Articles

Informing Electorates via Election Law:
An Experimental Study of Partisan Endorsements and Nonpartisan Voter Guides in Local Elections

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ABSTRACT

Many legal scholars and political practitioners advocate using election law to increase voters' access to political information, either by providing such information directly on ballots or in ballot pamphlets. To date, however, little empirical evidence exists to guide policymakers and judges charged with weighing the benefits of such legal interventions against any costs they might impose. We address this gap by conducting survey experiments to examine three types of political information that legal interventions can make available or withhold: political party endorsements, endorsements from prominent public officials, and a nonpartisan voter guide describing candidates' policy positions. Our results provide evidence that such legal interventions can yield tangible benefits—namely, helping voters choose candidates whose policy views are similar to their own.

CAN ELECTION LAW PERFORM an educative function, helping voters identify candidates whose policy views are similar to their own? The use of regular elections gives voters an opportunity to select candidates who will pursue their interests diligently (Fearon 1999) and remove incumbent officeholders who have failed to do so (Ferejohn 1986). Theories of spatial voting (see Enelow and Hinich 1984), including the median voter theorem (Black 1948), provide ample reason to expect that political competition will produce elected officials whose policy views are similar to those of the constituents they represent (Downs 1957). However, if voters lack the inclination or ability to correctly perceive candidates' policy views, it is unclear how a close alignment between voters' and elected officials' preferences will be achieved (Baron 1994).

Such concerns loom especially large in local settings, where elections tend to be low-information affairs. Whereas Gelman and King (1993) find that voters become more informed over the course of national election campaigns due to intense media coverage, local campaigns often lack sufficient funding for voter outreach, and media coverage of them is comparatively light. Voters are also less likely to seek out information about candidates in local elections, where the stakes are perceived to be small relative to statewide and national races. Further, many local elections are formally nonpartisan, depriving voters of party labels on the ballot that might help them infer candidates' policy views. Even where party labels are provided on ballots, the absence of two-party competition in many local elections can render the information meaningless. Given these features, it is not surprising that scholars who study local elections have found little evidence that voters' policy views influence the choices they make (Kaufmann 2004; Oliver 2012).

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The difficulties that voters face in choosing candidates (particularly for local offices) and monitoring government performance have not gone unheeded by legal scholars and reformers. Many regulations of the political process respond or purport to respond to the voter-information problem. Examples include campaign finance disclosure requirements (Garrett and Smith 2005; Gilbert 2013); freedom-of-information laws, public meeting requirements, and other "government in the sunshine" measures (Cox 1977); and public financing for candidates (Malbin, Brusoe, and Glavin 2012). States also shape the flow of information to voters when they print candidates' party affiliations and occupations on the ballot (McDermott 2005; Manweller 2011; *Rubin v. City of Santa Monica* 308 F.3d 1008 [9th Cir. 2002]; *Cook v. Gralike* 551 U.S. 510 [2001]; *Rosen v. Brown* 970 F.2d 169 [6th Cir. 1992]; *Dart v. Brown* 717 F.2d 1491 [5th Cir. 1983]), and when they distribute ballot pamphlets in which candidates are allowed to make arguments or direct appeals to voters (Canary 2003). Some states have also intervened in political discourse by mandating disclosures on slate mail and other advertisements (Iyengar, Lowenstein, and Masket 2001; Kang 2003; *Levine v. Fair Political Practices Commission* 222 F.Supp.2d 1182 [E.D. Cal. 2002]); by banning false campaign speech; or by attempting to exclude party endorsements from nonpartisan and primary election environments (Marshall 2004; Hasen 2013; *California Democratic Party v. Lungren* 919 F. Supp. 1397 [N.D. Cal. 1996]; *Clark v. Burleigh* 842 P.2d 975 [Cal. 1992]). Legal scholars have further suggested that the ballot itself include candidate statements (Garrett 1999), or convey endorsements that prominent public officials make in initiative campaigns (Burnett and McCubbins 2013a, 2013b) and races for relatively obscure local offices (Elmendorf and Schleicher 2013).

Legal interventions in the market for political information often trigger First Amendment challenges, with plaintiffs alleging that their right to speak has been impermissibly burdened by laws that, for example, mandate certain forms of disclosure (e.g., on slate mail), bestow resources on some speakers (e.g., publicly-funded candidates), or limit what can be said in a particular forum (e.g., the ballot pamphlet). Practical considerations, such as voters' limited attention and concerns about rolloff (i.e., voters failing to complete lengthy ballots), require governments to choose what information is provided in (and what is excluded from) ballots or ballot pamphlets. These choices raise questions about whether the state is discriminating on the basis of viewpoint and whether the benefits to voters justify any speech limitation (*Cook v. Gralike* 531 U.S. 510 [2001]; *Rubin v. City of Santa Monica* 308 F.3d 1008 [9th Cir. 2002]; *Rosen v. Brown* 970 F.2d 169 [6th Cir. 1992]; *Dart v. Brown* 717 F.2d 1491 [5th Cir. 1983]).

To date, little empirical research examines the benefits that legal interventions, actual or contemplated, in the market for political information might yield to voters. As a result, policy-makers and judges have had to base their decisions on little but surmise. In some cases, such as *Buckley v. Valeo* (424 U.S. 1 [1976]) and its progeny, which upheld campaign finance disclosure requirements, the courts simply assumed that the benefits of the legal intervention were large. In others, such as *Eu v. San Francisco Democratic County Central Committee* (489 U.S. 214 [1989]) and *California Democratic Party v. Lungren* (919 F. Supp. 1397 [N.D. Cal. 1996]), which struck down bans on party endorsements in primary and nonpartisan elections, the courts assumed the contrary. These examples are perhaps emblematic of the federal courts "enmesh[ing] themselves…in the electoral process without understanding it sufficiently well to be able to judge the consequences of decisions" (Posner 2013). But the fault perhaps lies as much with political scientists and legal scholars, who by and large have not assessed empirically the effects of many legal interventions, including whether they help voters to identify candidates whose policy views are similar to their own.[1]

The lack of empirical research on how legal interventions affect voters' ability to choose candidates with similar policy views stems from the difficulty of surmounting three important challenges. First, state and local governments are understandably reluctant to carry out the kinds of experiments that would offer the best assessment of whether and when legal interventions benefit voters. That is, governments are typically unwilling to randomize the types of political information included on

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[1]Stephanopoulos (2013) explicitly argues that election law be used to facilitate the alignment of voters' and elected officials' policy preferences.

ballots or in ballot pamphlets during actual elections. Second, to assess whether legal interventions help voters choose candidates with similar policy views, it is necessary to develop comparable measures of candidates' and voters' policy views. Third, collecting data on candidates' policy views has been quite difficult because candidates often take ambiguous positions (Tomz and Van Houweling 2009).

To overcome these challenges and provide an experimental test of the effects of legal interventions, we administered a survey to candidates running in the nonpartisan election for the San Francisco Board of Supervisors in 2012 and a pre-election survey experiment to voters. The candidate survey and pre-election survey experiment asked candidates and voters a common set of questions about their views on local policy issues. In the survey experiment, voters were randomly assigned to either a control group or one of three treatment groups that provided political information that legal interventions can make available or withhold from ballots or ballot pamphlets: 1) political party endorsements, 2) endorsements from prominent public officials, or 3) a nonpartisan voter guide summarizing candidates' policy views. Because the only difference between the treatment and control groups is what, if any, political information voters receive, we can determine whether voters choose candidates whose policy views are similar to their own in the control group and assess the effects that different types of information have on their ability to do so.

We find that all three types of information strengthen the relationship between voters' policy views and those of the candidates they choose. These effects are strongest for voters with low levels of knowledge about local politics—voters whose ability to make informed decisions in democratic elections has been of great concern to scholars and practitioners. Indeed, our control group results indicate that voters with low levels of knowledge appear to choose candidates without respect to their policy views. In our treatment groups, however, these voters' choices are strongly related to their policy views. Further, all three types of information reduce differences between high- and low-knowledge voters in this regard. Interestingly, these three types of information have different effects on how voters weigh non-policy considerations (such as their partisan affinities). In particular, voters who are

exposed to political party endorsements are more likely to choose the candidate who received the Democratic Party's endorsement. This stronger tendency to support a particular candidate, irrespective of one's own policy views, suggests that many voters reflexively follow the Democratic Party's recommendation. Given that most voters in San Francisco (and, therefore, in our sample) are Democrats and/or hold liberal views on national policy issues, this makes sense. Endorsements from prominent public officials induce similar shifts toward particular candidates among certain groups of voters. In contrast, the nonpartisan voter guide appears not to influence how voters weigh non-policy considerations.

