

California Journal of Politics and Policy

INSTITUTE OF GOVERNMENTAL STUDIES, UC BERKELEY



Peer Reviewed

Title:

Winning from the Center: Frank Bigelow and California's Nonpartisan Primary

Journal Issue:

[California Journal of Politics and Policy, 7\(1\)](#)

Author:

[Sinclair, J. Andrew](#), NYU

Publication Date:

2015

Permalink:

<http://escholarship.org/uc/item/9vb15608>

Keywords:

electoral politics, legislative elections, top two primary

Local Identifier:

cjpp_25445

Abstract:

In 2012, California first used a nonpartisan “top-two” primary. Early academic studies of the effects statewide have produced mixed results on the key question: does the new law make it possible for more moderate candidates to win? This study focuses on one particular California State Assembly race, District 5, from 2012 to assess the operation of the new law in detail in one same-party runoff. Republicans Frank Bigelow and Rico Oller competed against each other in both rounds; Bigelow, the more moderate Republican, won the general election. This study uses the internal Bigelow campaign polling data (three surveys of 400 voters each) to assess the dynamics of the race, revealing not just voter attitudes towards the candidates but the reasons for Bigelow campaign choices. The results suggest that although little strategic behavior took place in the first round, voters, including Democrats, tended to support the spatially logical candidate in the general election – with the advantage to Bigelow, the candidate closer to the median voter of the district.

Copyright Information:

All rights reserved unless otherwise indicated. Contact the author or original publisher for any necessary permissions. eScholarship is not the copyright owner for deposited works. Learn more at http://www.escholarship.org/help_copyright.html#reuse



eScholarship
University of California

eScholarship provides open access, scholarly publishing services to the University of California and delivers a dynamic research platform to scholars worldwide.

Winning from the Center: Frank Bigelow and California's Nonpartisan Primary

J. Andrew Sinclair, NYU
jandrewsinclair@gmail.com

Abstract:

In 2012, California first used a nonpartisan “top-two” primary. Early academic studies of the effects statewide have produced mixed results on the key question: does the new law make it possible for more moderate candidates to win? This study focuses on one particular California State Assembly race, District 5, from 2012 to assess the operation of the new law in detail in one same-party runoff. Republicans Frank Bigelow and Rico Oller competed against each other in both rounds; Bigelow, the more moderate Republican, won the general election. This study uses the internal Bigelow campaign polling data (three surveys of 400 voters each) to assess the dynamics of the race, revealing not just voter attitudes towards the candidates but the reasons for Bigelow campaign choices. The results suggest that although little strategic behavior took place in the first round, voters, including Democrats, tended to support the spatially logical candidate in the general election – with the advantage to Bigelow, the candidate closer to the median voter of the district.

Notes:

The author would like to thank Matt Rexroad of Meridian Pacific, who facilitated the data transfer. Additionally, Joe Justin (Justin Company, Consultant for Frank Bigelow), Kirk Kimmelshue (Chief of Staff, Assemblyman Bigelow), Laiza Garcia (Political Affairs Director, California Association of Realtors), Pamela Woudstra (Political Consultant, Civil Justice Association of California, formerly of the California Dental Association), Charles Munger Jr., and Fairbank, Maslin, Maullin, Metz & Associates provided comments, permissions, and assistance with the data. Betsy Sinclair, R. Michael Alvarez, Christian Grose, Ian O’Grady provided academic commentary. Conference participants at the IGS “California’s Top Two Primary, Will It Make a Difference?” conference, April 25, 2014, shared their research and their insights. The James Irvine Foundation and California Forward supported the author’s research on primary elections. This paper uses additional data collected to respond to comments on the author’s 2013 dissertation and subsequent book, coauthored with R. Michael Alvarez. Thanks are then due to the anonymous reviews of the book and the members of his dissertation committee.

Winning from the Center: Frank Bigelow and California's Nonpartisan Primary

J. Andrew Sinclair, NYU
jandrewsinclair@gmail.com

Introduction

Americans continue to seek improvement in their democratic institutions. Although Madison thought the “republican principle” ensured defeat for minority factions “by regular vote,” democracy turns out to be less straightforward (2003, 75). With many potential candidate choices in an election, “no one method” of voting “satisfies all the conditions of fairness that have been proposed as reasonable and just” (Riker 1982, 65). States use primary elections to narrow the number of alternatives for the general election; while no rule satisfies all the concerns of the theorists (Arrow 1951), some rules may, in practice and on average, generate more desirable outcomes. In 2012, California implemented a new “top-two” primary election law in an effort to elect more pragmatic or moderate candidates.

This paper examines how a moderate candidate defeated a more ideologically-driven copartisan and won a seat in the state legislature. In California’s very conservative 5th Assembly District, Republicans Frank Bigelow and Rico Oller advanced to the general election by earning the two greatest proportions of the votes cast for all candidates by all primary voters. These were not identical candidates; for example, while Frank Bigelow had not signed the “no-tax” pledge, Rico Oller did. I examine voter preferences between the candidates using three surveys Bigelow’s side conducted over the course of the campaign.¹ This rich data source provides insight not only into voter behavior but also campaign strategy and the likelihood of seeing similar outcomes in the future. In AD5, the pro-reform advocates appeared to get what they wanted; the evidence from these surveys supports the conclusion that the new law will benefit relatively moderate candidates who survive into the second round.

Existing empirical research on primary election reforms paints a mixed, if not pessimistic, picture. Earlier studies (Gerber and Morton 1998), which find some types of more “open” (greater voter choice) laws lead to the election of more moderate candidates, contrast with recent

¹ The data comes from independent expenditure (IE) groups which spent on Assemblyman Bigelow’s behalf. While the IE effort and the candidate’s campaign are legally formally separated, and prohibited from coordinating, both are staffed with experienced campaign consultants who know how to productively advance their shared cause. The bulk of the data in this project came from the broad campaign to elect Bigelow, not Bigelow’s own organization. The main difference is that the IE operations first wanted to assess if Bigelow would be viable before committing resources; in that sense, their survey instruments are less partisan than a campaign survey might be.

findings (McGhee et al. 2014) that many primary laws do not appear to affect polarization in a meaningful or systematic way. Specifically about the top-two primary, Kousser, Phillips, and Shor (2014) find little evidence that California candidates presented themselves differently before the new primary. Ahler, Citrin, and Lenz (2014) find that voters did not seem to have enough information to adequately take advantage of the strategic opportunities (to obtain moderation) presented by the new primary. Nagler (2013) finds little evidence for strategic voting in the first round and evidence for high “drop-off” of voters without a candidate of their party in the general election. On the other hand, Alvarez and Sinclair (2014) argue the top-two did produce more moderate winners in some highly competitive districts and Grose, Sinclair, and Yoshinaka (2014) suggest the legislature turned more moderate after the election. The in-depth examination presented in this paper for one of the same-party runoffs, across the whole of the election cycle, helps to bridge the gaps in this existing and, at times, apparently contradictory literature.

The next section of this paper motivates the selection of this particular race as an important case study: it has many of the specific dynamics the primary-reform advocates appear to have considered as they pushed to change the electoral institutions. The subsequent section places this debate more broadly in the literature about electoral institutions and voter behavior. The data and methods section describes the Bigelow dataset, the testable hypotheses derived from the literature, and the method employed to test them. The rest of the paper presents and discusses those results.

Why AD5? The Tax Pledge, Moderate Candidates, and Primary Reform

Every year throughout the 1990s and 2000s, it seemed the California budget battles got worse.² In 2008 state legislators failed to pass a budget for eighty-five days as Republicans refused to grant tax increases, Democrats refused to cut services, and a super-majority rule required compromise; the *New York Times* described the final agreement as “the most universally despised budget in the nation” (Steinhauer 2008). A 2009 mid-year budget adjustment required a “record-long floor session of nearly 46 hours” to get just six Republican votes (Steinhauer 2009). Those votes, though, would transform the California political landscape: the key centrist Republican, State Senator Abel Maldonado, demanded the legislature put primary election reform on the 2010 ballot as part of the deal.

In June 2010, California voters approved Proposition 14, switching the state from traditional party primaries to a nonpartisan “top-two” primary system. Then, in a record-breaking session before the implementation of several state reforms, the state legislature passed the 2010 budget one hundred days late (Nagourney 2010). Later that year voters also approved Proposition 25, a ballot proposition to remove the supermajority requirement in the legislature for the yearly budget (Buchanan and Berton 2010) as well as a second redistricting reform measure (York 2010).³ All of these reforms, in some ways, targeted the ability or incentives for legislators to someday surpass their ignominious 100-days-late budget record.

² See McGhee (2007, 4). The state legislature only managed to produce an “on-time” budget a handful of times since the 1970s. Starting in the 1990s, budget battles increased in length, routinely delivering budgets over twenty days late and sometimes as many as forty or sixty.

³ In 2008 California passed a ballot proposition to make a “citizen’s redistricting commission” for the state legislature; the 2010 measure added House districts to that as well.

Proponents of the top-two primary supported it for a variety of reasons. Supporters ranged from centrist Republicans (like then-Senator Maldonado, Governor Schwarzenegger, and major donor Charles Munger) to newspaper editorial boards and eventually to a majority of the state's voters.⁴ Nevertheless, the supporters likely shared some expectations in common. McGhee observes that the new primary's "advocates most commonly cite its potential to increase moderation in the state's political parties" (2010, 3).⁵ While "moderation" can have many meanings, in the larger political context of the era, included among the most important must be the relative willingness of politicians to compromise on the state's financial policy.

In 2012 Californians got their first look at the new primary. The June primaries turned out to be a quiet affair; with the presidential nomination contest already rendered meaningless, and no serious challengers against a well-funded incumbent U.S. Senator, all the serious primary contests took place in state legislative and U.S. House races. While it may take some years to better understand how all of these reforms affected California state politics, challengers and legislators need to make decisions now based on the evidence they have available.⁶ In that sense, even a small number of successful moderates in the 2012 election could have an effect on future campaigns and the behavior of current legislators – either providing an incentive to jump into a race thought otherwise unwinnable or as a warning to act in such a way as to deter an opponent's entry.

Frank Bigelow defeated, with 52 percent of the vote, fellow Republican Rico Oller in California's 5th Assembly District in 2012 to set one of those precedents. Bigelow, a "soft-spoken rancher," refused to sign the Americans for Tax Reform "no-tax-increase" pledge (Mishak and York 2012). Newspaper descriptions of Oller tend to be more colorful. In the *Times*, Mishak and York would write that Oller:

is a conservative firebrand who quotes Ayn Rand, spits out the word 'moderate' like tobacco juice and finds his political philosophy in a quote from the 1990s film "Tombstone": "Either fight or get out of the way."

Oller would go on to say that the Democrats "have to find a Republican who is more morally flexible [on taxes]. I don't possess that degree of flexibility" (Mishak and York 2010). While Bigelow did not favor higher taxes, he did not sign the pledge and retained his own 'flexibility.' Local activists perceived this distinction as a real policy difference between the candidates.⁷

The AD5 election tests the idea that a relative moderate can emerge victorious through a top-two primary. Bigelow had to survive in a field of six primary candidates and defeat a more

⁴ The *Los Angeles Times* called Proposition 14 a "sensible and modest step" (Editorial staff, *LA Times* 2010).

