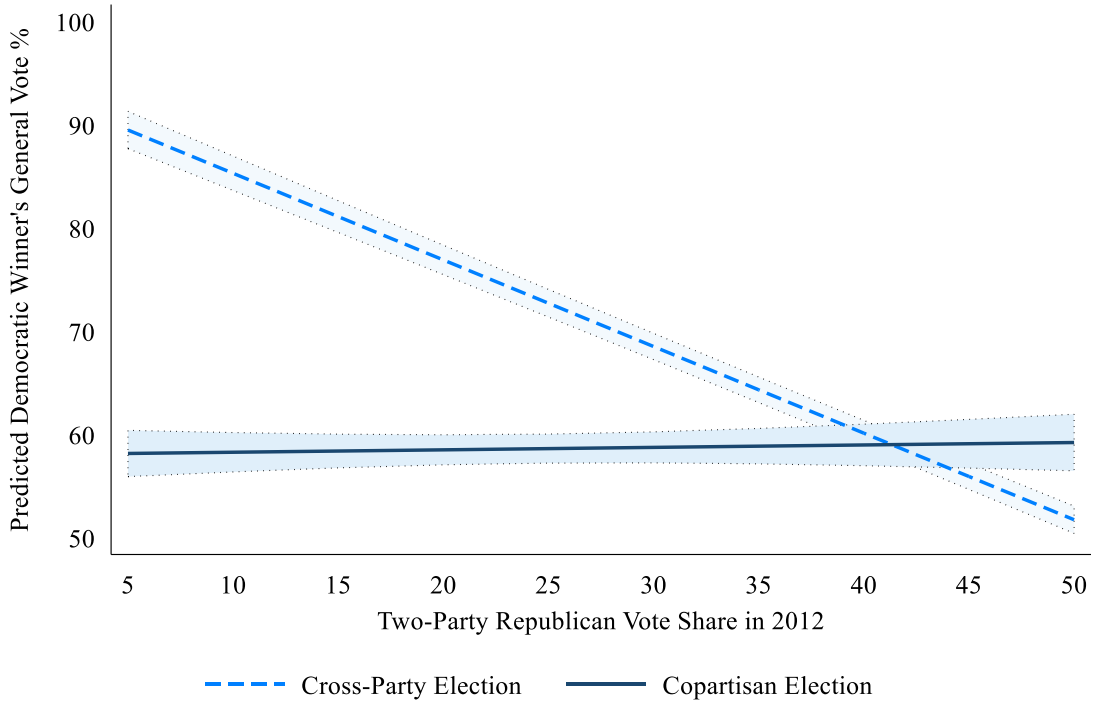
Appendix

Appendix 1: Vote Share by District Characteristics

These are the regression results referenced in the main text. Figure A-1 illustrates the key point: copartisan elections are predicted to be equally competitive across the full range of Democratic-leaning districts, no matter how Democratic they are. Thus the top-two produces the greatest impact in the districts most missing any serious cross-party competition. The full results are on the next page.

Figure A-1: Predicted Values, Linear Regression for Democratic Winner's Contested General Election Vote Share. Displaying predictions and 95% CIs from open CA Assembly seats in 2016.



Appendix Table 1 displays the estimated coefficients from the model referenced in the main text of the paper. This analysis focuses just on the general election winners from the Democratic Party (the slope for the Republicans clearly runs in the other direction, with their vote share increasing as a proportion of Republican presidential vote share). There are also good reasons to believe that the Democratic copartisan elections will have different characteristics, particularly for state legislative offices, than similar Republican elections; influencing the Democrats may be altering the median legislative voter on policy issues, while the Republican state legislators are largely irrelevant.

Table A-1: Linear Regression for General Election Vote Share for CA Democratic Winners, Facing Opponent, 2012-2020.