Overall, our results offer lessons for legal scholars, political scientists, and practitioners interested in the educative potential of election law. While we are unable to manipulate election laws that govern particular local elections, our treatments simulate legal interventions that scholars have proposed and that state and local governments could implement in the future. For example, our political party endorsement treatment illustrates the effects that a ballot or ballot pamphlet that notes which candidates the Democratic and Republican parties endorsed might have on voters' choices in nonpartisan elections like the one we examine here. Our treatment that provides endorsements from prominent public officials examines Elmendorf and Schleicher's (2013) proposal to allow mayors to make on-ballot endorsements of candidates in nonpartisan local elections. Finally, our nonpartisan voter guide describing candidates' policy positions, while unlikely to inform ballot design, could easily be included in a ballot pamphlet to supplement the statements that candidates themselves are allowed to make.[2]

For political scientists and legal scholars, our results indicate that certain types of political information can

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[2]Whether or not state and local governments implement such legal interventions, our findings can inform the activities of many private-sector actors whose activities are integral to representation at the local level. These include political candidates, party organizations, and professional consulting firms who seek to understand and influence the choices voters make. It also includes private foundations and other non-profit organizations interested in voter education and efficacy. Note in this regard that the organization behind the most widely used voter education website in the United States is struggling to stay afloat (Stirland 2012), even as issue-oriented websites are becoming a standard part of the campaign environment in Europe (Garzia et al. 2014).

help voters identify candidates whose policy views are similar to their own. Indeed, we provide one of the first empirical demonstrations that voters can choose like-minded candidates in local elections (see also Boudreau, Elmendorf, and MacKenzie 2013). We also show how political party endorsements and other types of information affect their ability to do so. Legal interventions such as those described here are likely to be especially effective in low-information local settings where traditional party labels are unavailable and where sufficient funding for campaign advertisements and voter outreach, and media coverage of candidates' policy views cannot be assumed.

For practitioners, our findings suggest how voters are likely to respond to three types of political information that could be provided on ballots, in official ballot pamphlets, or through unofficial channels such as a voter education website or mailing. Even if policymakers and judges can agree that helping voters choose candidates whose policy views are similar to their own outweighs the burdens on constitutionally protected activities, it is unclear which legal interventions, if any, are best equipped to accomplish this goal. We believe our empirical results provide a firmer basis for understanding the consequences of changes in election law than currently exists. Scholars and practitioners can contribute to these efforts with additional experiments to study the effects of political information in other contexts and explore the effects of alternative features of the ballot and ballot pamphlet (see also Manweller 2011; Primo 2013).

1. LEGAL INTERVENTIONS IN LOCAL ELECTIONS

Empirical research on voting behavior has been guided by two theoretical models of how voters make decisions. Under the Downsian, or spatial voting model, candidates' policy views are represented as points in a low-dimensional policy space. Candidates choose where to position themselves in this space and voters then choose the candidate whose policy views are most similar to their own (Black 1948; Downs 1957; Enelow and Hinich 1984; Adams, Merrill, and Grofman 2005). Thus, spatial voting as these scholars have defined it implies a close alignment between voters' policy views and those of the candidates they choose. On the other hand, under the Michigan model, partisanship is

viewed as the "unmoved mover" that shapes voters' political decisions (Campbell et al. 1960). Individuals are socialized into a political party as children or young adults, and this partisan affinity induces voters to choose the candidates their party puts forward, even if these candidates have policy views somewhat at odds with their own (Campbell et al. 1960; Miller and Shanks 1996; Green, Palmquist, and Schickler 2004).

Improvements in political methodology and computing technology have enhanced scholars' ability to investigate the empirical implications of the spatial voting and Michigan models. In particular, these improvements have enabled scholars to better measure the policy views, i.e., ideal points, of voters and candidates (Poole 2005). To date, these investigations have been carried out exclusively in the context of national elections. Jessee (2009, 2010), Bafumi and Herron (2010), and Shor and Rogowski (2010), for example, combine information about candidates' stated policy positions with surveys that ask voters whether they support these same positions. Using multidimensional scaling techniques developed to study voting in democratic legislatures (Poole 2005; Clinton, Jackman, and Rivers 2004; Poole and Rosenthal 1997), these scholars measure the ideal points of candidates and voters on a common scale.[3] They find that even when partisanship is taken into account, voters' ideal points are a major factor in determining the choices they make in presidential and congressional elections.

To what extent is spatial and/or partisan voting present in local elections? The conventional wisdom is that voter decision making in local elections more closely resembles the partisan voting described by the Michigan model. From Gosnell (1937) to Banfield and Wilson (1963) to Kaufmann (2004) and Oliver (2012), scholars have emphasized the non-ideological determinants of voting in local elections, including group loyalties (especially ethnic, racial, and partisan), retrospective evaluations, mobilization by machine and reform organizations, and, occasionally, single-issue campaigns (e.g., anti-growth policies). The mantra of the machine politician—"don't make no waves, don't back no

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[3]Stone and Simas (2010) and Adams et al. (2011) also measure candidates' and voters' policy positions on a common scale. They use surveys of experts to place candidates on a liberal-conservative scale and then ask voters to place themselves on this same scale.

losers"—explicitly eschews ideological appeals (Rakove 1976). And while many reform movements have attempted to replace machine politics (where voters pledge electoral support on the basis of ethnic ties or for individual benefits like local jobs and contracts) with a new form of politics based on issues and performance, such efforts are usually short-lived (Bridges 1999; DeLeon 1992; Sonenshein 1993). Even where reformers do prevail, they tend to adopt the non-ideological predilections and political tactics of the machine organizations they succeeded (Trounstine 2008).

That said, research suggesting that local elections are non-ideological does not actually measure candidates' and voters' local ideological positions, as we do here.[4] It also often examines local contexts that lack a necessary condition for spatial voting: the existence of elite ideological divisions. That is, if candidates for local offices do not vary meaningfully in their policy views, there is little reason to expect voters' own policy views to influence their candidate choices. In many local contexts (including America's largest cities), the elite ideological divisions necessary for spatial voting are present (see, e.g., Swanstrom 1988; Sonenshein 1993; Simpson 2001; Erie, Kogan, and MacKenzie 2011). In these contexts, candidates' efforts to appeal to voters based on their policy views reflect the expectation that position-taking matters in local elections. If voters care about these ideological differences among candidates, then we may observe spatial voting at the local level.

But even if voters in local elections care about ideological differences among candidates, they may lack the information they need to evaluate candidates based on their policy views. This concern about voters' lack of information has motivated, or at least served as a justification for, a litany of reforms. These include off-year elections, nonpartisan ballots, distribution of voter guides, strict campaign finance limits and disclosure laws, public financing, limits on electioneering near polling places, and more.[5] Studying the efficacy of these reforms in observational settings is difficult. Differences between cities in size, demographic composition, political history, etc., undermine scholars' ability to make cross-sectional comparisons even where good data exists. Simple before-and-after comparisons within a city are also limited in what they can tell us about the effects of particular interventions because voters, candidates, and/or election settings change over time.

Our study is among the first to use experiments conducted during an actual election to assess the effects of legal interventions in the market for political information (see also Boudreau, Elmendorf, and MacKenzie 2013; Katz et al. 2011). Experiments are underappreciated as a tool for studying actual and contemplated legal interventions designed to enhance voters' access to information. Even where it is not feasible or desirable to manipulate election law, scholars can design and implement experiments that simulate legal interventions of interest. By randomly assigning some voters to receive different types of information and others to receive no information, we are able to rule out cross-sectional and over-time differences that threaten the validity of causal inferences about the efficacy of legal interventions. Doing so during an actual election can provide compelling demonstrations of the consequences legal interventions are likely to have on voters.

We combine our experiments with the first successful effort to measure the policy views of voters and candidates for local legislative offices on the same scale. In doing so, we assess whether and to what extent spatial voting occurs in elections for these offices. Rather than take the non-ideological character of local elections for granted, we test the predictions of the spatial voting and Michigan models. In particular, we examine whether and to what extent providing voters with information that could be provided on ballots or in ballot pamphlets influences the choices they make. Our study is well-suited to inform both scholarly debates about the nature of voter decision making in local elections and practical efforts to enhance local representation through election law.

2. TESTING LEGAL INTERVENTIONS: SUPERVISORIAL ELECTIONS IN SAN FRANCISCO

We chose San Francisco's supervisorial elections as the site for our empirical test of the

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[4]Kaufmann (2004) does consider the effects of ideology in local elections, but uses the standard seven-point scale used to measure voters' national ideological positions.

[5]Some of these reforms, such as nonpartisan ballots and off-year elections, target problems specific to local government (Goodnow 1908). Others, such as campaign finance disclosure requirements, apply to all levels of government.

effects of legal interventions for several reasons. First, the weak correlation between partisanship and ideology in San Francisco's local elections enables us to test whether such interventions induce spatial and/or partisan voting. Like many big cities, San Francisco is overwhelmingly Democratic in terms of party registration and voting patterns in national and state elections. As a consequence, its local elections typically feature candidates who are all Democrats. Despite the lack of partisan heterogeneity among voters and candidates, there is a real ideological divide among the city's political elites. Seasoned observers portray the elite as split between so-called "progressives" (the local left) and so-called "moderates" (the local right). Progressives have advocated strict rent control policies, higher taxes on local businesses, density and height limits on new development, and cash grants to the homeless population. Moderates, on the other hand, have favored new development, tax breaks for local businesses, and limits on aggressive panhandling. (We follow local usage and refer to candidates and voters who are left-of-center in the San Francisco policy space as "progressive" and those who are right-of-center as "moderate.")

The presence of meaningful ideological differences, in the absence of partisan differences, allows us to disentangle the effects of voters' policy views and partisanship on their decision making. In national elections, the strong correlation between partisanship and ideology makes partisan voting— i.e., a team-based response to signals from one's own political party—and ideological voting observationally equivalent. In San Francisco's local elections, this is not the case. For example, there are many moderate (i.e., right-of-center in the local policy space) Democrats for whom a team-based response to the Democratic Party's endorsement (which, in recent years, has regularly been awarded to progressive candidates) would involve choosing a candidate whose policy views are less similar to their own than are the policy views of other, non-endorsed candidates.