⁵ The complaints about the polarization in the legislature do not seem to be exaggerated; Shor and McCarty (2011) find that the California legislature was the most polarized in the nation.

⁶ With redistricting, a new redistricting process, the new primary, the new budget rules, and the Democratic Party's overall success, distinguishing the partial effect of any one of the changes is very challenging.

⁷ For an interesting example, see Park (2012). "RightOnDaily.com" describes itself as a "collaborative effort of several conservative activists in Placer County." This website would post several pieces opposing Bigelow and supporting Oller. The October 4th post highlighted the Bigelow's endorsement from the AFL-CIO and a copy of a letter reportedly dispatched from local Democrats urging their fellow partisans to back Bigelow over Oller *because* Bigelow had not signed the pledge.

ideological and experienced candidate of his own party in the general election.⁸ Moreover, Bigelow came in second in the primary.⁹ This district can serve as a proving ground for the concept of the top-two for three main reasons: first, Bigelow and Oller differed on the very dimension on the minds of many pro-reform advocates. Second, this district has the characteristics of a sufficiently safe Republican seat that we can safely assume no Democrat would likely have emerged victorious in a more traditional general election. Third, the 2012 primary election results suggest that Oller would have won a traditional primary election.

Furthermore, the race in AD5 fits the description of the national “problem.” No less observer than President Obama commented that House Republicans, either by incentive or by inclination, tended to pay more attention to the opinions of their party primary constituents than national public opinion (Foer and Hughes 2013). George W. Bush likely had similar complaints about the Democratic members of the House – many, like former speaker Nancy Pelosi, elected from lopsided Democratic-leaning districts in California. If someone like Frank Bigelow can defeat someone like Rico Oller, if more states adopted this rule, would members of Congress become more moderate or pragmatic? The answer to that question depends on *how* Frank Bigelow won his election. For this result to be more than an anomaly, the outcome had to depend at least to some extent on ideology and partisanship, rather than just approval of Bigelow’s trademark cowboy hat or other “valence” issues.

The anecdotal evidence supports this claim. In addition to the surveys, the pro-Bigelow team also conducted focus group studies. The moderator put to a group of Democratic and Independent women a question about the tax pledge—

DEM. FEMALE RESPONDENT: I cannot vote for any Republican that has ever signed that little thing, “Here is the religious things I'm going to follow.” I want them to step aside and say, “I'm not (inaudible) the religious right. I am going to vote on the issues, and I'm not going to follow them.” Right now that scares me.

MODERATOR: What if they signed the pledge never to raise taxes?

DEM. FEMALE RESPONDENT: I wouldn't trust them.

MODERATOR: That's a deal breaker.

DEM. FEMALE RESPONDENT: That's a deal breaker.¹⁰

—but is that enough? The focus group respondents had a moderator with them to suggest issues and provide information. Would Bigelow’s more moderate stance give him a path to victory in that election cycle? Alternative stories are certainly plausible and favored by other authors in the literature: that party organization matters more than ideology, that voters have so little information as to make these results random or based on arbitrary cues, and that moderate candidates may not choose to enter the election.

⁸ Oller had previously served in the Assembly, served in the State Senate, and run for U.S. House.

⁹ Bigelow (R.), 29%; Oller (R.), 34%; Lancaster (R.), 2 %, Boyd (D.), 13%; Fitzgerald (D.) 18%; Belden (No Party Preference), 4%.

¹⁰ “Democratic and Independent Women” focus group responses, Sept. 12 2012. Focus group commissioned on behalf of Frank Bigelow and transcripts were provided to the author.

Voter Behavior, Electoral Institutions, and Primary Reform

Political scientists have not yet arrived at a consensus on how California's top-two primary, or any other primary election law, should affect state and national politics. The diversity of American electoral institutions, both between states and across time, complicates the study of American primaries. Furthermore, there are still formal theory questions left unanswered; in terms of framing expectations for empirical work, scholars tend to rely on the 'back of the envelope' theory that "more open" primaries should produce "more moderate" results.¹¹

Most states use one of three types of primary laws, distinguished by the ability of voters to choose a party on Election Day: open, semi-closed, and closed.¹² These are all broadly defined "partisan" primaries. In a partisan primary, candidates of each party only face candidates of their own party in the first stage; in the subsequent general election, the primary winners face the nominees of other qualified parties. In 1998 and 2000, as the result of an earlier ballot proposition, California experimented with a variant of an open primary, the "blanket primary." A blanket primary allows voters to switch between party primaries as they moved down the ballot.¹³ Although Washington and Alaska used a similar rule, the California political parties sued and defeated the blanket in the U.S. Supreme Court. In *California Democratic Party v. Jones* (530 U.S. 567, 2000), the Court ruled that the blanket primary violated political parties' associational rights by making it too easy for voters who did not affiliate with the party to determine the official party nominee.

Although the *Jones* decision did affirm the rights of parties within state-run nominating procedures, it also pointed out that parties do not have a *right* to have a state-run primary. In *Jones*, the Court suggested it would accept a nonpartisan primary (like the top-two) because it does not purport to select the nominee of a political party; it is merely the first stage of a two-stage nonpartisan election process. Washington implemented the top-two primary in 2008 as an alternative to the blanket (see Donovan 2012) and California used it for the first time in 2012. While adopted with a similar *purpose* to the blanket primary (in California, also prominently supported by moderate Republicans), it is not immediately obvious that the two laws should have

¹¹ For a sample of the diversity of theoretical approaches, see: Chen and Yang (2002), Callander (2005), Oak (2006), Owen and Grofman (2006), Adams and Merrill (2008). Many of these models have to make unsatisfactory modeling assumptions about the strategic flexibility of candidates or voters, the ability of parties and candidates to freely enter, and the dimensionality of the political space. As a consequence, the conclusions vary a great deal.

¹² Nevertheless, scholars do sometimes disagree about the definitions. In an open primary, all voters can pick the ballot of any qualified political party on the day of the election and vote for candidates of that party. In a closed primary, only voters registered with a political party can vote on that party's ballot. In a semi-closed primary, typically unaffiliated voters can choose a party but affiliated voters must stay with their own party's ballot. This raises complications: what about states that allow new voters to affiliate on election-day but not existing voters? What about states that allow unaffiliated voters to pick a party but then have those voters leave affiliated (and then ineligible, without further action, to repeat the process in the next cycle)? What about states that claim to have a closed primary but have no meaningful way to enforce their rule? And so on. The other commonplace distinction (pioneered in Kanthak and Morton 2001) separates open primaries into "pure open" (voters choose their party privately) and "semi-open" (voters choose their party publicly).

¹³ For example, voting in the Democratic Party primary for U.S. Senate, the Republican Party primary for U.S. House, and then switching back to vote in the Democratic Party primary for all the other races on the ballot.

similar effects. The possibility of same-party runoffs distinguishes the top-two from the blanket primary.

The research on types of primaries beyond the top-two helps frame this study in two ways. First, aside from Washington's recent experience (Donovan 2012), Nebraska's nonpartisan legislature, and a similar (but not identical) primary system in Louisiana, there are not many American examples of nonpartisan primaries for traditionally partisan offices.¹⁴ Other countries have runoff systems but typically without the intra-party competition dynamic.¹⁵ To frame expectations for the top-two primary, the broader primaries literature can helpfully suggest hypotheses in the absence of more detailed research on this specific institution. Second, literature covering other types of primaries provides the comparison: does this reform appear to work where others have failed to do so?

Gerber and Morton (1998) evaluate conventional wisdom that openness correlated directly with moderation. They find that winners of semi-closed primaries had the most moderate voting records in Congress, followed by the winners of open primaries. In their view, unaffiliated voters provide a moderating influence in semi-closed and open primaries, somewhat offset by "raiding" partisan crossover voters in open primaries. Kanthak and Morton (2001) largely agree, although they offer a more refined distinction between types of open primaries (open and semi-open).

Not all scholars are convinced that primary rules matter very much. McGhee et al. (2014) fail to reject the null hypothesis that primary type did not explain polarization. Other recent scholarship on parties has emphasized the control parties have over the nomination process through "informal party organizations" (Masket 2011) and the "invisible primary" that takes place before any voting actually begins (Cohen et. al 2008). A study on the Nebraska nonpartisan legislature observes that the nonpartisan legislature polarized as parties figured out how to defeat an institution specifically designed to weaken their influence (see Masket and Shor 2011). Kousser, Phillips, and Shor (2014) did not find evidence that candidates moderated in the 2012 California top-two primary, which might suggest a strong tie between candidates and their party. The primary rules have to matter enough to overcome the parties' ability to use their resources and ingenuity to retain control.

Primary reforms can fail to produce more moderate outcomes not only because parties seek to control meaningful candidate entry but also because centrist or minority party voters may not support the moderate candidates. In the top-two, moderates face challenges in both stages. In the first stage, they may be "squeezed" by other candidates, making the center an inhospitable place if voters merely select the most ideologically proximate candidate.¹⁶ Centrist candidates either have to be very fortunate with the other candidates' entry decisions or stimulate strategic behavior in the electorate. Proponents of the top-two would hope, in particular, that voters would abandon hopeless candidates of the weaker party and vote for moderates of the stronger party. There is some evidence that sizeable numbers of voters in Britain, for example, will leave behind a party that is nationally viable but locally weak to support their second choice (Alvarez and

¹⁴ There are many American elections that are nonpartisan for local offices. These differ from the nonpartisan top-two primary because they are not only nonpartisan in structure but also nonpartisan in terms of cues on the ballot. Candidates in city elections typically do not list their personal party preference, leaving voters to use cues like incumbency (Schaffner, Streb, and Wright, 2001).

¹⁵ For a broader look at some of these alternatives, see Callander (2005). For example, in the French Presidential Election of 2012, all of the 10 first-round candidates represented *different* political parties.

¹⁶ And, if voters behave that way, moderate candidates may not even run; see Palfrey (1984) and Callander (2005).

Nagler, 2000). Research into Duverger's law (see Cox 1997) would suggest that voters must be, at some level, at least somewhat strategic.

Nevertheless, the literature on voter behavior still struggles to theoretically motivate voters' choices. Riker and Ordeshook's "calculus of voting" (1968) poses the problem – the apparent individual irrationality of voting given a near-zero expected benefit and a nonzero cost – and proposes an arbitrary individual sense of duty as a solution. And while the same challenges apply to choosing to cast a strategic vote, Alvarez and Kiewiet observe that "the zero likelihood of being pivotal has led some to argue that it makes no sense to cast a tactical vote, but it is also the case that *not* casting a tactical vote has the same, utterly inconsequential impact on the outcome of a large-scale election" (2009, 269). In the top-two primary, with the unusual structure of party cues and incentives, *to what duty* voters feel called should affect the observed outcomes.¹⁷

Research on strategic voting in American primaries has produced nuanced results. Abramson et al. (1992) found some evidence in American presidential primaries that voters thought about candidate viability. Many of the essays in Cain and Gerber (2002), though, do not find significant evidence for meaningful strategic behavior in California's blanket primary. More on point: early studies on the top-two primary have not been very encouraging; Ahler, Citrin, and Lenz (2014) find that voters typically did not have enough information or the inclination to take advantage of the opportunities the top-two ballot afforded them in the primary.