Variable	Coef.	Std. Err.
Copartisan Election	-35.65***	1.55
Rep. Pres. 2-Party Vote Share '12 (RPVS)	-0.84***	0.02
Copartisan Election x RPVS	0.86***	0.05
Incumbent	1.83***	0.54
Copartisan x Incumbent	5.26***	1.00
Write-In Opponent	1.24	0.67
CA State Senate Election	-0.31	0.57
US House Election	1.15**	0.40
Election Year 2014	-1.67**	0.59
Election Year 2016	2.34***	0.58
Election Year 2018	3.82***	0.58
Election Year 2020	2.01***	0.59
Constant	91.34***	0.93
R-squared	0.81	
N	544	

* p<0.05, ** p<0.01, *** p<0.001

Appendix 2: Alternative Measures of Participation

The text around Table 3 defines the coalition size measure as the winner's vote out of the total district's registered voters. This can make it appear as if larger coalitions were required than is truly the case, since many candidates win by large margins. Alternative measures are imaginable, such as using half of the total vote in the relevant election (although, under the pre-top-two rules for all elections, and with the top-two for last Democrats defeated in the primary, smaller coalitions could work in fractured fields). These alternatives are, in some way or another, functions of the total vote for all candidates at each stage.

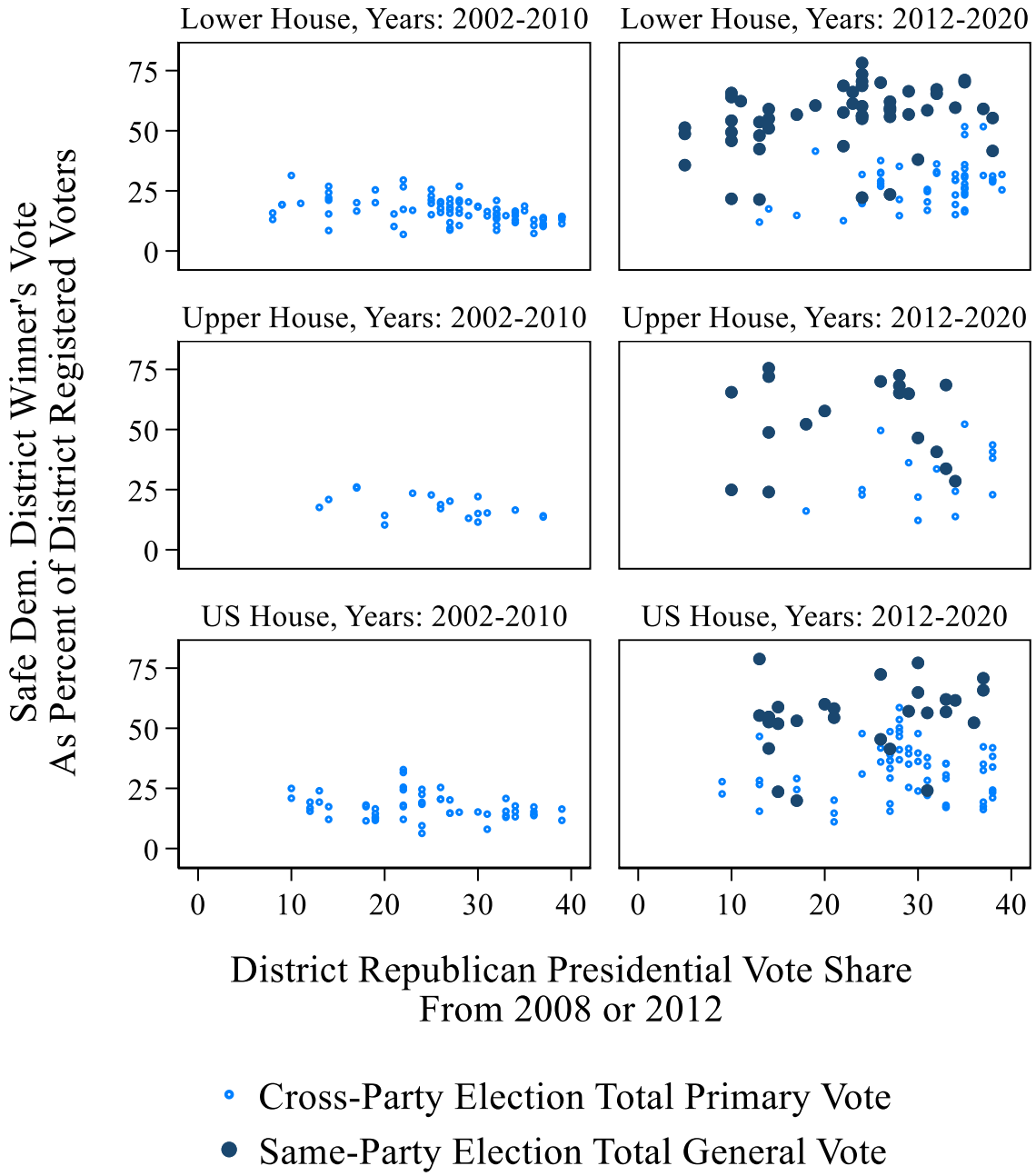
Appendix Figure A-2, below, re-creates Figure 3, but substitutes the total relevant vote in the election in which the last alternative Democrat was defeated. For the pre-primary era, this is the total vote *in the winning candidate's partisan primary*. If you are a Democrat running in a Democratic district, the turnout of Republican primary votes is entirely irrelevant. The last alternative Democrat was always defeated in the primary in the 2002-2010 period (the left side of the figure). After the adoption of the top-two, the number of participants in the winner's primary goes up because all voters are participating in a single common primary, even if the last Democrat is defeated in the primary. The larger effects clearly remain with the same-party general elections.

