Rational Inattention and the Size of Government

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Abstract

Voters face binding information and attention constraints, relying on simple heuristic rules that distort their choices. We study the economics of this inattention and its policy consequences using California's alphabet lotteries, which randomly assign candidate order in 23,000 local elections over three decades. The randomization occurs after candidate filing, enabling clean identification of causal effects without risks of endogenous selection. We make three contributions. First, serial-position bias rises with the marginal cost of information and falls with the marginal benefit of attention. Second, voters use heuristic rules to mitigate attention scarcity, disproportionately favoring first-listed candidates with task-relevant work experience, incumbency, or ascriptive identity signals. Third, these behavioral responses change who governs and, in the most prominent case, reduce the size of local government. Our findings move the ballot order literature toward an integrated story of bounded rationality that links voter's cognitive constraints to public finance.

Keywords: Voting Behavior, Information, State and Local Government

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1 Introduction

Because voters confront binding information and attention constraints, they favor simple heuristics over optimization when choosing among candidates. Empirical work has documented behavioral biases, such as ballot-order primacy and choice fatigue on longer ballots, that theory suggests can propel more extreme candidates into office (Augenblick and Nicholson, 2016; Matjka and Tabellini, 2021). Yet, we still know little about the economic forces that shape voter inattention in real world elections or its aggregate policy consequences. Our paper exploits California's statewide "alphabet lotteries", which randomly assign candidate positions in 23,000 local elections, to make three contributions. First, we show that serial-position bias grows with the marginal cost of information and falls with the marginal benefit of attention. Second, we identify heuristic voting rules, wherein voters mitigate information constraints by using candidate job titles and ascriptive identity as signals of quality. Third, we estimate that these cognitive biases have measurable fiscal consequences that reduce the size of local government.

Ballot position affects votes, but evidence is sparse on how voters allocate their attention, how they mitigate incomplete information, and the fiscal consequences of their choices. Early political science work documents sizable primacy effects for first listed candidates, and more recent evidence from economics ties the identity of elected officials who benefit to changes in the provision of public services (Koppell and Steen, 2004; Ho and Imai, 2008; Fischer, 2023; Shi and Singleton, 2023; Freeder et al., 2024). Party list order in municipal elections likewise shift coalition power, cabinet composition, and budget priorities toward those of the first-listed party, underscoring the stakes of inattentive voting (Cervellati et al., 2024). Extant work cites mechanisms like errors due to ballot complexity (Dee, 2007), a mix of satisficing and optimizing behavior (Meredith and Salant, 2013), and declining active decision-making consistent with limited cognitive endurance and choice fatigue (Augenblick and Nicholson, 2016; Brown et al., 2025).

Still, there remain major gaps in the literature on ballot order and bounded rationality.

Identification of ballot order effects is not anchored in the fundamentals of marginal costs and benefits that govern attention. There is no coherent account of how voters use heuristic rules when constrained by limited information and attention scarcity at scale. Finally, the literature often stops at who wins, without testing how inattention changes the size of government.

We advance this literature using ballot-order lotteries in 23,000 local elections featuring over 85,000 candidates spanning three decades in America's most populous state. Specifically, we exploit California's constitutionally mandated surname "alphabet lotteries", which randomly shuffle the lexicographic order of candidates listed in county, municipal, and special-district offices. Because candidate order is randomized separately for each election date and after the candidate filing deadline, identification follows from a simple comparison of vote shares with fixed effects for the number of candidates. We first replicate the general finding that voters favor first-listed candidates, then advance the literature on several fronts.

We demonstrate that voter inattention responds rationally to changes in the marginal benefits and costs of acquiring information about candidates. There are clear serial-position effects that extend beyond the primacy bonus for first-listed candidates, including declining vote shares at lower ranks and a recency bonus for last-listed candidates which grows with the length of the candidate list. Primacy bonuses vary strongly with ex ante measures of office scope and budget, indicating that voters allocate attention where expected benefits are highest relative to search costs. Roughly one in twenty voters cast a maximally inattentive ballot in public finance and school superintendent races, whereas near zero do so in mayoral elections, with marginal costs and benefits of information explaining about half of the attention gap across elected offices.