Another advantage of our setting is a local convention that enhances our ability to measure the policy views of candidates for local offices. In San Francisco, many political clubs, interest groups, and newspapers distribute questionnaires to local candidates as a prelude to making endorsements. It is considered bad form for a can-didate not to answer a questionnaire from the more prominent groups, even if the candidate knows he or she has no realistic chance of winning the group's endorsement. Prior to the 2012 supervisorial elections, we persuaded a local newspaper to include 43 yes/no policy questions that we wrote on their candidate questionnaire. Using these questions, we were able to identify and distinguish the policy views of all serious candidates for supervisor in 2012. This is an improvement on previous studies of spatial voting in congressional elections, which have had to drop many races or resort to sampling due to the inability to measure the policy views or ideological positions of many challengers (Shor and Rogowski 2010; Stone and Simas 2010).

In this study, we focus our efforts on the District 1 supervisorial election, one of the six supervisorial races in 2012. This election was carried out in the northwest portion of the city, which includes mostly middle-class neighborhoods predominantly populated by whites and Asian Americans. The race featured two serious candidates with the same partisan affiliation (both were Democrats) but very different ideological positions. The progressive incumbent, Eric Mar, was widely regarded as ideologically out of step with his district. Mar was perhaps best known for sponsoring an ordinance that prohibits the packaging of toys with fast-food meals. This earned him an awkward appearance on *The Daily Show with Jon Stewart* and notoriety in the annals of YouTube. Mar was challenged by David Lee, who ran a well-funded campaign backed by the city's business and real estate lobbies, and the police and firefighter unions. Lee secured endorsements from prominent "moderate" politicians, including former mayor Gavin Newsom and Senator Dianne Feinstein; from the city's moderate newspaper (the *San Francisco Chronicle*); and from the leading moderate political clubs and interest groups (e.g., the Alice B. Toklas LGBT Democratic Club, Plan C, and the Alliance for Jobs and Sustainable Growth). Mar swept the progressive endorsements, including those of supervisor and recent mayoral candidate John Avalos, the *San Francisco Bay Guardian*, the Harvey Milk LGBT Democratic Club, the San Francisco Labor Council, the San Francisco Tenants Union, and the Sierra Club.

We examine the District 1 race for several reasons. First, there were only two serious candidates

in the race, simplifying the choice for voters.[6] Second, the two candidates staked out different ideological positions and secured different partisan endorsements (Mar was endorsed by the Democratic Party; Lee was effectively endorsed by the Republican Party).[7] In these respects, the District 1 race resembles most state and national races, and many local contests. Third, both candidates were Chinese American men, so there is little reason to expect voters' ethnic or gender-based preferences and prejudices to overwhelm policy considerations. Finally, both campaigns were well funded. David Lee reported expenditures of $245,757.[8] Third parties spent an additional $673,960 supporting him or attacking Mar. Mar's campaign spent $187,409, and third parties separately invested $164,625 promoting him or attacking Lee. If the policy views of local legislative candidates ever penetrate the public mind during a presidential election year, this should have been an occasion to see it.

3. STUDY DESIGN

Following Jessee (2009, 2010), Bafumi and Herron (2010), and Shor and Rogowski (2010), we begin by estimating voter and candidate ideal points based on their positions on a common set of policy questions. To choose the policy questions, we compiled a list of divided votes by the San Francisco Board of Supervisors between 2009 and 2012. Our analyses of these data reveal that supervisors' ideal points along a single dimension explain a large share of their votes on the Board.[9] This dimension corresponds to the progressive-moderate ideological divide discussed above. We identified a subset of issues that captured this dominant first dimension and wrote yes/no questions about them and other issues that were in the news. The *San Francisco Public Press* (*SF Public Press*), a local newspaper, agreed to include 43 of our questions in their survey of all candidates running for the Board of Supervisors in 2012.

To place voters on the same scale as candidates, we asked voters a subset of these policy questions using an online survey conducted during the two weeks before Election Day. We mailed letters to approximately 5,000 San Franciscans who were selected at random from the city's master list of registered voters in District 1. The letter invited

recipients to take an online survey developed by researchers at the University of California, Davis, in exchange for a $5 Amazon gift card and a chance to win a free iPad. It also provided a uniform resource locator (URL) and password for the survey website. The online survey was administered through Qualtrics and was designed to take no more than 15 minutes to complete.[10] Table 1 summarizes the 15 policy questions we included in the online survey and the candidates' and voters' responses. In addition to these policy questions, we asked voters several questions designed to measure their knowledge of local politics and their preferred candidate in the race for supervisor in District 1. We also included a battery of demographic measures. These measures show that our respondents' demographic characteristics, such as partisan affiliation, sex, age, race, and education, are similar to those of District 1 residents who turned

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[6]In the District 1 race, there was only one additional candidate, Sherman D'Silva, and he was a nonstarter. He accepted no contributions, spent only $1,000 of his personal funds, and did not qualify for public financing (email from Sherman D'Silva to Marshall Baker, Jan. 20, 2013; on file with authors). D'Silva did end up winning 7.5 percent of the vote; many of his votes may have been cast in protest against the big organized interests backing Lee and Mar.

[7]In the case of the Republican Party endorsement, the endorsement we provide was inferred. The San Francisco Republican Party's webpage recommended voting "not Eric Mar" in the race for District 1 Supervisor. Given that there were only two serious candidates in the race, the "not Mar" position was tantamount to a "vote Lee" position. Opponents of Republican-endorsed candidates in liberal San Francisco often score points by attacking their opponent for being endorsed by the Republican Party, and we interpret the party's "not Mar" position as a means of endorsing Lee without setting Lee up for such an attack. To avoid unnecessary complication in our treatments, we portrayed the Republican Party endorsement as an endorsement of Lee. (A wing of the Republican Party, the Log Cabin Republicans, was explicit in endorsing Lee.)

[8]All campaign finance and independent expenditure totals reported in this study come from data provided by the San Francisco Ethics Commission.

[9]Specifically, we used the W-NOMINATE program (Poole et al. 2011) to analyze the votes of the 11 members of the Board of Supervisors on 505 divided roll calls between January 2009 and January 2011. We estimated a one-dimensional model, fixing Supervisor Michela Alioto-Pier at 1 in the policy space. The first dimension correctly classifies approximately 93% of supervisorial votes and corresponds to the progressive-moderate divide in San Francisco. Adding a second dimension results in only mild improvement (95% correctly classified).

[10]Due to practical and financial limitations, the invitation to participate in the survey and the survey itself were only available in English.

TABLE 1. POLICY QUESTIONS WITH CANDIDATES' AND VOTERS' ANSWERS

| Policy proposal | Candidates | | Voters |
	Eric Mar	David Lee	Yes-No-DK (%)
Permit 8 Washington Street project (high-rise condominium replacing private tennis club) to continue	Yes	Yes	29-33-38
Support the Mid-Market payroll tax exemption granted to Twitter and other businesses	Yes	Yes	63-24-13
Replace current school assignment system with one based on student proximity to neighborhood schools	No	Yes	57-23-20
End the "Care Not Cash" program and return to policy that provides cash grants to the homeless	Yes	No	6-85-9
Legalize short-term vacation rentals in buildings zoned for residential use and establish system to ensure the 14% hotel tax is paid	No	No	56-29-15
Support city policy that prohibits sitting or lying on public sidewalks between 7:00 a.m. and 11:00 p.m.	No	Yes	62-30-8
Allow the Recreation and Parks Department to lease facilities to commercial enterprises	Yes	Yes	78-16-6
Charge entry fees to non-city residents for use of San Francisco's botanical gardens	Yes	Yes	51-42-7
Favor authorizing planning commission staff to deny discretionary review requests	No	Yes	42-38-20
End the death penalty in California and replace it with life in prison without parole (State Prop 34)	Yes	Yes	68-26-6
Support a fee on businesses that distribute alcoholic beverages to pay for alcohol-related health costs	Yes	No	44-44-12
Require San Francisco to come up with a plan to restore the Hetch Hetchy Valley (Local Measure F)	No	No	12-74-14
Support the proposed "condo lottery bypass" program (pay a fee to get past the limit on condo conversions)	No	Yes	44-26-30
The city should comply with criminal suspect immigration detainer requests by the federal government	No	Yes	33-48-19
Allow non-citizen residents to vote for members of the Board of Education	Yes	No	45-45-10

out to vote at their precinct on Election Day.[11] Respondents' demographic characteristics also resemble those of District 1's general population in many respects.[12]

To investigate whether providing voters with political information—information that legal interventions can make available or withhold from ballots and ballot pamphlets—affects their preferences for supervisorial candidates, we randomly assigned our online survey respondents to either a control group or one of three treatment groups. All respondents were asked to express their preference for Lee or

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[11]Data from an exit poll that we conducted during this same election in District 1 allows us to compare our respondents' demographic characteristics to those of District 1 residents who turned out to vote at their precinct on Election Day. This comparison reveals a great deal of similarity between these two samples of District 1 residents (Supplementary Appendix A1 can be found online at www.liebertpub.com/elj). For example, the percentage of white voters is similar across the two samples (63% of our respondents and 66% of Election Day voters). That said, there is more of a difference between the two samples when it comes to the percentage who are Chinese (20% of our respondents versus 7% of Election Day voters) and the percentage in the wealthiest income brackets (35% of our respondents versus 24% of Election Day voters). In light of these differences between these two samples, we created survey weights that correct for them. As shown in the online appendix, our results are robust to weighting our data based on the racial/ethnic composition and income levels for District 1 Election Day voters.