Even for voters who *wish* to behave strategically, the incentives are not necessarily clear.¹⁸ Clough (2007, 313) observes that the limited "availability of public information" like polling data may impair voters' ability to avoid wasting their vote. Alvarez and Sinclair (2014) and Sinclair (2013) join Ahler, Citrin, and Lenz (2014) in noting that many voters had sparse information in these top-two races. Furthermore, information about the candidates (ideological placement, relative electoral strength) only solves part of the information problem. In the top-two primary voters have to make a judgment between many candidates at once, taking into account the information they possess and the potential strategies of others. Referencing Cox (1997, 137), Blais et al. (2011, 638) observe that voters need to be able to assess the likelihood of all available possible pairings, and the consequences from those, in a two-round election; consequently "strategic considerations should play a weaker role." In French presidential elections they find little evidence of voters abandoning their first choice, which have a similar structure (Blais 2004, Blais et al. 2011, 638).¹⁹ In their view, facing a complex and uncertain choice, sincere voting may be a very reasonable strategy.²⁰

The key and unique attribute of the top-two primary, though, is that a moderate could come in second place in the primary and still win the election. Alvarez and Sinclair (2014) suggest that

¹⁷ In particular, does abandoning the party, when a candidate of the party remains available, impose some additional psychological costs on the voters? If party identification is primarily a "psychological attachment" (Campbell et al. 1960, 121), crossing the party barrier to behave strategically may have real psychological costs that within-party strategic behavior would not have.

¹⁸ It is also difficult to test *absence* of strategic behavior in a world of incomplete information. After all, voters could first determine that strategic behavior made little sense and then *rationally* choose to remain uninformed about alternatives.

¹⁹ The original Blais (2004) book chapter appears to be written in French, so I have cited a coauthored summary written in English.

²⁰ The example used in Blais et al. (2011) and widely cited elsewhere also comes from France: the 2002 French Presidential Election. It appears that too many voters abandoned the presumed winner, the Socialist candidate, resulting in a second-stage election between a center-right and far-right candidate.

moderate candidates in the top-two primary needed at least one of these conditions to be satisfied to win: (1) sufficient strategic voting for the moderate candidate over a more partisan, but hopeless, weak party alternative; (2) enough of an advantage in spatial positioning with sincere voting to make the top-two. They suggest that most of the new law's effect (including in AD5, a race they study with their own survey) came from the second path rather than large-scale strategic voting. In AD5, for example, Bigelow made the top-two in second place in part because voters perceived the two Democratic candidates (Boyd and Fitzgerald) as ideologically similar and they split the Democratic Party vote.

It is not obvious, though, that the same party runoff would be sufficient to generate moderation. The primary and general electorate may be very different, particularly if only one party has candidates on the ballot. Nagler (2013) found significant voter drop-off in races in which they did not have a candidate of their own party. Research tends to find low amounts of strategic voting in similar primaries, to observe that voters lacked much information about the candidates (in particular, both Ahler, Citrin and Lenz 2014 and Alvarez and Sinclair 2014), and to assess previous electoral reforms with a mixed record of moderating outcomes. Furthermore, much of the academic effort on the top-two process focused on the primary election stage rather than on the subsequent general election.

This paper fills three gaps in this literature. First, this report includes survey data of a competitive same-party runoff in great detail. Alvarez and Sinclair (2014) surveyed only in the primary in this contest; Nagler (2013) used general election data but did not have many observations from each race; and many of the other early studies on the top-two focus just on the primary election part (or on the subsequent legislative action). Second, this paper uses data from the pro-Bigelow campaign, so the analysis here has a close connection to the message content voters would actually see in the election. Third, this data allows us to examine an important race in its most important dimensions: did party and ideology play their expected roles, or did Bigelow win for reasons unrelated to his more moderate positions?

Data and Methodology

The campaign consultants for independent expenditure groups supporting Frank Bigelow provided the bulk of the data for this paper. The analysis focuses on the three 400-person samples from surveys designed specifically for the race. The pre-primary survey took place almost two months before the election (April 9-10, 2012). The "tracking polls" checked on the status of the race within about a month of the general election (start-dates of September 28, October 19). Each of these three surveys asks slightly different questions to different samples of voters.²¹ The pre-primary poll and the first tracking poll both have at least two opportunities for voters to give a candidate preference – once at the start of the survey and once after learning some additional information. The second tracking poll had only a single candidate preference question at the start of the survey.

The pre-primary survey examines the multi-candidate dynamics of a complex primary. This survey focuses its questions about how voters will react to different pieces of information about

²¹ Although they are called "tracking" polls, it does not appear that these are panel surveys (N=400 for both). Also, the surveys in this paper targeted "likely voters," people with a high enough vote propensity in the Political Data database from which they were drawn. This is probably quite appropriate in this context because not very many people participated: of the 231,379 registered voters (the 15-day-prior total), 102,287 voted in this race (44 percent turnout).

the candidates; in particular, it includes a “push block” of negative statements about Rico Oller and then another about Frank Bigelow. Voters are asked to re-evaluate their candidate choice throughout the survey: first they give their initial preference, then they answer the question after the negative statements about Oller, and then lastly they give their preference after hearing the negative statements about Bigelow as well.

Figure 1 plots the percent of voters preferring each candidate across the three “ballots” offered in the pre-primary survey. Oller fares badly; by the third ballot, “undecided” leads Oller 19 percent to 15 percent. Bigelow looks to be in better shape as the leading candidate with nearly 30 percent of the vote. In any event, there are not very many Bigelow and Oller observations left; only 119 intended to vote for Bigelow and 59 for Oller out of 400 respondents. Boyd and Fitzgerald have around 14 percent of the vote each (54 and 55 observations). Belden has about 6 percent of the vote.²² Table 1 might help explain why Bigelow seems so safely ahead: the survey contains more negative statements, and more serious accusations, for Oller than for Bigelow. Nevertheless, Figure 1 also highlights the instability in the preferences; with only a few additional pieces of information, Oller lost a full quarter of his potential voters.

Not all of the potential attacks resonated equally with voters. Table 1 lists the percent of respondents who replied that the listed statement would make them less likely to vote for that particular candidate. Bigelow’s campaign would put this information to use effectively in radio and television advertisements; as Table 1 would suggest, they highlighted most Oller’s per diem reimbursement (“He profited too. Rico Oller: \$200,000 just to drive to work”). Some of the other issues raised in the survey are potentially compelling and not ideological: a restraining order, his status as a ‘career politician,’ and the statement about his ‘ambition.’ If voter behavior in the primary, behavior possibly replicable in other districts, is to explain Bigelow’s ultimate triumph, rather than the mere accident of a divided Democratic Party vote, it needs to be the case that non-Republicans choose to consider the Republican candidates and that moderates (or Democrats) choose Bigelow on the basis of more than personal characteristics.

The third “ballot” at the end of the first survey can stand in for opinion after what voters might have heard over the course of the campaign. While they likely heard only some of these messages, and may have heard messages not mentioned here, the data can still suggest who found what compelling. In particular, this data permits testing two related hypotheses about the primary; both of these (**H1a**, **H1b**) fulfill the expectations that sincere voting will predominate in the primary. First, given the existing research, Republicans and strong conservatives should be more likely to meaningfully participate than their Democratic or unaffiliated counterparts. Bigelow and Oller are the two viable candidates for the second round; since they happen to identify as Republicans, some Democrats and unaffiliated or third-party voters will not ‘cross over’ and participate. That is, not all voters who could abandon a lost cause will do so.²³ Second,

²² Republican Lancaster does not appear on the survey at all. While the dynamics about who moves towards and away from candidates based on statements should be largely unchanged, the inclusion of another Republican alternative would likely alter the subsequent choice. This precise problem emerged as a public controversy in 2014 when a Field Poll failed to include a second Republican candidate, potentially coordinating the Republican vote on a single candidate, in a report on the 2014 campaign for Secretary of State (see Leubitz 2014).

²³ This returns to the notion of “duty” mentioned earlier. It may be the case that voters feel called by duty (or any equivalent positive constant) to participate. But is it also possible that whatever drives their sense of duty also specifies that they are honor-bound to vote for candidates of their own party, or to vote their sincere candidate preference?

Table 1. By Attack, Percent of Voters “Less Likely” to Support Candidate

Attack	%
“When Rico Oller was in the State Legislature he voted for a \$9.2 billion bond which contributed to the state budget problem we are in today.”	54
“Rico Oller says he opposed raising the vehicle license fee, but in the Legislature, he actually voted to increase that tax on California drivers.”	52
“Rico Oller has been described by a local newspaper as – quote - 'someone lacking ethics and fatally consumed by ambition.' “	43
“In 1988, the court issued a restraining order against Rico Oller ordering that he stay 50 yards away from his wife and children.”	52
“During his 8 years as a legislator Rico Oller collected approximately \$250,000 in non-taxable per diem payments to defray daily living expenses— even though he lived within driving distance of the State Capitol.”	65
“Critics point out that Rico Oller is just another Sacramento career politician and part of the problem. He has run 5 times for 3 different offices.”	41
“While in the Legislature Rico Oller voted for a bill signed by Governor Gray Davis that increased pensions for state workers costing taxpayers \$400million a year.”	59
“Frank Bigelow initially voted in favor of a resolution supporting the High Speed Rail project but now claims he opposes it.”	32
“Frank Bigelow supported a Madera County sales tax increase and while in office took numerous trips at taxpayers’ expense.”	40
“Frank Bigelow lacks the extensive legislative experience that Rico Oller would bring to the State Assembly. Frank Bigelow’s experience in office has been limited to serving as a County Supervisor in a small rural county.”	24
“Frank Bigelow voted for dozens of fee increases and several deficit budgets during his 13 years on the Madera County Board of Supervisors.”	30

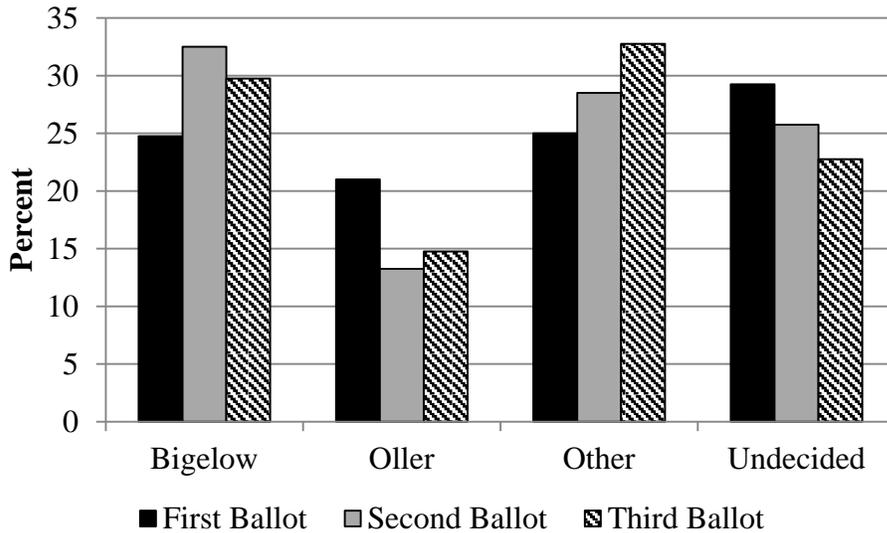
These are row percentages from the pre-primary survey. Respondents could report being less likely or much less likely to support the candidate in question; these percentages combine both of those responses.

of those voters choosing between the Republicans, more moderate voters should go for Bigelow while more conservative voters should support Oller.