Rationally inattentive voters compensate for incomplete information with simple heuristic rules that exploit low-cost signals of candidate quality. Primacy bonuses triple when first-listed candidates are incumbents, explaining a large share of the average ballot-order effect. However, the primacy bonus can quadruple when first-listed candidates are not incumbents but have task-relevant work experience, illustrating that many voters search for and satisfice with the first “qualified” candidate they encounter sequentially. Effects are also larger when candidates names signal underrepresented identities, such as women, Hispanic ethnicity, or low socioeconomic status, consistent with preferences for descriptive representation. We show that inattentive voters strong heuristic preferences for relevant work experience leads to the re-election of incumbents who restrain local tax and bond referenda, reducing the number of adopted measures that increase local spending and debt.

These results provide an empirical account of voters’ bounded rationality and its fiscal consequences. Attention responds to the marginal costs and benefits of collecting information. When attention and information are scarce, voters combine low-cost signals such as incumbency, task-relevant experience, and ascriptive identity cues, which substitute for a more costly search for canddiate platforms and positions. These choices change officeholders and restrain the growth of local taxes and spending by electing experienced candidates who limit referenda. We advance this literature by empirically grounding the magnitude of ballot order effects in the marginal costs and benefits of attention, identifying the heuristic rules that voters use at scale, and linking inattentive votes to their consequences for government budgets.

2 Institutional Context, Data, and Methods

2.1 Institutional Context

California uses a statewide randomization procedure to determine candidate order in all local and nonpartisan elections. For each scheduled election date, the Secretary of State conducts a public drawing of the alphabet, typically 82 days in advance, to fix the ordering of surnames on the ballot. If multiple candidates share the same first letter, tie-breaking proceeds lexicographically through the full name. The randomized alphabet applies uniformly to all county, municipal, school board, and special district races held on that date, and a separate draw is conducted for off-cycle contests when requested by local officials. The assignment occurs after the candidate filing deadline, ensuring that ordering is not confounded by endogenous entry, timing, or campaign strategy.

The current system was adopted following Gould v. Grubb (1975), in which the California Supreme Court ruled that listing incumbents or candidates alphabetically violated equal protection by conferring systematic advantage. The court endorsed rotation or randomization as constitutionally valid alternatives, and the legislature responded by mandating the alphabet lottery now used across all local elections. The reform was intended to remove structural ordering advantages and establish a uniform, scalable approach to ballot design.

This institutional feature provides a rare opportunity to study how voters respond to variation in candidate position that is both randomly assigned and broadly implemented. Unlike engineered lab settings or narrow field experiments, Californias randomization applies at scale across decades of real elections, covering more than 23,000 contests and over 85,000 candidates. Because randomization occurs separately for each election date, we can isolate the effect of position within contest-size cells and across a rich set of offices with varying levels of salience, complexity, and voter attention.

California is an ideal setting for this analysis. It is home to 40 million people in nearly 500 cities, 1,000 school districts, and thousands of special-purpose local governments. Most local races are officially nonpartisan, depriving voters of party labels and increasing reliance on other cues. Offices range widely in scope and visibility, from mayor to water board members. The large sample size and administrative consistency of records allow us to cleanly estimate how the cost and benefit of information shape attention, how voters substitute heuristics when uninformed, and how these behaviors scale into fiscal consequences.

2.2 Data

We construct a candidate-contest panel by merging three sources: the California Elections Data Archive (CEDA), randomized alphabet draws from the Secretary of State, and the L2

VM2 voter file. These data provide complete coverage of local races in California over three decades (1996 to 2023), allow us to recover random assignment of ballot position, and enable detailed measurement of candidate cues and electoral environments. The resulting dataset includes over 85,000 candidates in more than 23,000 local elections spanning cities, counties, school boards, and special districts.