[12]Data from the American Community Survey, as compiled by the San Francisco Planning Department (2012), enable us to compare our respondents' demographics to those of District 1 residents in 2012 (regardless of whether they turned out to vote in this election). A comparison of these two samples also shows that they have similar demographic characteristics in many respects (see the online appendix). That said, our sample over-represents whites (63%) relative to District 1 residents (43%) and under-represents Asians (27%) relative to District 1 residents (44%). Our sample also under-represents those with lower levels of education and over-represents those with professional degrees and males. In light of these differences between our sample and District 1 residents, we created survey weights that correct for them. As shown in the online appendix, our results are robust to weighting our data based on the racial/ethnic composition, sex, and education levels for District 1 residents.

Mar, regardless of whom they intended to vote or actually voted for. This question took the following form: "How about Eric Mar or David Lee? Do you prefer Mar over Lee or Lee over Mar?" Answers to this question ought to reflect respondents' sincere preferences, which are our primary interest here (Alvarez and Kiewiet 2009).

Respondents in the control group answered this question without any additional information about the two candidates, similar to what voters currently experience in San Francisco and elsewhere. However, in our "party endorsement" treatment group, respondents were told which candidates the Democratic and Republican parties endorsed. This treatment creates the conditions that voters might experience in settings where the ballot or ballot pamphlet provides the Democratic and Republican parties' endorsements of candidates, as scholars and jurists have recently proposed.[13] Specifically, respondents were asked: "How about Eric Mar or David Lee? (Mar is endorsed by the Democratic Party; Lee is endorsed by the Republican Party.) Do you prefer Mar over Lee or Lee over Mar?" Previous research testifies to the importance of signals from political parties in shaping voters' choices (Popkin 1991; Sniderman and Bullock 2004; Boudreau and MacKenzie 2014). There is also considerable evidence that they facilitate spatial voting in national politics (Sniderman and Stiglitz 2012). However, whether and when they enhance spatial voting in local elections are open questions.

Our "politician endorser" treatment group provided respondents with endorsements from two prominent public officials (ex-Mayor Gavin Newsom and current Supervisor John Avalos) with distinct ideological reputations in local politics. Newsom, a standard-bearer for the moderate faction in San Francisco, was elected mayor in 2003 and served through 2010. Avalos, a standard-bearer for San Francisco progressives, was elected to the Board of Supervisors in 2008 and ran for mayor in 2011, finishing second in a field of 16 candidates. Respondents assigned to this group were asked: "How about Eric Mar and David Lee? (Mar is endorsed by Supervisor John Avalos; Lee is endorsed by former mayor Gavin Newsom.) Do you prefer Mar over Lee or Lee over Mar?"[14] This treatment was motivated by research showing that endorsements help citizens make informed decisions (Lupia 1994; Lupia and McCubbins 1998; Boudreau 2009a) and, in particular, by

Elmendorf and Schleicher's (2013) proposal to label candidates for down-ticket local offices with mayoral endorsements on ballots.[15] (The mayor did not make an endorsement in the Mar-Lee race, but these two public officials of similar stature did.)

Our "voter guide" treatment group gave respondents an opportunity to review a nonpartisan voter guide that the *SF Public Press* developed using our yes/no policy questions. The voter guide was designed to provide voters with a nonpartisan source of information about the policy views and priorities of each candidate running for the Board of Supervisors in District 1 in 2012. Figure 1 displays the screen that respondents in this treatment group viewed just before they were asked to express their preference between Mar and Lee. Respondents were allowed to spend as much or as little time as they wished reviewing the guide and could download a copy if they wanted. Fifty-two percent of respondents in the voter guide treatment group reported spending "1 to 5 minutes" reviewing the voter guide, while another 36 percent spent longer than this. Ninety-five percent of respondents found the voter guide to be "somewhat" or "very helpful." We included this treatment group because it enables voters to directly compare each candidate's policy views with their own without a recommendation about which candidate to support. This treatment

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[13]In his dissent from the Supreme Court's decision upholding the state of Washington's top-two primary, Justice Scalia indicated that if states allow candidates in a formally nonpartisan election to "self-label" on the ballot by designating their preferred political party, the state must also allow political parties to designate their endorsee on the ballot, thereby "rebutting" the candidate's self-label (*Washington State Grange v. Washington State Republican Party*, 552 U.S. 442, 467–68 [Scalia, *J.*, dissenting]). We test whether such a law might help voters distinguish between candidates who self-identify with the same political party (as is the case with Mar and Lee), but who have quite different policy views and for whom the political parties, therefore, have different preferences (as indicated by the Democratic Party's endorsement of Mar and the Republican Party's endorsement of Lee).

[14]Half of the respondents in this treatment group read this slightly different wording: "Mar is endorsed by Supervisor John Avalos, a San Francisco progressive; Lee is endorsed by former mayor Gavin Newsom, a San Francisco moderate." There were no statistically significant differences in how respondents answered the two versions of this question. As such, we pool these two groups of respondents here.

[15]Elmendorf and Schleicher (2013) argue that voters are more aware of the policy views of mayors on local issues than they are about most candidates for other city offices. They suggest that voters can use mayoral endorsements to infer these candidates' policy positions.

A SAN FRANCISCO VOTES 2012

A NON PARTISAN GUIDE TO THE BOARD OF SUPERVISORS CANDIDATES

IN THE NOVEMBER 6, 2012, CONSOLIDATED GENERAL ELECTION

A collaboration of the San Francisco Public Press, League of Women Voters San Francisco and faculty at the University of California
Design by Justin Allen [www.justinallen.us] | For the unabridged text of the survey questions, visit www.sfpublicpress.org/election2012

DISTRICT 1

SURVEY OF CANDIDATE POSITIONS ON LOCAL ISSUES

* BLANK SPACES INDICATE THE CANDIDATE DECLINED TO ANSWER

	DAVID LEE	ERIC MAR	SHERMAN R. D'SILVA
Permit 8 Washington Street project (high-rise condominium replacing private tennis club) to move forward	Yes	Yes	Yes
Support the Mid-Market payroll tax exemption granted to Twitter and other businesses	Yes	Yes	Yes
Change rent control to protect only low-income and middle-class tenants who cannot afford market-rate rents	No	No	No
Eliminate ranked-choice voting and return to the prior system of runoff elections	Yes	No	No
Enact city income tax, with higher rates for those earning more than $500,000 per year	No	Yes	No
Support the proposed "condo lottery bypass" program (pay a fee to get past the limit on condo conversions)	Yes	No	Yes
End the Care Not Cash program and return to cash grants to homeless	No	Yes	No
Replace current school assignment system with one based on student proximity to neighborhood schools	Yes	No	Yes
Should all youth ride Muni for free, or only those from low-income families?	Low-income	All	Low-income
City should comply with criminal suspect immigration detainer requests by the federal government	Yes	No	Yes
The city prohibits sitting or lying on a sidewalk with certain exceptions. Do you support this policy?	Yes	No	Yes
Ban chain stores on Geary Boulevard between 14th and 28th Avenues	No	Yes	No
Prohibit individuals from loitering outside nightclubs	Yes	No	Yes
Police and firefighters should pay more than other employees to the pension fund to make up for larger benefits	No	Yes	Yes
Make AT&T undergo full environmental review before installing digital TV and Internet boxes	No	Yes	Don't know
Allow Board of Supervisors to amend or repeal certain ballot measures approved by voters, after a period of years	Yes	No	No
Allow non-citizen residents to vote for members of the Board of Education	No	Yes	Don't know
Support the proposal to raise the city's hotel tax by 2%	No	Yes	No
Impose fees on new residential construction to help pay for public transportation	No	Yes	No
Authorize planning commission staff to deny discretionary review requests	Yes	No	Yes
Support the Parkmerced Development Agreement as passed by the Board of Supervisors	Yes	No	Yes

B SAN FRANCISCO VOTES 2012

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DISTRICT 1

QUOTES FROM THE CANDIDATES ON THEIR TOP POLICY OBJECTIVES

ERIC MAR

"Creating a more vibrant economy in the Richmond, by filling vacant storefronts in the neighborhood and limiting the influx of big chain stores on neighborhood corridors. I will continue to fight for small businesses, by securing support for neighborhood icons like Balboa Theater and the Bazaar Café, and increasing the city's revolving loan program."

DAVID LEE

"Spurring business in the Richmond District. There are 80 Empty storefronts on or around Geary Boulevard and Clement Street. These empty storefronts need to be filled. We have developed a detailed plan to fill these storefronts and improve the economy."

SHERMAN R. D'SILVA

"Clean and safe streets – I want increased focus on cleaning neighborhood streets. From increased street cleaning and targeted cleaning for problem areas to removal of items on sidewalks within 24 hours to immediate removal of graffitti. I want to also have installed all missing traffic signals along: Geary Blvd. Clement, Balboa, California and Fulton."

FIG. 1. Screen viewed by respondents in "voter guide" treatment group just before they were asked to express their preference between Mar and Lee.

conveys information that the official ballot pamphlet or private voter education materials could provide. If included in the official ballot pamphlet, such information could supplement or replace the typically vague 200-word personal statements that candidates are currently allowed to make.