Democrats defeating fellow Democrats in same-party general elections are winning the relevant election with considerably greater numbers of participants in the top-two era relative to the results from the partisan era. While using the winner's vote or the total vote changes the numbers, it does not change the overall point. The partisan primaries, even in the most Democratic districts in which Democrats hold considerable advantages in party registration, only rarely have over 25% of the district's registered voters participate in the Democratic partisan primary. In contrast, participation the same-party general elections with two Democrats rarely falls under that

level; there are many elections with 50% or more of the registered voters participating in the choice between two Democrats.

We should underscore that these differences are enormous and are occurring in the very elections in which Republican roll-off is supposed to cause some concerns about participation. If large proportions of Republicans did not roll off the general election ballots for these elections, participation would be even higher. Their roll-off is a choice to abstain. In the old partisan primaries, their exclusion was a legal requirement of Republican registration. Furthermore, as the analysis of the write-in cases illustrates, it can be hard to predict when a same-party election will occur with any measure of certainty, and so all incumbent Democrats and aspiring Democratic officeholders face some probability of having to win a large-pool same-party general election in which those Republican voters are potentially relevant. As Figure A-2 makes clear, in the old partisan primary era, in most safe Democratic districts it would be sufficient to win the primary—and nearly by default win the general—by holding on to about half of the total vote shown there (support from around 12-14% of the total registered voters is really all that is typically needed).

Figure A-2: Replicates Figure 3 Using Total Contest Votes Instead of Winner's Vote. Total vote out of registered voters in election in which last alternative Democrat is defeated.



Appendix 3: The Write-in Candidates

Appendix Figure 3 replicates the analysis of Figure 1, but displays only the elections with write-in finalists. The AD46 and SD33 elections are the unusually competitive elections at left of the figure, falling well below the general trend line for Democrats. Otherwise, it is remarkable that the winners typically obtain about the same share against a write-in opponent that the their party's presidential candidate obtains against the higher-profile presidential opponent.