CEDA is compiled by the Center for California Studies and the Institute for Social Research at California State University, Sacramento, in collaboration with the California Secretary of State. It reports certified election results for all local offices in the state. For each contest, we observe candidate names, vote totals, incumbency status, and ballot designations, as well as the full text and outcome of associated referenda. We use these data to compute vote shares and to track fiscal consequences by analyzing whether successful ballot measures raise or cut local taxes and spending. To classify referenda, we apply a large language model (GPT o3) to parse their full text and then manually review each classification. Fewer than 5 percent of measures are identified as tax cuts, and we flag these to avoid misclassifying fiscal changes.[1]

Ballot order is determined by a randomized alphabet drawing conducted by the California Secretary of State 82 days before each scheduled election. The draw applies uniformly to all local races held on that date and governs candidate order lexicographically by surname, then first name, then middle name. Because the draw occurs after the candidate filing deadline and varies across election dates, it generates quasi-random variation in position across contests of similar size. We link each contest in CEDA to its assigned alphabet draw using official California Secretary of State notices and public records.

To proxy the kinds of cues available to inattentive voters, we infer candidate traits from the L2 VM2 voter file. L2 is a commercial data vendor that compiles and standardizes voter registration records across the United States for research and political consulting. We collapse the California VM2 file by first and last name to estimate the probability that a

[1]By far the most common tax cuts put on referenda ballot are public utility fee reductions, which are required to be put up for a public vote under state law.

given candidate is female, White, Hispanic, Asian, Black, or another race and assign these characteristics to candidates.[2] We also compute the average income and education level of registrants sharing the same name. This mirrors the heuristic process voters might follow when evaluating unfamiliar candidates. The name-based inference approach has the advantage of being both scalable and behaviorally grounded, because it reflects the information that is most salient under cognitive constraints.

2.3 Randomization-based Inference

Our identification strategy uses California's randomized alphabet assignment of candidate order on the ballot. On the 82nd day before each regularly scheduled election, the Secretary of State conducts a public drawing that determines the order in which letters appear. Candidate names are then sorted lexicographically by last name, followed by first and middle names as needed. This procedure is repeated independently for each election date and occurs after the candidate filing deadline, eliminating any opportunity for strategic entry or name manipulation. Because the draw is mechanical and applied uniformly across contests, it generates quasi-random variation in ballot position that is orthogonal to candidate characteristics and campaign fundamentals.

To validate the identifying assumptions, we test whether first-listing is as good as randomly assigned conditional on contest size. Specifically, we test for balance on 18 observable candidate-level characteristics across ballot positions within fixed-size contests with the same candidate pools. These characteristics include incumbency, several common ballot titles, inferred gender and ethnicity, and socioeconomic proxies derived from candidate names. Tables A.1 and A.2 show only two rejections of the null hypothesis of no systematic differences between first-listed and later-listed candidates at a 90 percent confidence interval, consistent with random assignment. We find zero rejections out of 18 for the null hypothesis that the

[2] We assign race to candidates if either their first or last name has 50 percent or greater probability of being of that race. We assign a race as White if both a candidate's first name and surname are both more than 50 percent White.

ballot order of candidates conforms to random assignment when we explicitly regress candidate characteristics on ballot position (Tables A.3 and A.4). Together, these checks support the core identification assumption that ballot position is randomly assigned conditional on the number of candidates.

We estimate the effect of appearing first on the ballot using the following specification:

$$\text{VoteShare}_{i,c} = \beta \cdot \mathbb{I}\{\text{First}_{i,c} = 1\} + \theta_N + \Gamma \mathbf{X}'_{i,c} + \varepsilon_{ic}, \tag{1}$$

where $\text{VoteShare}_{i,c}$ is the vote share of candidate i in contest c, $\mathbb{I}\{\text{First}_{ic} = 1\}$ is an indicator for being listed first on the ballot, and θ_N is a fixed effect for the number of candidates in contest c, and $\mathbf{X}_{i,c}$ is a vector of controls for candidate and contest characteristics. Standard errors are clustered at the contest level to allow for arbitrary correlation across candidates within each race.