Importantly, respondents in each of our treatment groups were given the actual endorsements that political parties and prominent public officials made in this race, as well as real information about candidates' policy views in the voter guide treatment. Thus, all of the information that respondents received was truthful. We did not randomly assign putative endorsements or policy positions to candidates. Providing truthful information is important in these experiments because respondents may have preexisting knowledge about the candidates. Thus, if we had fabricated endorsements or policy positions for the candidates, some respondents likely would have realized that the information was unrealistic. Respondents' realization (or even suspicion) that the information was fabricated might have led to skepticism about other aspects of the experiment and, in turn, affected their behavior. We also wanted our experimental conditions to closely mirror real-world legal interventions, i.e., ballots or ballot pamphlets that, presumably, would include only truthful information.[16]

4. HYPOTHESES

We now make predictions about how voters' own policy views, i.e., their ideal points, will affect their preferences for supervisorial candidates, as well as how the information we provide will affect this relationship and the effect of non-policy considerations. With respect to how voters' own policy views should influence their candidate preferences, we test the competing predictions that existing research makes. On the one hand, many scholars studying local elections emphasize the power of non-policy considerations, including partisan, ethnic, and racial affinities (Banfield and Wilson 1963; Kaufmann 2004), as well as candidates' managerial qualities and personal relationships with voters (Oliver 2012). These findings, along with voters' comparatively low levels of information about local politics, suggest that the relationship between voters' policy views and candidate preferences in the control group will be weak. On the other hand, the context

we examine features the elite ideological divisions that are necessary for spatial voting. If voters do in fact perceive and care about these ideological differences among candidates, then we may observe a strong relationship between voters' and candidates' policy views at the local level.

With respect to how information will affect voters' preferences, we make different predictions for each type of information. Taking first our party endorsement treatment, we expect that providing respondents with information about which candidates the Democratic and Republican parties endorsed will have two effects. First, in telling respondents that Eric Mar is endorsed by the Democratic Party and David Lee by the Republican Party, this treatment conveys that Mar is to the left of Lee in the local policy space (see Sniderman and Stiglitz 2012 for a discussion). In principle, this information should enhance spatial voting, especially among low-knowledge respondents who are less likely to be able to correctly determine which of these two candidates is to the left or right of the other in the control group.

Second, the Michigan model leads us to expect that providing respondents with party endorsements will increase support among partisans for their party's endorsed candidate. In essence, the effect of invoking respondents' partisan ties might be to increase the level of "spatial bias" that partisans exhibit toward their party's endorsed candidate. By spatial bias, we mean the benefit that voters gain from supporting a candidate above and beyond the benefit they derive from the similarity between that candidate's policy views and their own (Jessee 2010: 328). For example, an unbiased spatial voter with an ideal point at the midpoint between Mar's and Lee's ideal points (zero on our scale) would be equally likely to favor either candidate. A voter with this same ideal point who exhibits leftward bias would be less likely than 50 percent to support Lee over Mar (because non-policy factors, such as partisanship, influenced his or her decision). Previous research finds that Democrats and Republicans exhibit substantial spatial bias toward candidates of

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[16]A potential concern with this approach is the possibility of "pretreatment" from the real-world campaign, e.g., that voters already received the information we provide in our treatments before participating in our study (Gaines, Kuklinski, and Quirk 2007). Any such pretreatment should make it less likely that we observe differences between our treatment and control groups.

their own party (Jessee 2009, 2010). We, therefore, expect that Democrats in our party endorsement treatment group will be less likely to support Lee over Mar than Democrats in the control group.

In contrast to party endorsements, we expect the politician endorser treatment to enhance spatial voting without increasing the level of spatial bias toward either candidate. As with party endorsements, telling respondents that John Avalos supports Mar and Gavin Newsom supports Lee provides respondents with an ideological signal, i.e., that Mar is to the left of Lee in the local policy space. However, respondents are unlikely to have the same team-based response to this information as they do with party endorsements.[17] Whether this enhancement in spatial voting will be most pronounced among high-knowledge or low-knowledge respondents is difficult to predict. On the one hand, high-knowledge respondents are more likely to know the endorsers' local ideological reputations and, therefore, may be better able to use the endorsements effectively. On the other hand, high-knowledge respondents may have already learned about these endorsements from the campaign and, therefore, providing them with this information is unlikely to have large effects, relative to the control group (due to "pretreatment"; see Druckman and Leeper 2012).

Finally, we expect that the nonpartisan voter guide will enhance spatial voting. The voter guide allows respondents to compare their own policy views with those of the two candidates. Indeed, if choosing the candidate whose views are most similar to your own were a test, the voter guide would be a useful cheat sheet. Because low-knowledge voters should be most in need of a cheat sheet, we expect the voter guide to be particularly effective for these respondents. Further, because the voter guide is not associated with any political party, public official, or ideological faction, and does not endorse either candidate, we do not expect this information to induce a non-policy shift, i.e., to increase the level of spatial bias. By enabling respondents to assess each candidate's policy views in relation to their own, it is possible that the voter guide will reduce whatever spatial bias exists among respondents in the control group.[18]

5. METHODS AND DATA ANALYSIS

To estimate the ideal points of voters and candidates, we use the Bayesian item-response model developed by Clinton, Jackman, and Rivers (2004) and applied by Jessee (2009, 2010) and others to national survey data. The model assumes a quadratic utility function with normally distributed errors. To enhance the precision of our estimates of the ideal points of both candidates and voters, we combine the 15 policy questions shown in Table 1 with the other 28 questions from the *SF Public Press* candidate survey and other yes/no questions gathered from publicly available candidate questionnaires distributed during the 2012 campaign.[19] In bridging candidate and voter responses to our 15 policy questions with candidate responses to these other questions, we improve the precision of our estimates and make it more likely that our ideal point estimates accurately reflect the policy views of both candidates and voters (Shor and Rogowski 2010).

Figure 2 shows the density of estimated voter ideal points, as well as the positions of Eric Mar and David Lee in the 2012 race for supervisor. The estimated ideal points appear to describe the local policy space quite well and comport with the expectations of close observers of San Francisco politics. David Lee, who local elites generally describe as "moderate," has an ideal point well to the right of Eric Mar, a well-known "progressive." As for voters, the average Republican is more conservative than the average Democrat, with Independents in between. But there is

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[17]It is possible that endorsements from public officials could increase spatial bias if one endorser enjoys a relative advantage with respect to non-policy considerations (e.g., integrity, competence, or charisma). We had little reason to expect that either Newsom or Avalos enjoyed such an advantage.

[18]This could occur, for example, by allowing voters who wish to base their decisions on the policy views of candidates to select the candidate they agree with most on the issues rather than rely on other factors (e.g., appearance, name recognition) that are mostly unrelated to their own and the candidates' policy views.

[19]We used the IDEAL program developed by Clinton, Jackman, and Rivers (2004) to analyze candidate and voter responses to 65 policy questions. We estimated a one-dimensional model with uninformative priors for all model parameters with 200,000 iterations after discarding the first 10,000 and thinning by 100. Ideal point estimates were then post-processed, fixing Eric Mar at -1 and David Lee at 1 in the local policy space. The first dimension correctly classifies 75.1 percent of candidate and voter responses. Adding a second dimension results in no improvement in the percent of responses correctly classified. These numbers are comparable to what scholars have found at the national level. As the first dimension explains most of the variance, we use candidates' and voters' ideal points along the first dimension in our statistical models. The exact wording of the 65 policy questions as well as additional information about the difficulty and discrimination parameters of particular questions is available from the authors.
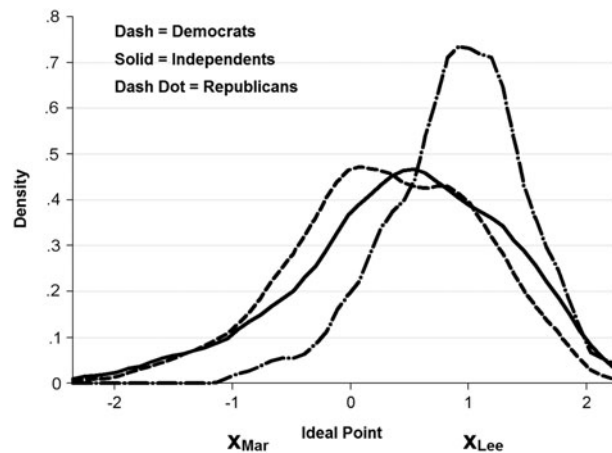
FIG. 2. Density of estimated voter ideal points, as well as the positions of Eric Mar and David Lee in the 2012 race for supervisor.

also a great deal of ideological overlap between Democrats, Independents, and Republicans, much more than is common in studies of national elections (see Jessee 2010: 334, Fig. 1). This is consistent with Schleicher's (2007) view that the policy spaces of local and national politics are weakly correlated. Finally, the estimates indicate a dominant first dimension that explains a large share of the observed policy responses of candidates and voters. This dimension corresponds to the progressive-moderate divide in San Francisco politics.

We use the estimated ideal points of candidates and voters to examine whether and to what extent spatial and partisan voting occurred and to test our hypotheses about the effects of information. Our dependent variable, *Vote Moderate*, is a dummy variable coded as one for respondents who preferred the moderate candidate, David Lee, and zero otherwise.[20] Our main independent variables are dummy variables that reflect assignment to a given control or treatment group. For example, *Control* is coded as one for respondents assigned to the control group and zero otherwise. *Party Endorsement* is coded as one for respondents assigned to our party endorsement treatment group and zero otherwise. *Politician Endorser* and *Voter Guide* are coded similarly to indicate assignment to our politician endorser and voter guide treatment groups. Large and positive coefficients for these dummy variables indicate high levels of support for Lee (the moderate candidate) within each group.