H1a: Non-Republicans Waste Votes. Weak party or nonpartisan voters, faced with unclear strategic imperatives and incomplete information, will not overwhelmingly support the moderate strong party candidate in the first stage.

H1b: Republicans Sort by Ideology. Moderates of the strong party will successfully identify and support the more moderate candidate. Ideologically committed voters will vote for the more ideologically committed candidate.

Figure 1. Three “Ballots” on the Pre-Primary Survey



Shows vote share for Bigelow, Oller, other non-Republican candidates, or Undecided. Respondents took the first ballot initially, the second after hearing negative statements about Oller, and the third after hearing negative statements about Bigelow as well (N=400).

Due to the limitations of the data, I make some structural assumptions and then perform the analysis using a sequential logit model (Buis 2010). The model estimates a first-level choice between choosing one of the Republican candidates or giving some other answer – in essence: do the voters want to impact the final outcome of the general election or waste their votes? At the second level, if the voters go down the “Republican” path, the model then estimates a binary logit for choosing between Bigelow and Oller. Separately at the second level, the model estimates a binary logit for choosing one of the alternative candidates or refusing to give a candidate preference.²⁴ While this model does impose structure on the choice, this is really what reformers had in mind: in their view, some of the weak party voters should realize that their own party’s alternatives had no chance to win and then seek the least-bad alternative in the other party.²⁵

²⁴ Alvarez and Sinclair (2014) and Sinclair (2013) find voters tended to perceive the two Democratic candidates as virtually indistinguishable in a single liberal-conservative ideological dimension in AD5. Since *none* of the other candidates had a real chance to beat Oller in the general election in such a conservative district, what matters here is that voters are choosing *an* outside alternative not *which* outside alternative they pick.

²⁵ Fundamentally, of course, this is a multinomial choice problem best studied with a model like multinomial probit (that does not require the IIA, “independence of irrelevant alternatives” property). Alvarez and Sinclair (2014) estimate such models for the districts they study – but only with difficulty, even given a larger survey sample size. In this case, the survey does not contain appropriate “alternative-specific” variables required to estimate a MNP model. The inability to estimate MNP models in these sorts of elections is a common problem; Alvarez and Nagler (2002) resorted to using a multinomial logit model in their study of the blanket primary (a model that assumes IIA).

The subsequent tracking polls focus on slightly different questions in the general election; voters now only have a choice between Bigelow and Oller in November.²⁶ Although it seems reasonable to hypothesize that not all Democrats would abandon their party in the complicated primary, political science research makes a fairly clear prediction (via the median voter theorem) about what should happen in a contest between only two candidates. Democrats, Independents, and moderate voters of all types should prefer Bigelow to Oller. During the general election phase, if ideology does not significantly distinguish Bigelow and Oller voters, then the election of the more moderate Bigelow must be an accident of other circumstances (such as the availability of effective negative personal attacks), not easily replicable in other top-two races. On the other hand, if the evidence sustains the hypothesis that more moderate voters supported Bigelow, the second round works as intended.

H2a: Ideology and Partisanship Matter in the Second Stage. In the general election, more moderate and less conservative voters will identify and support the more moderate candidate.

While ideology and party (broadly defined) are important, the tax issue is particularly interesting in AD5. While neither of the tracking polls asks exactly the right tax-pledge question, both ask related questions.²⁷ The first survey asks voters to give their view of the Tea Party; voters with favorable views of the Tea Party are typically characterized as very interested in conservative anti-tax fiscal policy. The second survey asks voters to identify whether “fiscal conservative” better described Rico Oller or Frank Bigelow; the very conservative voters who identify Oller as a fiscal conservative should be very unlikely to support Bigelow.

Information should also be important. In both tracking polls, voters are asked about the extent they have a favorable or unfavorable view of Bigelow and Oller at the beginning of the survey. One way to interpret the absence of a rating would be the absence of sufficient information to have an opinion. Voters should be much less inclined to vote for a candidate if they do not have enough information to even have an independent opinion about that candidate.

H2b: Voters Avoid Unknowns. In the general election, voters will be more likely to vote for candidates they know enough to give *an* approval rating, regardless of the content of that rating.

The first tracking poll includes some additional information about the candidates and asks a second candidate preference question. In the results section, the model using the first tracking poll uses the follow-up preference question to examine preferences among informed voters. The effects observed here were likely dampened some in the election by uninformed voters making

²⁶ As Lacy and Burden (1999) observe, in every two-candidate election, you actually have three choices: candidate 1, candidate 2, and abstain. While nearly every voter in these surveys reported intending to vote (as is commonplace in survey research; and, indeed, the Bigelow campaign explicitly targeted high probability voters), the voters who gave “don’t know” or “undecided” responses may be dissatisfied with their choices in this particular race and perhaps more likely to roll off the ballot. While in the main section of the paper I address just a binary version, conditional on having a preference, I repeat the sequential logit structure with “don’t know” as an alternative and present the results in the appendix.

²⁷ The first tracking poll did ask a question about the tax pledge to half the sample (N=200).

essentially random choices.²⁸ Bigelow won the AD5 seat only by four percentage points. Testing these hypotheses gives us a better explanation for how he managed to win.

Results

The results for the pre-primary poll are largely consistent with the findings in other research on the top-two and support **H1a** (Democrats, other registrants wasted votes) but fail to reject the null hypothesis for **H1b** (Republicans sort by ideology). Democrats and other non-Republican affiliation types tend to stay out of the main contest. With the Bigelow-Oller decision, Republicans appeared to be swayed more by the content of the attacks than by ideology at the pre-primary stage. Table 2 displays the sequential logit results using the “third ballot,” the final post-additional information question, and Table 3 shows first differences for variables statistically significant in at least one of the choice levels.²⁹

In Table 2, the first-level results show that Democratic and Other (non-Republican) registrants were less likely to make a decision between the Republican candidates in the primary. Instead, they are more likely to abstain from meaningful participation and either give a “don’t know” type response or support a candidate unlikely to win the general election. Table 3 suggests that these tended to be large effects; for an otherwise median voter, a Democrat would be 30 percentage points more likely to abstain from directly participating in the most meaningful choice (Oller v. Bigelow). This is not to say that their choice had no consequence. In effect, a Democrat voting for anyone other than Bigelow would marginally increase Oller’s odds of ultimate victory, as Bigelow was the only candidate likely to beat Oller in a pairwise comparison.

Very conservative voters, and voters who favored the Tea Party, were more likely to choose between the main two Republican candidates.³⁰ There are issue effects at this level as well: Oller’s bond vote and Bigelow’s sales tax (at the 0.10 level) – issues that relate to the main ideological dimension, finance. Some Democratic voters did pick either Bigelow or Oller (about 20 percent) as did some Other registrants (about 40 percent); nevertheless, the remainder either did not have a firm preference or intended to support an alternative, but weaker, candidate.³¹

The results do not support rejecting the null hypothesis for **H1b**, that Republicans sort by ideology. From this data, within the second, Bigelow-v-Oller, level, the vote had more to do with personal characteristics in the primary. Voters who respond to the attacks on Oller’s character

²⁸ One reviewer also wondered about county effects, since Bigelow had previously been on the ballot as a county supervisor for one of the counties making up parts of AD5. One of the tracking poll models, re-run with county indicators, can be found in the appendix. The variables were not statistically significant when added to the full model in large part because these other information measures better capture who knew what. These are correlated, though; in a simple model, there are county effects. In both cases the main result still holds as well.

²⁹ The main partisanship results are robust in a model using the “first ballot” as well. First differences calculated for changing the variable in question from 0 to 1 with all other variables set at their medians. This calculation was performed in STATA using the seqlogit command and the corresponding post-estimation commands authored by Buis (2010).

³⁰ These models are also robust to alternative specifications that include the full ideological spectrum. The main model includes only the one ideological variable for two reasons: (1) it is a very conservative district, so many of the other types have few observations and (2) in typical spatial theory, *both* a “very liberal” and “middle of the road” voter should equally prefer Bigelow to Oller as “ideologically closer.”

³¹ Full descriptive statistics are available in the appendix.

Table 2. Sequential Logit, Pre-Primary Survey, “Third Ballot” Vote Choice

Variable	Other Response over Vote for Bigelow & Oller		Vote for Oller over Bigelow		Don't Know or Undecided over Other Candidate	
	Coef.	Z	Coef.	Z	Coef.	Z
Perm. Absentee	0.20	0.77	-0.21	-0.49	-0.18	-0.54
Dem. Reg.	1.24**	4.02	0.11	0.19	1.43**	-3.63
Other Reg.	0.57*	1.64	-0.17	-0.30	-0.63	-1.38
	-					
Very Conservative	0.56**	-2.02	0.36	0.82	0.41	0.97
	-					
Favor Tea Party	1.22**	-4.39	-0.47	-0.98	0.10	0.25
	-					
R.O.: Voted Bond	0.84**	-2.47	-0.02	-0.04	-0.77*	-1.66
R.O.: Fee Increase	-0.02	-0.05	-0.10	-0.20	0.55	1.25
R.O.: Unethical	0.39	1.22	-0.66	-1.16	-0.25	-0.66
R.O.: Restraining Order	0.20	0.68	-0.90*	-1.85	-0.49	-1.28
			-			
R.O.: Per Diem	0.13	0.39	1.05**	-2.17	0.34	0.82
			-			
R.O.: Career Pol.	0.05	0.14	1.26**	-2.10	0.33	0.77
R.O.: Pensions	-0.14	-0.44	-0.78	-1.37	-0.21	-0.55
F.B.: Rail Flip-Flop	0.36	1.10	0.47	0.78	-0.25	-0.65
F.B.: Sales Tax	0.61*	1.87	0.33	0.61	-0.70*	-1.72
F.B.: Inexperience	0.32	0.90	-0.35	-0.56	-0.47	-1.05
F.B.: Fee Increase	0.17	0.46	0.06	0.09	0.61	1.33
Constant	0.04	0.11	0.31**	1.94	1.02**	2.17

The first level of the model has two branches: abstaining from meaningful participation or voting for one of the Republicans; at the second level one branch estimates coefficients for selecting Oller over Bigelow and, on the other branch, coefficients for remaining undecided over choosing a non-Republican candidate. Variables marked with a * are significant at the 0.10 level and variables marked with ** are significant at the 0.05 level (N=400). For the model, the LR $\chi^2(22)=84.05$ such that Prob. > $\chi^2 = 0.00$.