Including fixed effects for contest size is essential. The number of candidates determines both the ex ante probability of receiving the first position and the structure of voter choice. Failing to condition on contest size would risk conflating ballot order effects with changes in underlying vote shares driven by list length.

In additional specifications, we explore heterogeneity in the first-position effect by interacting the treatment indicator with variables such as measures of office salience, contest details, and candidate characteristics.[3] These interactions allow us to test predictions from models of rational inattention and heuristic search, where the returns to attention and the cost of information vary systematically across settings.

[3] When interacting with individual level of characteristics we also including a control for the share of individuals within a contest who share that characteristic to control for the ex ante probability that a candidate of that demographic or characteristic is assigned the first place position.

3 Results

3.1 Voters are Rationally Inattentive

We begin by replicating the core finding that voters respond to ballot position. Table 1 shows that candidates listed first receive a meaningful and statistically significant advantage. In Column 1, the first-listed candidate earns an additional 1.51 percentage points of vote share. Column 4 restricts the sample to contests with three or more candidates and includes both a continuous measure of ballot rank and an indicator for first position. The first-position effect dominates, consistent with discrete attention thresholds rather than smooth positional gradients. We confirm that these results are robust to the inclusion of candidate and contest-level controls in Columns 2 and 4, as well as contest fixed effects in Columns 3 and 6.

We next show that these "primacy effects" are part of a broader class of serial-position biases shaped by the marginal cost of acquiring information. Table 2 splits the sample into contests with shorter candidate lists (3 or 4 names, Column 1) and longer ones (5 or more, Column 2). We regress vote shares on indicators for first and last position, along with a linear measure of ballot rank. In contests with short lists, we find the expected primacy bonus and no evidence of recency. In contests with longer lists, the primacy effect has a larger point estimate and a significant recency bonus about half as large as the primacy effect emerges. The difference in the coefficient on last position across list lengths is significant at the 5 percent level. Columns 3 and 4 show these effects are robust to controls. These results suggest that as the marginal cost of processing all candidates increases, voters are more likely to make decisions based on serial list position.

We then turn to the marginal benefit of information. Table 3 compares primacy effects across three tiers of elected office: county-level, city-level, and special district contests. The effects are more than twice as large in lower stakes special-district elections than in county races, with the difference statistically significant at the 5 percent level. Table 4 takes a complementary approach by using Google Trends data to proxy for voter interest in each office. We find that higher search volume, a proxy for office salience, is strongly predictive of smaller ballot-order effects. The lowest salience office would be expected to have a first position effect of 2.30 percentage points, whereas the highest salience category of office would be expected to have a first position effect of -0.22 percentage points. These findings support the prediction that voters allocate attention where the expected returns to their information and attention are higher. Appendix Table B.1 disaggregates these effects by office type: primacy bonuses are near zero in high-salience mayoral races and reach up to 4 percentage points in low-salience contests such as public finance officers and superintendents of instruction. All results remain robust to the inclusion of candidate controls and contest fixed effects.

3.2 Heuristic Voting Rules Compensate for Inattention

Having shown that voter attention responds rationally to the marginal costs and benefits of information, we next examine how voters compensate for limited knowledge by relying on cognitive heuristics to infer candidate quality. We focus on two major classes of cues: professional titles and ascriptive identity, both of which are observable on the ballot or readily inferred from candidate names.