We interact these dummy variables with *Ideology*, which measures each respondent's ideal point. Large

positive values of *Ideology* indicate respondents whose policy views are more moderate (right) while large negative values indicate respondents whose policy views are more progressive (left). The interactions between each control/treatment dummy variable and *Ideology* allow us to assess the effects of respondents' policy views on their candidate preferences and whether different types of information enhance these effects (i.e., increase spatial voting). Large and positive coefficients for these variables indicate that respondents' candidate preferences are strongly related to their policy views within a given treatment/control group. That is, more moderate voters are more likely to prefer the moderate candidate and more progressive voters are more likely to prefer the progressive candidate. Small and/or negative coefficients suggest that policy considerations have minimal effects.

Because each treatment and control group is included as an independent variable in our model, we omit a constant term.[21] Regressing the dependent variable, *Vote Moderate*, on these predictors yields the following model:

$$
\begin{aligned}
Vote\ Moderate_i = {} & \beta\ Party\ Endorsement_i \\
& + \beta\ Party\ Endorsement\_Ideology_i \\
& + \beta\ Politician\ Endorser_i \\
& + \beta\ Politician\ Endorser\_Ideology_i \\
& + \beta\ Voter\ Guide_i \\
& + \beta\ Voter\ Guide\_Ideology_i \\
& + \beta\ Control_i \\
& + \beta\ Control\_Ideology_i + \in_i
\end{aligned}
$$

The baselines in this analysis are the *Control* and *Control_Ideology* independent variables. For example, if respondents are more likely to support the moderate candidate when exposed to the information in our treatment groups, then we should observe positive, significant effects for the *Party Endorsement*, *Politician Endorser*, and *Voter Guide* variables, relative to *Control*. If our treatments change how respondents weigh policy considerations, then the coefficients for the *Party Endorsement_Ideology*,

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[20]Those who answered "don't know" or failed to register a preference are dropped from our analyses.

[21]We also omit *Ideology*, as the variable *Control_Ideology* is coded to take the value of the respondent's ideal point for respondents in the control group and zero otherwise.

TABLE 2. EFFECTS OF INFORMATION AND IDEOLOGY ON SUPPORT FOR THE MODERATE CANDIDATE

	All voters	Democrats	Independents	High knowledge	Low knowledge
Control	−0.388* (0.164)	−0.721* (0.203)	0.344 (0.472)	−1.010* (0.335)	0.029 (0.234)
Control_Ideology	0.450* (0.195)	−0.143 (0.254)	0.936 (0.593)	1.098* (0.392)	0.030 (0.290)
Party Endorsement	−0.945* (0.276)	−1.180* (0.318)	−0.438 (0.749)	−1.190* (0.420)	−0.713[+] (0.367)
Party Endorsement_Ideology	1.257* (0.304)	0.894* (0.356)	2.349* (1.122)	1.454* (0.442)	1.064* (0.410)
Politician Endorser	−0.525* (0.123)	−0.601* (0.149)	−0.147 (0.250)	−0.491* (0.169)	−0.551* (0.184)
Politician Endorser_Ideology	0.652* (0.141)	0.620* (0.168)	0.767* (0.289)	0.874* (0.211)	0.471* (0.199)
Voter Guide	−0.290[+] (0.168)	−0.409* (0.192)	0.537 (0.470)	−0.699* (0.269)	0.043 (0.227)
Voter Guide_Ideology	0.636* (0.195)	0.631* (0.235)	1.229* (0.620)	0.831* (0.318)	0.547* (0.256)
N	384	268	94	203	181

Note: Table 2 displays the coefficients from the probit regressions we estimated. Standard errors are in parentheses. *indicates coefficients are significant at the .05 level (two-tailed). [+]indicates differences are statistically significant at the .05 level (one-tailed).

Politician Endorser_Ideology and *Voter Guide_Ideology* interaction terms will differ from the coefficient for *Control_Ideology*. To simplify the presentation of our results, we convert the coefficients for these variables to predicted probabilities and first differences. We test our hypotheses by comparing levels of support and first differences in our treatment groups to the relevant control group baselines. We estimate our model for all respondents, and then separately for relevant subgroups of San Francisco voters, including Democrats and Independents,[22] and high- and low-knowledge respondents.[23]

6. RESULTS

The results of our survey experiments show that all three types of information we examined strengthen the relationship between respondents' policy views and those of the candidates they choose. These effects are strongest for respondents with low levels of knowledge about local politics, whose candidate preferences are unrelated to their policy views in the control group. Further, in each of our treatment groups, low-knowledge respondents' choices more closely resemble those of high-knowledge respondents, whose policy views are strongly related to those of the candidates they choose.

We also find that the three types of information we examined have different effects on how respondents weigh non-policy considerations, i.e., spatial bias. In particular, respondents who receive political party endorsements are more likely to favor the candidate who was endorsed by the Democratic Party. Low-knowledge respondents who receive endorsements from prominent public officials are more likely to choose the candidate endorsed by

John Avalos (a progressive), while high-knowledge respondents are more likely to choose the candidate endorsed by Gavin Newsom (a moderate). In contrast, the nonpartisan voter guide describing the candidates' policy positions does not appear to influence how voters weigh non-policy considerations. These different effects suggest that, in addition to enhancing spatial voting, political party endorsements and endorsements from prominent public officials can have distributional consequences that have little to do with voters' policy views. The nonpartisan voter guide does not have these same effects.

[22]Sixty-seven percent of respondents are Democrats, 20% are Independents, 9% are Republicans and 4% are affiliated with other parties. We pool Independents and Republicans here. In doing so, we improve the precision of our estimates. Excluding Republicans does not change the substance of our results.
[23]We classify respondents as high- or low-knowledge based on their answers to four questions of varying difficulty about San Francisco politics and government. 14.84% of respondents answered all four questions correctly, 38.02% answered three questions correctly, 35.94% answered two questions correctly, 11.2% answered one question correctly, and 0% answered none of the questions correctly. In light of research suggesting that slight changes in political knowledge scores may not capture real differences in voters' level of political knowledge (see Druckman 2004), we use a median split on our political knowledge scale when defining high versus low levels of political knowledge. Respondents who scored at or above the median on this scale (three correct answers) were considered to have a high level of local political knowledge, while respondents who scored below the median on this scale were considered to have a low level of local political knowledge. Using a median split helps to minimize measurement error and should produce two groups that are qualitatively different in their level of knowledge (see Druckman 2004). With this median split, 53% of our respondents are high-knowledge and 47% are low-knowledge. There are no partisan differences between high- and low-knowledge respondents; Democrats comprise just over two-thirds of both subgroups.

6.1. Spatial voting and bias in the control group

Table 2 contains results from our models of voters' preferences for supervisorial candidates. The positive and significant coefficient for *Control_Ideology* in our "all voters" model indicates that policy considerations did influence voters' choices in the District 1 election. The more moderate a respondent's ideal point is, the more likely he or she is to prefer David Lee, the moderate candidate. In Table 3, we convert the coefficients from our models in Table 2 to meaningful first differences. For example, the first difference for *Control_Ideology* in our model of all voters denotes that changing a control group respondent's ideal point from the 25th to 75th percentile (i.e., from a "progressive" ideal point to a "moderate" ideal point) increases the probability of preferring Lee over Mar by .19 (p < .05, one-tailed).

Differences in the size and significance of the coefficients for *Control_Ideology* across our models suggest that the relationship between voters' policy views and candidate preferences varies widely across subgroups of San Francisco voters. For example, the small and insignificant first differences for Democrats and low-knowledge respondents in our control group indicate that these respondents' candidate preferences are unrelated to their ideal points.[24] In contrast, the large first differences for Independents and high-knowledge respondents indicate a strong positive relationship between these respondents' ideal points and their candidate preferences. The absence of spatial voting among Democrats and low-knowledge respondents in our control group suggests that there is a great deal of room for legal interventions to enhance these voters' ability to identify candidates whose policy views are similar to their own.

Our control group results also show significant levels of spatial bias among different subgroups of voters. An unbiased spatial voter with an ideal point of zero (i.e., midway between Mar's and Lee's ideal points) would have a .50 probability of preferring Lee. The probability that a respondent in the control group with an ideal point of zero prefers Lee over Mar is .35. This leftward bias is particularly pronounced among Democrats and high-knowledge respondents. The probability that a Democratic respondent in the control group with an ideal point of zero prefers Lee is .24; for a high-knowledge respondent with the same ideal point, the probability of preferring Lee is .17. The levels of spatial bias that we observe among these respondents could reflect pretreatment from the real-world campaign (i.e., many of these voters may have already been aware of the Democratic Party's support for Eric Mar). Such leftward spatial bias is not apparent among either Independents or low-knowledge voters.

6.2. Treatment effects

The enhanced spatial voting we observe among respondents in our party endorsement treatment group (compared to our control group) supports our hypothesis about the effects of political party endorsements. Respondents who receive these endorsements appear to interpret this information as a signal of the two candidates' relative ideological positions. This helps them to choose the candidate who best represents their policy views. For example, changing the ideal point of respondents in the party endorsement treatment group from the 25th to 75th percentile (i.e., from "progressive" to "moderate") increases the probability of preferring Lee by .46 (p < .05, one-tailed). This effect is larger than in the control group (p < .05, one-tailed), where the same change in ideal point increases the probability of preferring Lee by just .19. We also obtain significant first differences for all of our subgroups of San Francisco voters in this treatment group.