Table 3. First Differences for Pre-Primary Sequential Logit

Variable	Other Response over Bigelow or Oller	Oller over Bigelow	Undecided over Other Pref.
Baseline	0.39	0.15	0.56
Dem. Reg.	0.30		-0.33
Other Reg.	0.14		
Very Conservative	-0.12		
Favor Tea Party	-0.23		
Neg. R.O.: Voted Bond	-0.21		-0.17
Neg. R.O.: Restraining Order		-0.15	
Neg. R.O.: Per Diem		-0.18	
Neg. R.O.: Career Pol.		-0.10	
Neg. F.B.: Sales Tax	0.15		-0.17

This table shows the first differences computed for statistically significant variables in the model presented in Table 2. The table reports the change in probability (Y=1) given a change in the variable from 0 to 1. The baseline probability is calculated here for an individual with all of the median characteristics.

are much more likely to vote for Bigelow; fundamental partisan or ideological differences do not seem to matter as much. The first difference for voter sensitivity to the attack on Oller’s per-diem reimbursement indicates an 18 percentage decrease in the probability of choosing Oller. The others are slightly smaller: the restraining order first difference is a 15 percentage point decrease and the “career politician” comment comes with a ten percentage point decrease for the probability the voter chooses Oller.

For the other branch of the second-level estimates, Table 2 shows that Democrats were more likely to have an alternative candidate in mind when compared to everybody else who passed through the first transition as “not voting for Republicans.” The voters more upset about Oller’s bond vote and Bigelow’s sales tax tended to support one of the alternative candidates rather than end up in the undecided category. This level helps to illustrate which types of voters decided not to participate in the Bigelow-Oller choice: Democrats or individuals frustrated with the Republican options on some issues.

The sequential logit pre-primary results support some of the more pessimistic findings in the literature about the top-two. Many voters, particularly Democrats, missed the opportunity to meaningfully participate because they were too likely to support candidates of their own (seemingly) hopeless party. That supports the wasted vote hypothesis, **H1a**. There is little support for the Republican sort hypothesis, **H1b**; at least before the primary, personal attacks beat partisanship or ideology in the choice between Bigelow and Oller. Put together, those results would suggest that Bigelow’s election had more to do with the availability of negative character attacks and the pattern of candidate entry, something which suggests candidates will benefit more from the structure of the new primary than from voting behavior within it.

Once the campaign reached the general election phase, though, the results support a different conclusion on partisanship and ideology at that stage. Table 4 shows the binary logit regression results for the first and second tracking poll; a positive and significant coefficient represents an increase in the probability of a vote for Oller. These results support **H2a**: ideology matters in the general election. Oller gets the Tea Party voters and the voters who found him more fiscally conservative; he does not get the Democrats. Furthermore, the data also supports **H2b**: voters avoid unknowns. If the voter did not give a favorability ranking for Bigelow, the voter tended to pick Oller; if the voter did not give a ranking for Oller, the voter tended to pick Bigelow. Figures 2 and 3 display the first differences for these models.

Due to slight differences in the first and second tracking poll questions, each model in Table 4 tests the ideology hypothesis slightly differently. The first survey included an approval question about the Tea Party. While voters may have differing conceptions about what it means to be “very conservative,” Tea Party approval measures something closer to the brand of politics Oller practiced.³² Individuals who favored the Tea Party strongly supported Oller in the first tracking poll.³³ The second survey did not include a Tea Party measurement. It did, though, allow voters to identify which candidate they thought the phrase “is a fiscal conservative” better described (Oller or Bigelow). The “very conservative” voters who thought Oller was more fiscally conservative tended to support Oller. Individuals who thought Oller wasted tax dollars, though, tended to support Bigelow.

At least in the choice between Bigelow and Oller, the general election phase seems to have the expected ideological dynamics. Democrats who have a preference tend to support Bigelow. Conservatives for whom the tax dimension might be particularly salient tend to support Oller. Information plays its expected roll as well; voters are less likely to support candidates they seem to know little about; on the other hand, given rough equality in candidate resources, that should wash out. These results are generally consistent with the basic ideas of spatial modeling.

The summary in Table 5 helps to solve a puzzle: if Oller could only manage 34 percent of the primary vote, and voters in the general behaved in-line with their spatial expectations, how did Bigelow not win by a larger margin than 52-48? Since these surveys targeted high-propensity voters, and do not come with ‘validated-vote’ data, it is difficult to know how many of the undecided voters skipped the race. Nagler (2013) finds that many voters left without a choice in their own party did not participate. Assuming none participated is one extreme option; assigning them all to their logical choice would place another bound. The percentages in Table 5, and the analysis reported in Table 4, show the main tension in the top-two: the moderate in a same-party

³² For example, some individuals who supported George W. Bush would consider themselves “very conservative”; this might capture social and foreign policy preferences not necessarily aligned with the dimension of greatest importance in this race: issues about tax and compromise. Many Tea Party supporters view President Bush as too fiscally liberal: “Today Obama is the central villain in tea-party rhetoric, and Bush is hardly ever mentioned. Yet the rebellion against Big Government that the tea party has come to embody really began more than a decade ago with a growing sense of betrayal among conservatives over Bush’s runaway-spending habits” (Hirsh 2013).

³³ This is one of the few results that seems to be very sensitive to additional information. While most of the results hold for the first tracking poll in using the first, pre-additional-information, candidate preference question, this variable is not significant in the alternative model. The key partisanship story holds, however. The paper includes the model based on the second question from the first tracking poll in part because the information presented in the survey would be the focus of the messaging in the last few weeks of the campaign. The later question saw a 26 percent increase (270 instead of 205) of voters with a candidate preference.

Table 4. General Election Tracking Poll Logits

Variable	First Poll (Later Question)		Second Poll	
	Coef.	Z	Coef.	Z
	-			
Dem. Registration	0.78**	-2.22	-1.41**	-3.42
Other Registration	0.34	0.93	-0.64	-1.61
Favor Tea Party	0.80**	2.57		
Very Conservative	0.54	1.59	-0.33	-0.89
Vy. Cons. x Oller Fisc. Cons.			3.35**	2.71
Oller Wasted Tax Dollars			-1.18**	-3.14
	-			
No Favor. Rank for Oller	0.79**	-2.68	-1.50**	-4.30
No Favor. Rank for Bigelow	0.95**	3.03	1.45**	4.37
Union Family	-0.57*	-1.68	0.26	0.71
	-			
White	0.87**	-2.61	-0.36	-0.93
Income Above \$75,000	-0.58*	-1.86	-0.07	-0.19
Age: Under 35	-0.05	-0.12	-0.05	-0.12
Age: Over 65	-0.04	-0.12	-0.18	-0.52
Constant	0.40	0.86	0.75	1.55
Correctly Predicted	71%		71%	
N	270		259	

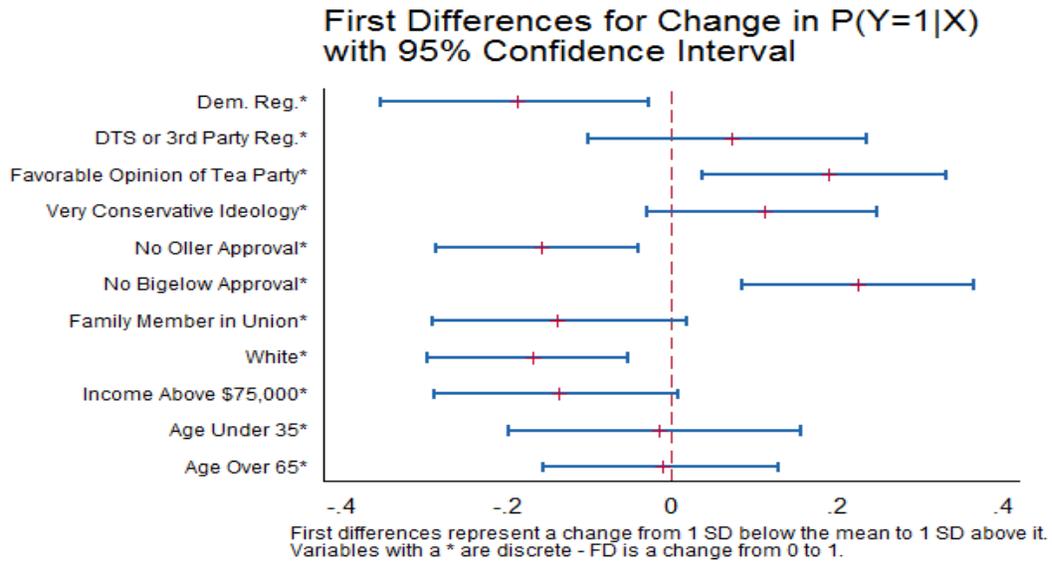
These are two separate models showing the results for the first and second tracking polls before the general election. In both, the dependent variable is scored 0 if the voter preferred Bigelow and 1 if the voter selected Oller. Variables marked * are significant at the 0.10 level and variables marked ** are significant at the 0.05 level.

runoff *will* benefit from a spatial position advantage; *how much* benefit the moderate receives depends on the extent the minority chooses to abstain from participation.

Discussion

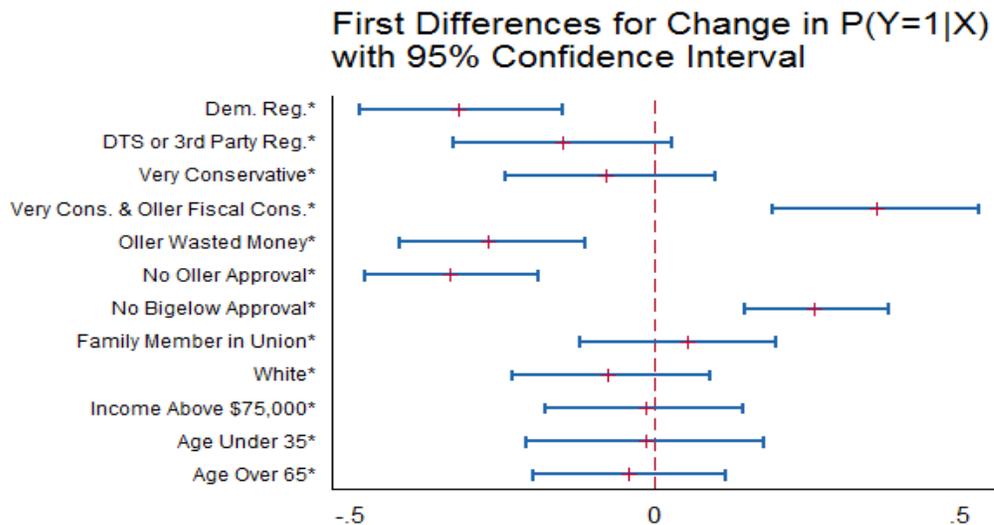
From a theoretical perspective, the most troubling aspects of the top-two should occur at the first stage. As Riker writes, “simple majority decisions on binary alternatives requires some social embodiment of Procrustes, who chopped off the legs of his guests to fit them into the bed in his inn...