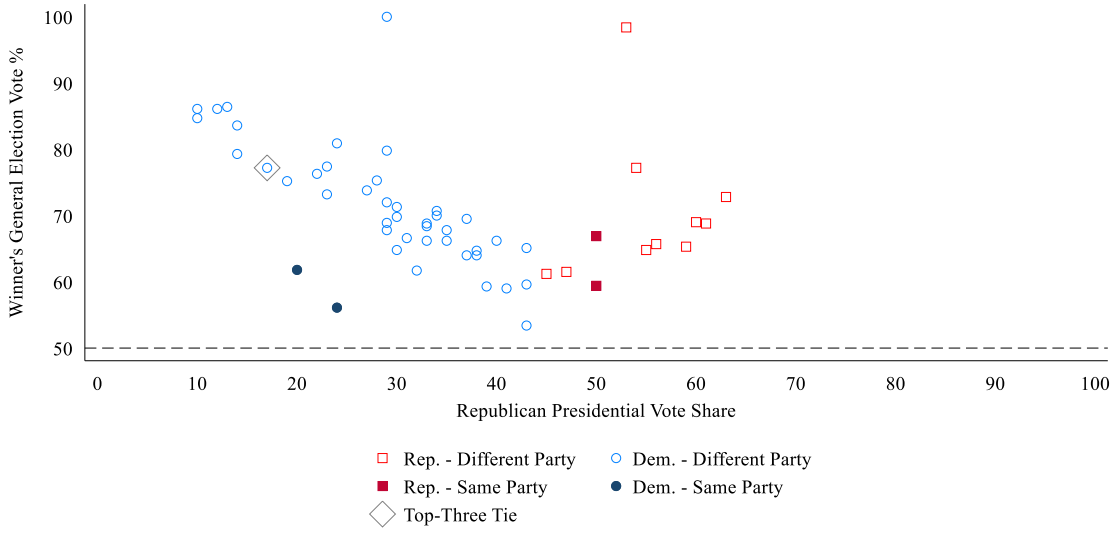
Figure A-3 also highlights a bizarre election. Due to a quirk in the top-two law's language, primary ties for second place are not broken by some kind of coin flip, as are ties in most elections. Both candidates advance in the event of a tie to make a "top-3." This is very unlikely to occur with the large numbers of votes cast in most elections when all the candidates appear on the ballot, but given the very small number of votes for most write-in candidates, it is not so surprising that this did happen with two write-in candidates tying for second place.[7] In 2016 in AD62, Democrat Autumn Burke steamrolled her way to victory with 67,691 primary votes. Yet, Libertarian write-in Baron Bruno and Republican write-in Tony Leal both tied with 32 votes each for second place. As marked in Figure A-2 with the diamond around Burke's general election vote share, this strange occurrence had no impact on Burke's general election vote share—likely because neither Bruno nor Leal was a Democrat. Yet, it also revealed how the top-two makes elections more competitive by forcing a choice between only two alternatives. The availability of a Libertarian option split the "not Democrat" vote, leaving the Republican with 17% and the Libertarian with 6%.

This is relevant for our discussion about meaningful participation and roll-off. Some voters in AD62 were able to express a third-party preference that most California voters cannot express

[7] It initially seemed like another tie had occurred in the 2024 election in California's 16th House District, with two candidates coming in second with 30,249 votes. Yet, a manual recount resulted in a 5-vote difference (Taylor 2024).

on the top-two general election ballot, just as Republican voters with two Democrats on the ballot are limited in their ability to express a general election preference for a Republican candidate. This may come with a participatory cost through roll-off. Yet, are the 6% of the ballots cast in AD62 truly all that different, from a perspective of accountability, than abstentions? What about the 17% of votes for the Republican? Once Burke made it to the general election without another Democrat to face in November, the election was effectively over. Yet, had some *other* Democrat obtained even just 33 write-in votes, to come in ahead of both Bruno and Leal, Burke might have faced a different election—still a likely victory, to be sure, but one that might have been more competitive, like those in AD46 or SD33.

Figure A-3: Winner's Vote Share Against Write-in Finalists, 2012-2020 California Assembly, Senate, and U.S. House Elections.