The politician endorser and voter guide treatments also enhance spatial voting, although the effects are not as large as the effect of party endorsements. In our "all voters" model, changing the ideal point of respondents from the 25th to 75th percentile (i.e., "progressive" to "moderate") increases the probability of preferring Lee by .27 (p < .05, one-tailed) in both the politician endorser and voter guide treatment groups. These effects are larger than in the control group (although the differences between treatment and control groups

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[24]We replicate our results using a knowledge scale that reflects the number of political knowledge questions that each respondent answered correctly. This scale ranges from one to four because every respondent answered at least one of the four knowledge questions correctly. As shown in the online appendix, the substantive effects of having higher versus lower levels of political knowledge (i.e., answering four questions correctly versus only one question correctly) are similar to those we report when voters are split at the median into "high" versus "low" knowledge categories. Thus, our results are robust to this alternative way of measuring political knowledge.

TABLE 3. ESTIMATED FIRST DIFFERENCES OF THE EFFECTS OF INFORMATION AND IDEOLOGY ON SUPPORT FOR THE MODERATE CANDIDATE

Changing this variable	from...	to...	Changes the probability that a respondent in this group prefers the moderate candidate by ...				
			All voters	Democrats	Independents	High knowledge	Low knowledge
Control_Ideology	−.14	.98	.193* (.025, .351)	−.047 (−.196, .104)	.301 (−.068, .689)	.389* (.116, .604)	.012 (−.250, .245)
Party Endorsement	No	Yes	−.080 (−.251, .101)	−.006 (−.192, .190)	−.074 (−.487, .263)	−.010 (−.260, .244)	−.119 (−.374, .134)
Party Endorsement_Ideology	−.14	.98	.463* (.284, .630)	.277* (.086, .485)	.648* (.006, .982)	.483* (.224, .701)	.413* (.121, .683)
Politician Endorser	No	Yes	−.021 (−.151, .115)	.143+ (−.019, .296)	−.196 (−.455, .079)	.149 (−.065, .332)	−.154 (−.358, .044)
Politician Endorser_Ideology	−.14	.98	.272* (.160, .381)	.255* (.119, .387)	.316* (.076, .544)	.367* (.191, .532)	.192* (.028, .346)
Voter Guide	No	Yes	.068 (−.088, .221)	.218* (.039, .394)	.061 (−.329, .381)	.065 (−.166, .297)	.084 (−.157, .314)
Voter Guide_Ideology	−.14	.98	.274* (.117, .436)	.264* (.068, .452)	.280* (.000, .589)	.322* (.086, .553)	.228* (.022, .415)
Baseline (Control)			.422* (.309, .532)	.225* (.111, .356)	.762* (.529, .926)	.300* (.157, .476)	.519* (.345, .689)

Note: Table 3 displays predicted probabilities and first differences with 95 percent critical intervals in parentheses generated from the probit models in Table 2 using CLARIFY (King, Tomz, and Wittenberg 2000). Baseline (control group) levels of support generated from the models in Table 2 setting Control_Ideology at .42 (the median) and all other variables at zero. *indicates differences are statistically significant at the .05 level (two-tailed). +indicates differences are statistically significant at the .05 level (one-tailed).

are not statistically significant at conventional levels).

The effects of our politician endorser and voter guide treatments on spatial voting are especially pronounced among Democratic respondents. Specifically, changing the ideal point of these respondents from the 25th to 75th percentile (i.e., from "progressive" to "moderate") has no effect on their probability of preferring Lee over Mar in the control group. However, this same change in Democratic respondents' ideal point increases the probability of preferring Lee by .25 in the politician endorser and .26 in the voter guide treatment groups. These differences between treatment and control groups are statistically significant ($p < .05$, one-tailed) and are comparable to the effect of party endorsements (.27).

The different effects that the three types of information have on low- and high-knowledge respondents are similarly striking. These differences are illustrated in Figure 3, which plots for each treatment group and the control group the probability that low- and high-knowledge respondents prefer Lee over Mar across the range of respondents' ideal points. In Panel A, for example, the dashed line shows that there is no relationship between low-knowledge respondents' ideal points and their candidate preferences in the control group. The solid line, however, indicates strong spatial voting among low-knowledge respondents in our party endorsement treatment group. As respondents' ideal points become more moderate, they are more likely to prefer David Lee. In contrast, the dashed and solid lines in Panel B are virtually identical. This indicates that the candidate preferences of high-knowledge respondents are already strongly related to their ideal points in the control group and that the party endorsement treatment does not significantly strengthen this relationship. Whether this reflects pretreatment or other factors, high-knowledge respondents weigh candidates' policy views in making their choices, and the political party endorsements do not change their tendency to do so.

The differences in how low- and high-knowledge respondents react to endorsements from prominent public officials and the nonpartisan voter guide are equally large. Panel C illustrates the large effect that the endorsements from John Avalos and Gavin Newsom have on low-knowledge respondents. Whereas low-knowledge respondents' ideal points and candidate preferences are unrelated in the control group (dashed line), low-knowledge respondents in
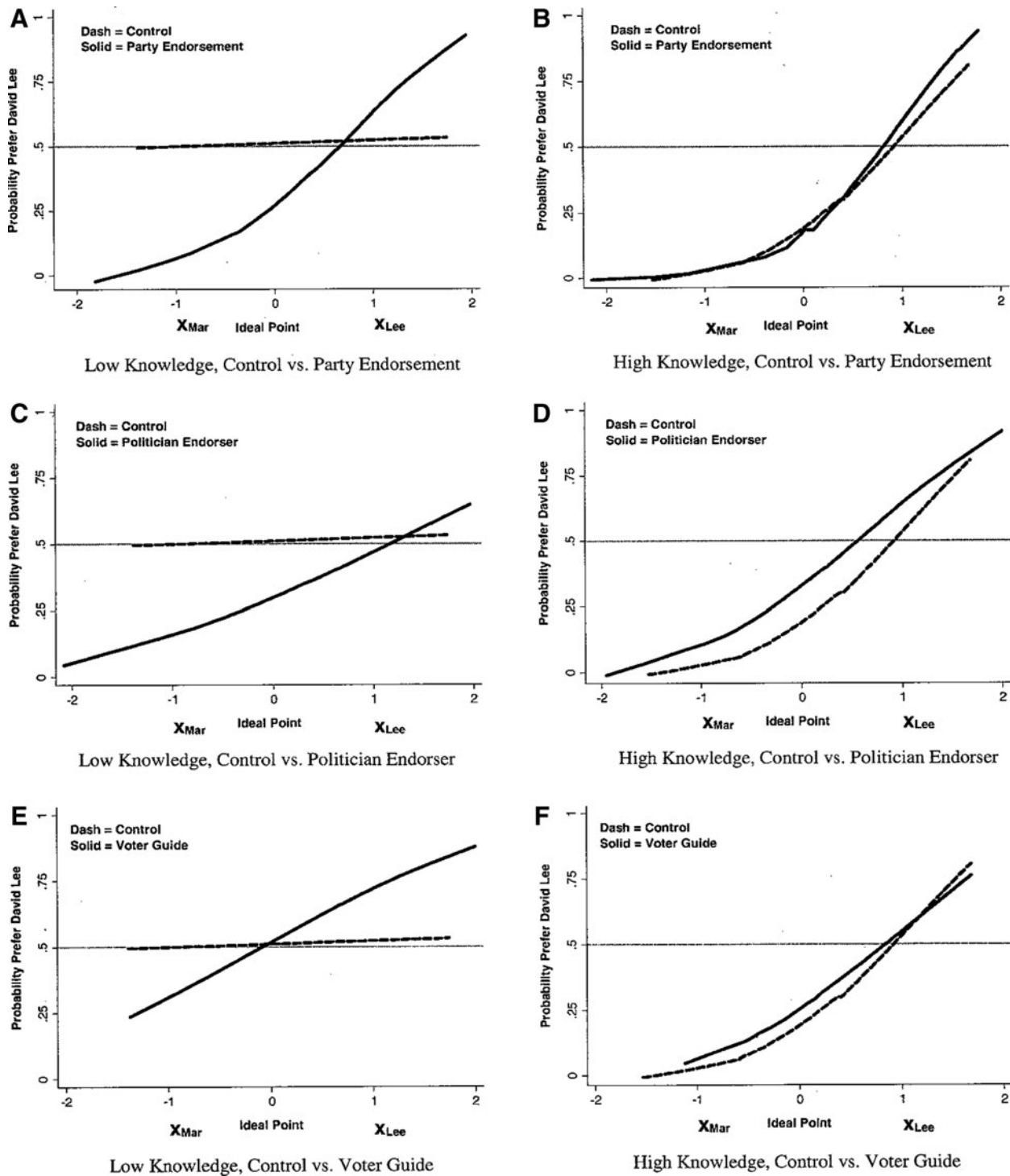
FIG. 3. Predicted probabilities that low- and high-knowledge respondents support the moderate candidate for each treatment group and the control group.

the politician endorser treatment group exhibit a high level of spatial voting (solid line). As respondents' ideal points become more moderate, they are more likely to prefer David Lee. As Panel D shows, these endorsements have smaller effects on high-knowledge respondents, who already vote spatially in the control group and similarly do so in the politician endorser treatment group. We observe a similar pattern of results in Panels E and F for the nonpartisan voter guide. The low impact of the politician

endorser and voter guide treatments on high-knowledge respondents could reflect these respondents' tendency to rely on their own knowledge, or that the information in the endorsements and voter guide contained nothing new (i.e., pretreatment). Whatever the cause, the low impact on high-knowledge respondents and the enhanced spatial voting we observe among low-knowledge respondents means that all three types of information reduce differences between these subgroups of voters.