Figure 2. Tracking Poll (End of Sept.): Bigelow or Oller?



This figure shows the difference in probability of choosing Oller given a change in the variable from 0 to 1 for an otherwise median individual. (N=270).

Figure 3. Tracking Poll (End of Oct.): Bigelow or Oller?



This figure shows the difference in probability of choosing Oller given a change in the variable from 0 to 1 for an otherwise median individual. (N=259).

Table 5. Who Remains Undecided?

Poll	Party	Undecided	Bigelow	Oller
Poll 1 (Post)	Dem. Reg.	38.0	41.1	20.9
	Other Reg.	35.5	29.0	35.5
	Rep. Reg.	27.0	30.3	42.7
Poll 2	Dem. Reg.	52.3	35.2	12.5
	Other Reg.	35.1	41.6	23.4
	Rep. Reg.	24.1	35.9	40.0

Row percentages for candidate preference, including “undecided” as an alternative, for the tracking polls. The first poll included two preference questions, one pre-information and one post-information. This table uses the post-information preferences.

[binary choice] is not democratic because its surrounding institutions must be unfair” (1982, 65). The primary chops off the candidates to fit them into a two-candidate final round. Riker’s observation, building on Arrow (1951) and others, is that the first round must then be unfair. Odd results certainly can still happen – and do – with the top-two primary in the first stage.³⁴

Nevertheless, the top-two would have no hope of increasing moderation if the same-party runoff did not benefit moderate candidates in the second stage. Despite Downs’ (1957) reasoning, there are plenty of reasons why that fundamental result might not hold in these types of legislative elections. Voters might not have enough information to make informed choices (as Ahler, Citrin, and Lenz 2014 find). Opposite partisans may abstain from voting in same-party races (as Nagler 2013 finds), shifting the median *participating* voter away from the median opinion in the district. Also candidates may be disinclined to represent themselves as, or enter as, moderates (in the spirit of Kousser, Phillips, and Shor 2014), potentially leaving voters with a choice between two nearly identical candidates. In this context, affirming that the basic principles of the median voter theorem operate actually helps to establish that the top-two might achieve some of what its supporters hoped.

Of course, in the long run, it also matters if Bigelow votes moderately. In the earliest available analysis of the roll call voting data, Bigelow votes roughly in the center of the Republicans in the state legislature (Grose, Sinclair, and Yoshinaka 2014). Given the conservative nature of the district, and his opponent, it seems that Bigelow’s election probably did generate slightly more moderate voting behavior in the legislature than would have occurred otherwise (under the old primary).

Does this mean the top-two will fulfill all the hopes of the reformers? No, not necessarily. The California Republican Party did not oppose Bigelow with its full strength; while the race

³⁴ The most serious example of this happened in CD31, a district that should likely have gone to a Democrat in 2012. Instead, several Democratic candidates split the vote – and two Republicans did as well. As a consequence, in a Democratic-leaning district, voters could choose between Republicans Gary Miller and Bob Dutton on election day in November. Miller, who won the seat, was not likely the Condorcet winner (if one even did exist).

contains many elements of an effective case study, it is not a perfect example.³⁵ As Masket and Shor (2011) point out, parties eventually managed to polarize the Nebraska nonpartisan legislature; given the existing partisanship in the California legislature, it may be difficult to shift it to the center, or shift it very much. Additionally, while Bigelow is *more* moderate than Oller would likely have been, Bigelow is not exactly “a moderate.” The middle of the few Republicans remaining in the California legislature is still very conservative.

The absence of mass strategic voting in the first round should interest scholars in continuing this research. Why did more voters not abandon the candidates of the Democratic Party? There are a number of alternatives, not all of which are possible to test with this particular dataset. In particular, in contrast to settings with more established strategic voting (like Britain), the California election takes place with a long time-delay between the June primary and the November general election. In those several months, the frontrunner has many opportunities to slip up. Could it be that voters also apply the reasoning behind the “rational turkey” hypothesis (Banks and Kiewiet 1989) to these lopsided districts? If they most care about building majorities in the legislature, rather than the ideology of their particular legislator, it may be reasonable to desire to include a candidate of your own party – no matter how hopeless it seems. That candidate may only be one (admittedly ex-ante unlikely) arms-trafficking arrest away from victory.³⁶

Nevertheless, these results do help to highlight how the top-two can promote moderation. First, it helps if the race happens in a lopsided district, with enough voters on the majority-party side to distribute between their candidates to put both in the top-two. Second, it helps if the weaker party divides in the primary, giving the strong-party moderate a lower threshold to make the general election. Third, it helps if the strong-party moderate has other tools available beyond ideology: effective attacks along some additional dimension. Finally, once the moderate survives to the general election, then the moderate can obtain the benefits of a more central spatial position. This fact pattern will happen in other districts. These data suggest that, if the top-two really does achieve its potential, it will be from voters in a weak party picking the “least bad” of two candidates from the other party in the general election once Procrustes has already completed his work.

References

- Abramson, Paul R., John H. Aldrich, Phil Paolino, and David Rohde. 1992. “Sophisticated Voting in the 1988 Presidential Primaries.” *American Political Science Review* 86(1): 55–69.
- Adams, James, and Samuel Merrill. 2008. “Candidate and Party Strategies in Two-Stage Elections Beginning with a Primary.” *American Journal of Political Science* 52(2): 344-359.
- Ahler, Doug, Jack Citrin, and Gabriel S. Lenz. 2014. “Do Open Primaries Help Moderate Candidates? An Experimental Test on the 2012 California Primary.” Working Paper.

³⁵ Unusually, Bigelow acquired outside expenditures on his behalf even though he would have little opportunity to cast pivotal votes in the legislature. These dynamics may be more commonplace in elections for individuals in the legislative majority.

³⁶ California State Senator Yee was recently arrested for trafficking in illegal arms several months before the primary for Secretary of State. Had this occurred *after* the primary, but *before* the general election, and had he made the top-two, his opponent would likely win the election easily. While the precise circumstances may be unlikely to repeat themselves, the near-endless capacity for human folly, and the fragility of human life, makes no election a completely safe bet (Richman et al. 2014).

- Arrow, Kenneth J. 1951. *Social Choice and Individual Values*. New Haven, NJ: Yale University Press.
- Alvarez, R. Michael, and Jonathan Nagler. 2000. "A New Approach for Modelling Strategic Voting in Multiparty Elections." *British Journal of Political Science* 30(1): 57–75.
- . 2002. "Should I Stay or Should I Go? Sincere and Strategic Crossover Voting in California Assembly Races." In *Voting at the Political Fault Line: California's Experiment with the Blanket Primary*, ed. Cain and Gerber. Berkeley, CA: University of California Press, 77–106.
- Alvarez, R. Michael, and D. Roderick Kiewiet. 2009. "Rationality and Rationalistic Choice in the California Recall." *British Journal of Political Science* 39(2): 267–90.
- Alvarez, R. Michael, and J. Andrew Sinclair. 2014. *Nonpartisan Primary Election Reform: Mitigating Mischief*. Forthcoming, Cambridge University Press.
- Banks, Jeffrey S., and D. Roderick Kiewiet. 1989. "Explaining Patterns of Candidate Competition in Congressional Elections." *American Journal of Political Science* 33(4): 997–1015.
- Blais, André. 2004. Y a-t-il un vote stratégique en France? In *Le nouveau désordre électoral*, ed. Bruno Cautres and Nonna Mayer. Paris: Presses de la Fondation nationale des sciences politiques, 279–302.
- Blais, André, Simon Labbé-St-Vincent, Jean-François Laslier, Nicolas Sauger, and Karine Van der Straeten. 2011. "Strategic Vote Choice in One-Round and Two-Round Elections: An Experimental Study." *Political Research Quarterly* 64(3): 637–45.
- Buchanan, Wyatt, and Justin Berton. 2010. "Prop. 25, which eases budget process, passes." *The San Francisco Chronicle*. November 3. Available online at: <http://www.sfgate.com/news/article/Prop-25-which-eases-budget-process-passes-3167729.php> (last accessed March 14, 2014).
- Buis, Maarten L. 2010. "Not all transitions are equal: The relationship between inequality of educational opportunities and inequality of educational outcomes." In: *Inequality of Educational Outcome and Inequality of Educational Opportunity in the Netherlands during the 20th Century*, Maarten L. Buis, dissertation, VU University Amsterdam.
- Cain, Bruce E., and Elisabeth R. Gerber, eds. 2002. *Voting at the Political Fault Line: California's Experiment with the Blanket Primary*. Berkeley, CA: University of California Press.
- Callander, Steven. 2005. "Duverger's Hypothesis, the Run-Off Rule, and Electoral Competition." *Political Analysis* 13(2005): 209–32.
- Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The American Voter*. Chicago: The University of Chicago Press.
- Chen, Kong-Pin, and Sheng-Zhang Yang. 2002. "Strategic Voting in Open Primaries." *Public Choice* 112 (1/2): 1–30.
- Cohen, Marty, David Karol, Hans Noel, and John Zaller. 2008. *The Party Decides: Presidential Nominations Before and After Reform*, Chicago IL: University of Chicago Press.
- Cox, Gary. 1997. *Making Votes Count*. Cambridge: Cambridge University Press.
- Clough, Emily. 2007. "Strategic Voting under Conditions of Uncertainty: A Re-Evaluation of Duverger's Law." *British Journal of Political Science* 37(2): 313–32.
- Downs, Anthony. 1957. *An Economic Theory of Democracy*. Boston, MA: Addison-Wesley.