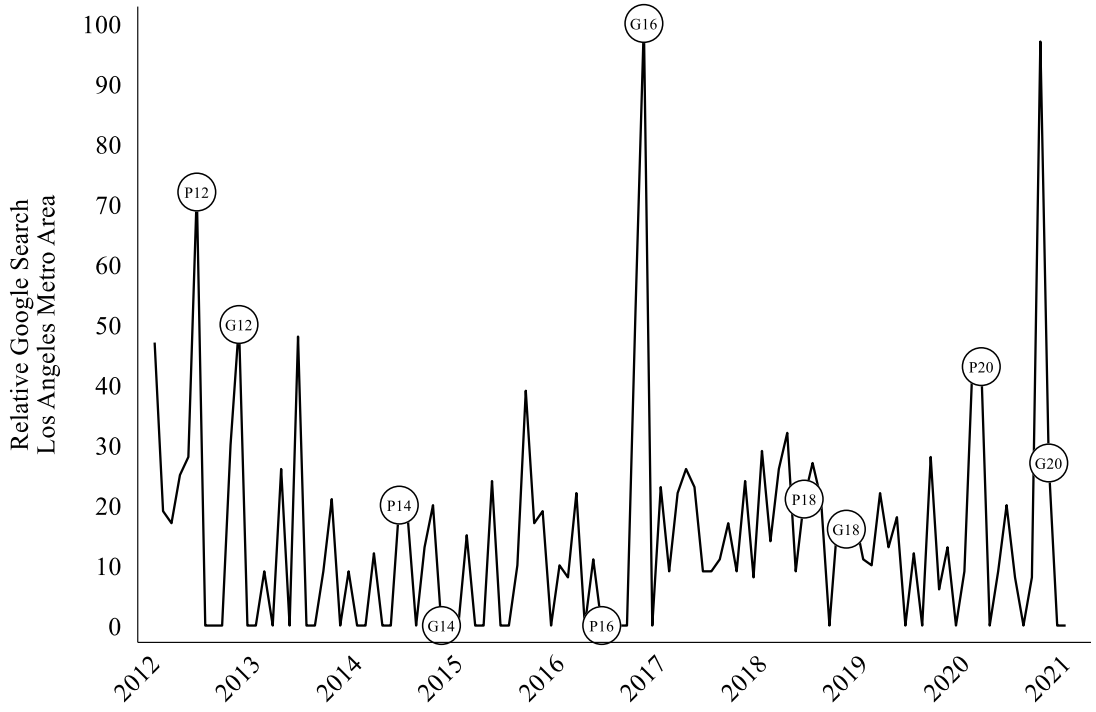
Some of the competitiveness of same-party elections is likely due to randomized voting over candidates sharing party labels, but this does not mean the outcomes are random. Instead, this gets the election past the strong influence of near-automatic party-line voting, and empowers the voters who do consider their choices to have some prospect of participating in a competitive election. Appendix Figure 4 displays the relative google search volume (Google Trends 2023) each month for Adrin Nazarian (AD-46) across the entire top-two era. This data was collected from Google Trends, restricted to the Los Angeles metro area (AD46 was entirely in Los Angeles, centered on the Van Nuys Airport).[8] Google trends reported data is *relative* search volume, where 100 indicates the maximum search during the investigated period.

Nazarian won a contested primary in 2012, but faced a Republican in the general election—and notably, his search falls in advance of the general election that year. In 2014, facing a Republican and with little else going on, his search volume is hardly different during the election periods than at other times of the year. In 2016, with no opponent in the primary listed on the ballot, his pre-primary search is very low. Yet, with a write-in Democrat making it to the general election ballot, his search skyrockets to its highest level in 2016's general election. It would not be surprising if many of those searching decided that they preferred to keep the incumbent Democrat (absent major scandal and so on) instead of switching to a write-in challenger—but somebody was at least looking at the options. In 2018, the conditions are similar to 2014, and search returns to largely those levels. In 2020, though, he faced another Democrat, who made it onto the ballot pre-primary; his primary search is somewhat high, and then in the D-D general