Though all three treatments strengthen spatial voting, they have quite different effects on how respondents weigh non-policy considerations, i.e., spatial bias. Providing respondents with political party endorsements, for example, appears to increase support for Mar. The largest increase occurs among low-knowledge respondents, many of whom apparently heeded the Democratic Party's endorsement and opted for Mar over Lee. This increase in spatial bias is apparent in the downward shift in the intercept of the solid line (party endorsement treatment) compared to the dashed line (control group) in Panel A. Interestingly, there is no increase in support for Mar among Democrats (contrary to our hypothesis that the endorsements would boost support for Mar regardless of Democratic respondents' policy views) or high-knowledge respondents, presumably because they already exhibit high levels of support for Mar in the control group (see Table 3).

There is also a notable shift in support toward Eric Mar among low-knowledge respondents in the politician endorser treatment group. As Panel C shows, there is a similar downward shift in the intercept of the solid line (politician endorser treatment) compared to the dashed line (control group) even as low-knowledge respondents' candidate preferences become more strongly related to their ideal points. Among high-knowledge respondents, there is a notable shift away from Eric Mar. This indicates that low- and high-knowledge respondents weigh non-policy considerations differently in this treatment group, with low-knowledge respondents shifting their support to the candidate endorsed by John Avalos (a well-known progressive) and high-knowledge respondents shifting their support to the candidate endorsed by Gavin Newsom (a well-known moderate).

In contrast to the political party endorsements and endorsements from prominent public officials, the nonpartisan voter guide does not appear to change how respondents weigh non-policy considerations. As Panel E shows, there is no downward

shift in the intercept of the solid line (voter guide treatment) compared to the dashed line (control group) even as the voter guide worked to enhance spatial voting among low-knowledge respondents. As Table 3 shows, the only statistically significant shift toward a particular candidate for non-policy reasons in response to the voter guide treatment occurs among Democrats. In this case, the voter guide actually reduces the amount of leftward bias exhibited by Democrats in the control group.

7. CONCLUSION

Taken together, these results demonstrate that arming voters with political information about candidates can improve the alignment between their own policy views and those of the candidates they choose. The three types of information we examined, which could be provided on ballots, in ballot pamphlets, or through voter education websites and mailings, all caused substantial enhancements in spatial voting. These effects are strongest for low-knowledge respondents, whose ability to make reasoned choices in democratic elections has been of great concern to scholars and practitioners. Indeed, whereas low-knowledge respondents in our control group appear to choose candidates without respect to their policy views, these respondents' choices are strongly related to their policy views and more closely resemble those of high-knowledge respondents in our treatment groups. These findings offer empirical support for legal scholars' claim that election law can enhance local representation by improving voters' ability to identify candidates whose policy views are similar to their own (e.g., Garrett and Smith 2005; Garrett 1999; Stephanopoulos 2013; Elmendorf and Schleicher 2013).

It is important to note that the three types of information we examined accomplish this objective in different ways. These differences present public officials and private groups interested in informing the electorate in local elections with difficult decisions. Foremost among these is deciding how to measure "improvement" in markets for political information. Existing research offers competing standards for assessing the quality of voters' choices. One standard holds that legal interventions work when they enable those who lack political knowledge to behave like more informed citizens (Bartels 1996; Lupia 1994; Boudreau 2009a,

2009b). Others argue that high levels of spatial voting (especially when unencumbered by spatial bias) signal good health in representative democracies (Downs 1957; Jessee 2009, 2010).[25]

The choice between these standards may well dictate which legal interventions, if any, state and local governments and reformers choose to pursue. Our experimental results suggest that providing political party endorsements on the ballot or through an official ballot pamphlet can improve the decision making of low-knowledge voters along the lines prescribed by the first standard. In our study, low-knowledge respondents who receive this information look very much like their more informed counterparts. That is, there is a strong relationship between their policy views and candidate preferences, but also a clear spatial bias toward the candidate endorsed by the Democratic Party. We observe this pattern even in a formally nonpartisan election where the leading candidates were all Democrats.

In contrast, our voter guide treatment enhanced spatial voting among low-knowledge and other respondents without large shifts toward particular candidates. Unlike the party endorsement treatment, however, the voter guide did not fully eliminate differences in the influence of non-policy considerations among low- and high-knowledge voters. Low-knowledge voters in our voter guide treatment group, for example, resemble the unbiased spatial voters described by the second standard whereas high-knowledge voters continue to exhibit the substantial spatial bias we observed in the control group.

Interestingly, our politician endorser treatment enhanced spatial voting among low-knowledge respondents and caused a significant shift toward Mar, the more progressive candidate. In contrast, these endorsements did not change the extent of spatial voting among high-knowledge respondents, but caused a significant shift toward Lee, the more moderate candidate. Thus, this treatment reduced differences in the extent to which low- and high-knowledge respondents voted spatially. Although it did induce voters to shift their support to Lee or Mar for apparently non-ideological reasons, it did so while inducing less spatial bias than the political party endorsements. This lends empirical support to Elmendorf and Schleicher's (2013) proposal to label local legislative candidates on the ballot with endorsements from mayors or other prominent public officials in order to improve voters' ability to situate obscure candidates in the local policy space.

Whether one normative standard is better than another is a question that we cannot answer here. Any attempt to intervene in the market for political information is likely to have distributional consequences. We find that providing voters with credible, unbiased information about the policy views of candidates, as our nonpartisan voter guide did, induces less spatial bias than political party endorsements and endorsements from prominent public officials. On the other hand, endorsements from political parties and local officials are easier to understand and, therefore, are more likely to be used by voters interested in improving their decisions on Election Day at low cost to themselves in terms of time and effort. These are tradeoffs that practitioners must wrestle with as they consider these and other legal interventions.

With empirical research on spatial voting still in its infancy (particularly in local elections), it is too early to tell whether the differences we find in how information influences voters' ability to identify candidates whose policy views are similar to their own can be generalized to other elections. It is possible that the enhanced spatial voting we observe stems in part from features of the District 1 race. In this race, voters probably had less information than they would have in higher profile races such as a citywide mayoral election or presidential primary and, therefore, may have been more responsive to the information we provided. On the other hand, this election featured only two candidates, both of whom were well funded, so the legal interventions we examine here may have even larger effects elsewhere.

Nonetheless, the District 1 race for supervisor shares many features—two well-funded candidates with distinct policy views supported by different partisan and ideological allies—that are common to local and state legislative races, as well as primary elections. Thus, while our results from this nonpartisan election may not generalize to partisan general elections (where voters can simply use party labels on the ballot to distinguish the candidates), we believe the relevance of our findings transcends

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[25]Some sources of spatial bias might be considered normatively desirable. For example, voters might reward incumbents who demonstrate integrity and competence (Adams et al. 2011) or who skillfully manage the local state (Oliver 2012), even if it means supporting a candidate whose policy views are somewhat at odds with their own.

a single local election. When other contexts are characterized by ideological divisions among elites and when campaign information (such as endorsements and voter guides) makes those divisions salient to voters, we expect to observe results similar to those we find in our study. Elite ideological divisions like those we observe surface in other cities (see, e.g., Swanstrom 1988; Sonenshein 1993; Simpson 2001; Erie, Kogan, and MacKenzie 2011), in local elections for other offices such as mayor (Boudreau, Elmendorf, and MacKenzie 2013), and even in primary elections. Further, studying the effects of political party endorsements in a nonpartisan setting can show the consequences of withholding partisan signals from voters on ballots or in ballot pamphlets in local legislative elections. Indeed, our results suggest that removing partisan signals may prevent a sizeable portion of the electorate from connecting their policy preferences to their vote choice.

Further, as states adopt reforms such as the "top-two" primary (Kogan and McGhee 2013; Masket 2013; Kousser, Phillips, and Shor 2013) that result in more elections featuring multiple candidates from the same political party, our finding that certain types of political information can help voters to identify likeminded candidates among co-partisans is particularly important. Through the provision of information like political party endorsements and voter guides describing candidates' policy views, election law may help these reforms achieve their intended goal: reducing ideological differences between elected officials and the constituents they represent. In California and many other places where voters tend to hold less extreme policy views than their elected representatives, a potential benefit of such reduced ideological differences is reduced partisan polarization (Kousser, Phillips, and Shor 2013; Bafumi and Herron 2010).

While our findings are relevant to similar cities and electoral contexts and speak to important normative debates about the quality of voter decision making, we acknowledge that they are not necessarily applicable to all elections in all cities and states. Thus, while our study presents the first systematic evidence of the effects of different types of political information in a local election, it should not be the last word. Future research can shed light on many questions raised here and help practitioners to understand better the tradeoffs associated with particular legal interventions. In doing so, scholars would be wise to take advantage of the experimental approach adopted here. Field experiments, for example, can shed light on whether low-knowledge voters will use a nonpartisan voter guide describing candidates' policy views that they receive in the mail or online. Election officials might distribute different ballots or ballot pamphlets to randomly assigned groups of voters, implementing a version of our political party endorsement and politician endorser treatments. Scholars might also randomly assign voters to receive partisan signals in combination with other types of information (e.g., voter guides, endorsements from prominent public officials) to examine whether the effects of these latter types of information diminish in the presence of partisan signals. Through these and similar studies, scholars can learn much more about how election law can structure markets for political information to deliver tangible benefits to voters and enhance representation.

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