- Editorial Staff, *LA Times*. 2010. “Yes on Prop. 14” *The Los Angeles Times*, April 21. Available online at: <http://articles.latimes.com/2010/apr/21/opinion/la-ed-0421-prop14-20100421> (last accessed March 14, 2014).
- Foer, Franklin, and Chris Hughes. 2013. “Barack Obama Is Not Pleased: The President on His Enemies, the Media, and the Future of Football.” *The New Republic*. January 27. Available online at: <http://www.newrepublic.com/article/112190/obama-interview-2013-sit-down-president#> (last accessed January 27, 2013).
- Gerber, Elisabeth R., and Rebecca B. Morton. 1998. “Primary Election Systems and Representation.” *Journal of Law, Economics, & Organization* 14(2): 304–24.
- Grose, Christian R., J. Andrew Sinclair, and Antoine Yoshinaka. 2014. “Do Electoral Institutions Matter? The Top-Two Primary and Ideological Change in the California State Legislature.” Working paper, presented at the Institute for Governmental Studies, Berkeley, April 25.
- Hirsh, Michael. 2013. “George W. Bush: He Gave Rise to the Tea Party.” *National Journal*, October 3. Available online at: <http://www.nationaljournal.com/who-broke-washington/george-w-bush-he-gave-rise-to-the-tea-party-20131003> (last accessed May 14, 2014).
- Kanthak, Kristin, and Rebecca Morton. 2001. “Congressional Primaries.” In *Congressional Primaries and the Politics of Representation*, ed. Peter F. Galderisi, Mami Ezra, and Michael Lyons. New York, NY: Rowan & Littlefield.
- Kousser, Thad, Justin Phillips, and Boris Shor. 2014. “Reform and Representation: Assessing California’s Top-Two Primary and Redistricting Commission.” SSRN working paper, available online at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2260083
- Lacy, Dean, and Barry C. Burden. 1999. “The Vote-Stealing and Turnout Effects of Ross Perot in the 1992 U.S. Presidential Election.” *American Journal of Political Science* 43(1): 233–55.
- Leubitz, Brian. 2014. “The Problem with Polling and Top-2.” *Calitics*. April 14. Available online at <http://www.calitics.com/diary/15465/the-problem-with-polling-and-top2> (last accessed May 13, 2014).
- Madison, James. 2003 [1961]. “Federalist 10.” In *The Federalist Papers*, ed. Clinton Rossiter. New York, NY: Signet.
- Masket, Seth E., and Boris Shor. 2011. “Polarization without Parties: The Rise of Legislative Partisanship in Nebraska’s Unicameral Legislature.” Working paper. Available at SSRN: <http://ssrn.com/abstract=1916342> or <http://dx.doi.org/10.2139/ssrn.1916342>
- Masket, Seth E. 2011. *No Middle Ground: How Informal Party Organizations Control Nominations and Polarize Legislatures*. Ann Arbor, MI: University of Michigan Press.
- McGhee, Eric. 2007. “Legislative Reform.” *At Issue*. San Francisco, CA: Public Policy Institute of California. Available online at: http://www.ppic.org/content/pubs/atissue/AI_1207EMAI.pdf (last accessed March 14, 2014).
- . 2010. “Open Primaries.” *At Issue*. San Francisco, CA: Public Policy Institute of California. Available online at: http://www.ppic.org/content/pubs/atissue/AI_210EMAI.pdf (last accessed March 14, 2014).
- McGhee, Eric, Seth Masket, Boris Shor, Steven Rogers, and Nolan McCarty, 2013. “A Primary Cause of Partisanship? Nomination Systems and Legislator Ideology.” *American Journal of Political Science*, advanced online copy. DOI: 10.1111/ajps.12070.
- Mishak, Michael J., and Anthony York. 2012. “Centrist GOP candidates may offer chance to end California gridlock.” *The Los Angeles Times*, May 19. Available online at: <http://articles.latimes.com/2012/may/19/local/la-me-republicans-20120519> (last accessed March 14, 2014).

- Nagler, Jonathan. 2013. "Voting in California's Top 2 Primary and General Election." Paper presented at the annual meeting of the American Political Science Association, Chicago IL, September 1.
- Nagourney, Adam. 2010. "California Lawmakers Pass Overdue Budget." *The New York Times*, October 7. Available online at: <http://www.nytimes.com/2010/10/08/us/08california.html> (last accessed March 14, 2014).
- Oak, Mandar P. 2006. "On the Role of the Primary System in Candidate Selection." *Economics & Politics*. 18(2): 169–90.
- Owen, Guillermo, and Bernard Grofman. 2006. "Two-Stage Electoral Competition in Two-Party Contests: Persistent Divergence of Party Positions." *Social Choice and Welfare* 26(3): 547–69.
- Palfrey, Thomas R. 1984. "Spatial Equilibrium with Entry." *The Review of Economic Studies*. 51(1): 139–56.
- Park, Aaron F. 2012. "Mariposa County Democrats / AFL-CIO – Frank Bigelow is our Man." *RightOnDaily.com*. October 4. Available online at: <http://www.rightondaily.com/tag/frank-bigelow/> (last accessed March 14, 2014).
- Richman, Josh, Howard Mintz, Jessica Calefati, and Robert Salonga. 2014. "State Sen. Leland Yee Indicted on Arms Trafficking, Corruption Charges." *San Jose Mercury News*, March 26. Available online at: http://www.mercurynews.com/crime-courts/ci_25423273/leland-yee-indicted-corruption-bay-area-fbi-state-senator (last accessed May 14, 2014).
- Riker, William H., and Peter C. Ordeshook. 1968. "A Theory of the Calculus of Voting." *The American Political Science Review* 62(1): 25–42.
- Riker, William H. 1982. *Liberalism against Populism: A Confrontation between the Theory of Democracy and the Theory of Social Choice*. New York, NY: W. H. Freeman.
- Schaffner, Brian F., Matthew Streb, and Gerald Wright. 2001. "Teams without Uniforms: The Nonpartisan Ballot in State and Local Elections." *Political Research Quarterly* 54(1): 7–30.
- Shor, Boris, and Nolan McCarty. 2011. "The Ideological Mapping of American Legislatures." *American Political Science Review* 105(3): 530–51.
- Sinclair, J. Andrew. 2013. *Of Primary Importance: American Primary Elections 1945–2012*. Ph.D. Dissertation, California Institute of Technology.
- Steinhauer, Jennifer. 2008. "California Budget Is Signed, 85 Days Late and Despised." *The New York Times*, September 23. Available online at: <http://www.nytimes.com/2008/09/24/us/24calif.html> (last accessed March 14, 2014).
- Steinhauer, Jennifer. 2009. "In Budget Deal, California Shuts \$41 Billion Gap." *The New York Times*, February 19. Available online at: <http://www.nytimes.com/2009/02/20/us/20california.html?pagewanted=all> (last accessed March 14, 2014).
- York, Anthony. 2010. "California Passes Prop. 20, Redistricting Reform." *The Los Angeles Times*, November 2. Available online at: <http://latimesblogs.latimes.com/california-politics/2010/11/california-passes-prop-20-redistricting-reform.html> (last accessed March 14, 2014).

Appendix 1

Pre-Primary Supplemental Data

Table A1-1, below, contains the full descriptive statistics uses in the pre-primary model. More Democrats support Bigelow than Oller, as do more “Other” registrants. Analytically, though, this is problematic to distinguish from a generic preference for Bigelow since more Republicans (by 2-1 margin) also support Bigelow on the “third ballot” of the pre-primary survey. Oller does hold on to a larger share of the “very conservative” vote; this is not enough (or the sample size is too small) to distinguish as an effect in the models.

Table A1-1. “Third Ballot” Descriptive Statistics

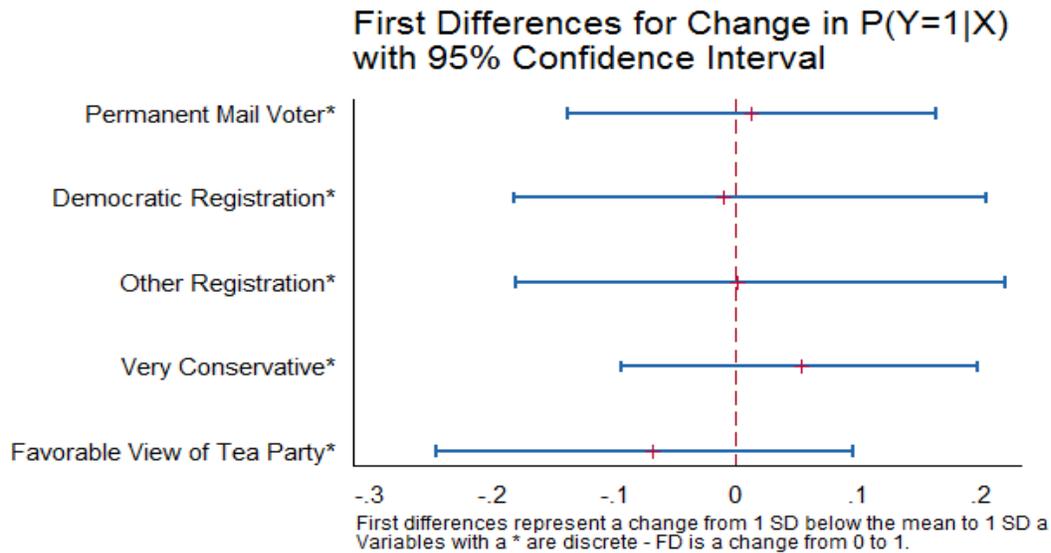
Third Ballot	Bigelow	Oller	Other Cand.	DK / Undec.	N
Baseline Support %	29.8	14.8	32.8	22.8	400
Perm. Absentee Voter	27.1	14.2	34.6	24.2	240
Dem. Reg.	13.2	6.3	58.3	22.2	144
Other Reg.	26.7	13.3	33.3	26.7	60
Rep. Reg.	42.9	21.4	13.8	21.9	196
Not Very Conserv.	20.8	9.4	44.9	24.9	245
Very Conservative	43.9	23.2	13.6	19.4	155
Favors Tea Party	48.1	22.2	14.6	15.2	158
Oller, Voted Bond	39.7	10.3	32.2	17.8	214
Oller, Raised Fees	37.3	9.1	31.6	22.0	209
Oller, Lacked Ethics	33.3	4.1	42.1	20.5	171
Oller, Restr. Order	33.8	4.8	39.6	21.7	207
Oller, Per Diem	36.1	7.4	34.9	21.7	258
Oller, Career Pol.	39.9	3.7	35.0	21.5	163
Oller, Pension Vote	37.7	11.0	30.5	20.8	236
F.B., Rail Flip-Flop	20.3	10.2	46.9	22.7	128
Neg F.B., Sales Tax	28.0	9.3	41.0	21.7	161
Neg F.B., Inexperience	25.3	8.4	44.2	22.1	95
Neg F.B., Fee Increase	26.1	9.2	40.3	24.4	119

This figure shows row percentages for the vote choice of individuals with characteristics included in the pre-primary models in the main section of the paper.

Alvarez and Sinclair (2014) obtain slightly different results for the pre-primary phase of the campaign than those presented in this paper. They find (i) that voters did perceive Bigelow as more moderate than Oller and (ii) that voters are less likely to support ideologically distant candidates (e.g., ideology matters). Removing the specific attack variables and using the “first

ballot” preferences allows for a cleaner ideology test in this data. Does it support **H1b**? It does not, as shown in Figure A1-1, below.³⁷

Figure A1-1. Binary Logit Model for the Choice Between Bigelow (=0) and Oller (=1) with Restricted Independent Variables



Unlike the main model, this model does not use any of the information about the negative attacks on Bigelow or Oller. It uses the “first ballot” before respondents hear that information. No variables predict why voters pick one over the other. For this model, $N = 178$.

What is the explanation for the divergent results? The key most likely lies with the different timing and purpose of the surveys. The Alvarez and Sinclair (2014) survey took place right before the election, with a much larger sample size (1000+), and was designed to test these theories with a multinomial probit model. This survey, from the campaign, had to take place early enough for the campaign to use it to make strategic decisions.