[8] Google Trends is a freely-available service provided by Google, but it is not possible to hold the Google Trends computational environment stable over time. Due to changes in Google Trends, these numbers may not replicate perfectly—although the data should look broadly similar (higher search in 2012, 2016, 2020; lower search in 2014 and 2018).

election, his search nearly equals that of 2016 (although, given the election date, most of the search takes place in October rather than November). These findings are consistent with Sinclair and Wray (2015), who found that same-party general elections prompted google search for candidate names.

Figure A-4: Google Search for Adrin Nazarian, 2012-2020.



Appendix 4: Additional Details on the CA 50th Assembly District Elections, 2012-2020

This appendix provides some additional comments on the AD50 elections for those most interested or familiar with the particular case. The main text of the paper includes our key motivating example: the difference in the 2012 election, resulting in a very competitive general election between two Democrats, and the 2014 election, a lopsided affair in which the Democratic winner from 2012 defeated the Republican candidate from 2012 who had failed to make the general election that year. The results of the 2016, 2018, and 2020 elections do very little to change our analysis, but are of enough interest to be included here for the sake of completeness. Table A2 reproduces Table 1 from the main text, but includes additional years.

Table A2: California's 50th Assembly District, 2012-2020.

Year	Name	Party	Prim. %	Gen. %	Top Ticket Dem. %	All AD50 Gen. Votes	Top Ticket Votes	Roll Off %
2012	Bloom	DEM.	25.6	50.5	72.8	185,185	226,154	18.1
	Butler	DEM.	25.8	49.5				
	Torgan	REP.	24.4					
	Osborn	DEM.	24.3					
2014	Bloom	DEM.	73.4	71.5	73.5	109,206	116,377	6.2
	Torgan	REP.	26.6	28.5				
2016	Bloom	DEM.	79.6	74.6	80.7	212,983	235,983	9.7
	Craffey	REP.	20.4	25.4				
2018	Bloom	DEM.	100	100	78.0	167,428	215,426	22.3
	(none)							
2020	Bloom	DEM.	78.7	80.4	76.9	207,212	277,545	25.3
	Hess	DEM.	14.5	19.6				
	King	DEM.	6.8					

Table A2 shows the entire decade of elections. Swapping in a different Republican in 2016 did not change the results much. Bloom ran unopposed in 2018. So far, the main story of 2012-2014 holds.

The 2020 election looks to be the exception that proves the rule: Bloom ostensibly faced another Democrat, Will Hess. Shouldn't this election have been more competitive? Yet, Hess would not be a Democrat in the eyes of many voters: he prominently listed notable liberals such as Tucker Carlson, Alex Jones, Ben Shapiro, and Newt Gingrich as his "favorite thinkers/philosophers" on his website (Hess 2022). Hess faced roll-off from Republicans who did not search beyond his party label and rejection from any Democrat who did.[9] Thus, the only truly competitive election in 2012-2020 in this district occurred when two Democrats—different, but both within recognizable traditions in the Democratic Party—competed for the seat in 2012.

Appendix-Only References

Google Trends, 2023. "Adrin Nazarian." Google Trends Search for 01/01/2012 to 01/01/2021 in the Los Angeles metro area. Search performed and results archived August 2023.

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Sinclair, Betsy, and Michael Wray. 2015. "Googling the Top Two: Information Search in California's Top Two Primary." *California Journal of Politics and Policy* 7(1). doi:10.5070/P2cjpp7125443.

Taylor, Sarah Grace. 2024. "Evan Low Wins Silicon Valley Primary Recount, Heads to November Ballot." *POLITICO*. https://tinyurl.com/538tvn55 (August 1, 2024).

[9] Copartisan elections correspond with increased Google search (Sinclair and Wray 2015).