The Bigelow pre-primary data has several more severe analytical drawbacks. Since they do administer the survey early in the campaign season, and this is a low salience race, only 178/400 voters had a preference between Bigelow and Oller. The ideology measures (approval of the tea party, the standard ideology scale) may not work well in this setting in which many voters are quite conservative. Alvarez and Sinclair (2014) use more sophisticated rescaling techniques to place both candidates and voters into a common space, which this survey data does not permit.

The Bigelow campaign data in general draws strength from its repetition and its insight into their internal processes: three snapshots of the same race at different points in time asking

³⁷ Neither does repeating this exercise using the last ballot, the ballot after all the attacks. Furthermore, *that* model is actually nested in the main model. A likelihood ratio test indicates that the main model does significantly better fit the data.

questions the campaign believed relevant. The detailed information about the types of people who found each attack effective, and their vote choices, helps to explain why the campaign made its strategic choices – detailed district and candidate specific information missing from surveys designed for use and comparisons across multiple districts. Importantly, also, despite its weaknesses the pre-primary Bigelow data helps to strongly emphasize that Democrats tended to stay out of the Bigelow-Oller primary race.

Appendix 2

Pre-General Election, Sequential Logits & Alternative Models

Even though the general election contained only two candidates, it still contained three choices (Lacy and Burden 1999): Bigelow, Oller, or Neither (“undecided” or “not voting in this race”). Again, given the data limitations, this data can best be analyzed using a sequential logit model: voters first choose to participate or not and then choose between the two candidates. The estimates at the second level, the choice between the candidates, are identical to those from a logit model that just drops the unsure or the unwilling, the analysis in this section focuses on the binary choice.³⁸ In the first tracking poll, 205 of 400 voters had a preference between the Republicans; Bigelow slightly trailed Oller, 48 to 52 percent. After some additional information, 270 had a preference, bringing Bigelow even with Oller at 50 percent each. In the second, later, tracking poll 259 voters had a preference for one of the two Republican candidates; Bigelow led Oller 57 to 43 percent.

Table A2-1. Sequential Logit Model, General Election 1st Tracking Poll

Variable	Republicans v. Undecided		Oller v. Bigelow	
	Coef.	Z	Coef.	Z
Dem. Registration	-0.43*	-1.66	-0.74**	-2.05
Other Registration	-1.18**	-4.14	-0.59	-1.30
Favor Tea Party	0.20	0.84	-0.18	-0.54
Very Conservative	0.20	0.74	0.28	0.80
Union Family	-0.12	-0.47	-0.44	-1.19
White	-0.15	-0.59	-0.59	-1.59
Income Above \$75,000	0.06	0.24	-0.26	-0.79
Age: Under 35	-0.25	-0.83	0.20	0.44
Age: Over 65	0.23	0.95	-0.11	-0.32
Constant	0.41	1.23	1.04	2.16

In this model, the first level 1=picked between Republicans; at the second level 1=support for Oller. Variables marked * are significant at 0.10; variables marked ** are significant at 0.05. N=400.

The specification in Table A2-1 does not use the Bigelow and Oller favorability variables (included in the main text of the paper). Those are highly correlated at level 1 with political party. This model is broadly consistent with the overall story: at the first level, Democrats and Other registrants are more likely to remain undecided; at the second level, Democrats are less likely to go for Oller than they are for Bigelow. Note, though, that the Tea Party variable drifts out of

³⁸ Unsurprisingly, and consistent with Nagler’s (2013) findings, partisanship matters for passing through the first transition: Democrats are less likely to have a preference.

significance; this remains a low-information election with a small-N survey: the randomness generated by different information can overcome all but the largest effects.

Furthermore, the specification in Table A2-1 uses the *initial* preference question from the 1st tracking poll. The first tracking poll included two questions, one before and one after some additional information. The binary logit included in the paper uses the post-information response. This pairs well with the single question used in the second tracking poll because the information tested in this poll is precisely what the campaigns went out and told voters over the next few weeks.

Table A2-2. Sequential Logit Model, General Election 2nd Tracking Poll

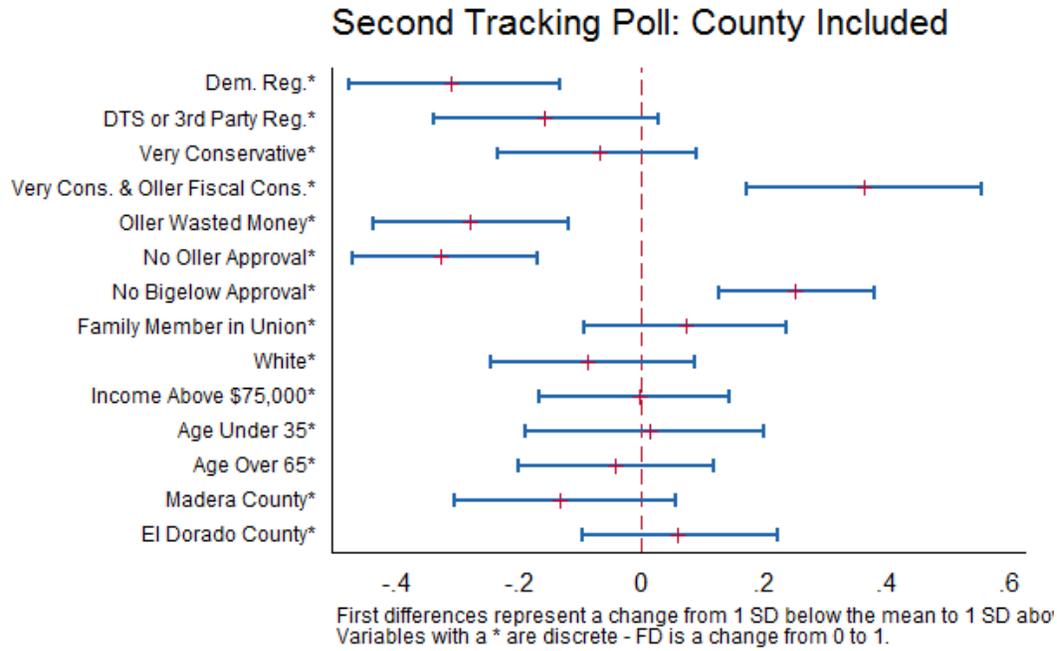
Variable	Republicans v. Undecided		Oller v. Bigelow	
	Coef.	Z	Coef.	Z
Dem. Registration	-1.59**	-4.92	-1.44**	-3.55
Other Registration	-0.78**	-2.10	-0.54	-1.38
Very Conservative	0.37	1.09	0.12	0.37
Oller Wasted Tax Dollars	1.05**	2.67	-1.04**	-2.88
No Favor. Rank for Oller	-0.89**	-3.21	-1.64**	-4.80
No Favor. Rank for Bigelow	-2.54**	-7.83	1.51**	4.70
Union Family	0.19	0.60	0.30	0.81
White	-0.18	-0.50	-0.30	-0.76
Income Above \$75,000	0.13	0.42	-0.15	-0.46
Age: Under 35	0.24	0.61	-0.06	-0.15
Age: Over 65	0.47	1.48	-0.02	-0.07
Constant	3.08**	5.96	0.65	1.34

In this model, the first level 1=picked between Republicans; at the second level 1=support for Oller. Variables marked * are significant at 0.10; variables marked ** are significant at 0.05. N=400.

Table A2-2 generates slightly different effects at the second, Bigelow-v-Oller, level than the logit in the main section of the paper. The “Very Conservative interacted with Oller Fiscally Conservative” variable is not identified at the first level of the model (everyone in that category picked between the Republican candidates). Presenting this model serves two purposes: one, it highlights that again Democrats are more likely not to have an opinion (and hence probably less likely to vote, as noted in Nagler 2013); two, it demonstrates the added empirical value of the interaction to the second level of the model. In this more limited model, the tax dimension is only modeled with the significant “Oller wasted tax dollars” variable.

Lastly, Figure A2-1 shows the final tracking poll with county indicators. Bigelow had previously served in government in Madera County. Note that the main results here are robust: Democrats still tend to support Bigelow, very conservative voters who think Oller is the best fiscal conservative tend to support Oller. The county indicators are not statistically significant even though, as expected, the coefficient for Madera is negative (less likely to support Oller).

Figure A2-1: The Second Tracking Poll with County Indicators.



This model, N=159, is otherwise identical to the model presented in the main text of the paper.

Appendix 3

Translating Survey Data into Action

The survey materials did end up directly informing the campaign's message choices. Figure A3-1 captures a view of the screen at 0:24 in an add Bigelow's campaign designed to use against Oller. It prominently features the (measured) most effective attack from the pre-primary survey; the add asks: "\$200,000, just to drive to work?"

Figure A3-1. Bigelow Campaign Advertisement (Screen capture, 0:24)



Appendix 4

Notes on the Three Surveys

It may be very difficult to keep track of the three different surveys, with multiple candidate preference questions per survey, and then to consider the informational implications of the placement of the question within the survey. Below is a summary table of the questions referenced in the text of this paper.

Survey	Question	Comment
Primary	Q5 “First Ballot”	After non-informative opening questions. Included party and short description: “Republican Rancher/Businessman Frank Bigelow, Republican Independent Business Owner Rico Oller.”
Primary	Q9 “Third Ballot”	After a series of negative attacks. Text was the same as Q5.
Tracking #1	Q3	After non-informative opening questions. Included Party and the same short description.
Tracking #1	Q8	After hearing a short statement about each candidate. Otherwise text the same.
Tracking #2	Q3	After non-informative opening questions. Same as with Tracking Poll #1.

First Tracking Poll Information:

This poll included some statements about the main candidates in between Q3 and Q8. The statements are listed below.

Bigelow:

“Frank Bigelow (BIG-a-low), has family roots in our area that date to the late eighteenth-hundreds; Bigelow grew up working on his family’s cattle ranch, which he remains active in operating, and then worked his way up through the ranks of the Ponderosa Telephone Company. He is dedicated to serving our local community and preserving our way of life, serving as a volunteer firefighter for nearly 40 years. Bigelow (BIG-a-low) has also worked as a Madera (ma-DARE-a) County Supervisor for over a decade, where he balanced budgets and built a budget surplus to protect taxpayers from tough economic times. His strong record of reducing government spending and his votes for economic reforms has forced government to live within its means. Bigelow (BIG-a-low) will bring the same priorities to the Assembly, fighting for small businesses, and new jobs, and make the tough decisions needed to end California’s economic crisis.”

Oller:

“Rico Oller (ALL-er) was raised in the foothills; he and his wife built a successful small business out of his garage by working 16 hours a day, and currently employs over 40 people in

the area. Tired of seeing the Legislature mismanage the state's economy and budget, Oller (ALL-er) ran for the State Assembly in 1996 and served in the legislature until 2004. As a Legislator, he has been an outspoken advocate for reducing taxes, opposing bloated budgets, protecting private property rights, upholding the Second Amendment and fighting against ineffective illegal immigration policies. Oller (ALL-er) received 100 percent ratings from the California Chamber of Commerce for protecting jobs and the economy. Oller (ALL-er) believes that small businesses are the backbone of our economy, and is committed to creating and sustaining a business-friendly environment by reducing regulatory burdens and supporting tax incentives for employers who create jobs.”