We begin with job experience signals. Table 5 shows that the primacy bonus is not uniform across candidates. In Columns 1 and 4, we find that the first-position effect is roughly three times larger for incumbents than for non-incumbents, consistent with the idea that information-constrained voters believe incumbency serves as a strong and low-cost signal of competence and experience. In Columns 2 and 5, we extend this result to candidates with task-relevant job titles. Educators running for school board or superintendent positions exhibit nearly twice the primacy effect of non-educators. Similarly, Columns 3 and 6 show that city employees and city officials running for city council receive ballot order bonuses almost three times larger than other candidates. Across contexts, information and attention-constrained voters appear to strongly prefer first-listed candidates when job titles signal experience relevant to the responsibilities of the office.

To isolate the mechanism, we restrict the sample to open-seat contests without an incumbent. Among these races, Table 6 shows that first-listed candidates with relevant work experience receive vote share gains two to four times larger than their counterparts without relevant experience. Both educators seeking education-related offices and city officials seeking city council offices in contests without an incumbent receive vote bonuses as large or larger than those enjoyed by incumbents running for reelection. As a placebo test, we show that primacy effects are much smaller for first-listed candidates whose ballot titles identify them as businesspeople, lawyers, or retired, which are either generic titles or uninformative about task-specific qualifications (See Table B.2). Taken together, these findings suggest that information-constrained voters satisfice by sequentially scanning for the first candidate who appears "qualified", using job titles as heuristic substitutes for more costly candidate vetting.

We then turn to ascriptive identity cues inferred from candidate names. Using the L2 voter file, we collapse first and last names to estimate the average income and education levels of registrants with the same names, serving as proxies for perceived socioeconomic status (SES). Table 7 shows that first-listed candidates whose names imply lower SES receive significantly larger primacy bonuses than those whose names signal higher income or education. We interpret this as evidence that some voters use SES-linked identity cues as a proxy for shared lived experience and class representation. This implies that even under severe informational constraints, voters apply heuristic rules consistent with statistical discrimination or representational utility, privileging candidates whose observable traits signal alignment with their own socioeconomic interests.

Finally, we examine race and gender-based heuristics. Although women and Hispanic voters comprise a majority of the electorate in this setting, they are less than a quarter of the candidates for local office. Table 8 shows that first-listed women and Hispanic candidates benefit disproportionately from ballot position, relative to male and non-Hispanic candidates. These effects are again consistent with a model in which constrained voters seek descriptive representation and use easily inferred identity cues (like race, gender, and class) as substitutes for more costly information about candidate ideology or issue positions.

Overall, these results show that voters use ballot position as an informational shortcut, but do so selectively: primacy advantages are magnified when candidates possess attributes that signal alignment with voters' self-interests and qualifications that meet the demands of each respective office.

3.3 Heuristic Rules Distort the Size of Government

We now turn to the downstream consequences of heuristic voting for public finance. Specifically, we test whether experienced candidates, who benefit from attention-constrained ballot position effects, alter the fiscal behavior of local governments. To operationalize this, we construct a panel of local jurisdictions over time and link candidate-level ballot position effects to subsequent referenda activity. We focus on incumbents, because we find roughly half of the primacy effect in all local elections can be attributed to inattentive voter's preferences for candidates with task-relevant experience and because incumbency is the single most common form of task relevant experience in-sample.

We estimate whether having an incumbent listed first on a local government's ballot has a causal effect on the number of tax and bond referenda that are placed on the ballot and adopted over the subsequent four years within the same jurisdiction. Columns 1 through 3 of Table 9 show that jurisdictions electing experienced candidates propose significantly fewer referenda to raise local tax revenue and public expenditures. Columns 4 through 6 demonstrate that this translates into fewer successful efforts to increase local taxes and spending, driven primarily by the lower rates at which local bond measures are eventually adopted.

These results imply that boundedly rational voters do not merely distort the identity of who wins office, they change what governments do. For example, by electing candidates who satisfy the low-cost cognitive heuristic of relevant work experience, voters indirectly shift local policy toward lower levels of debt and public expenditure. This behavioral pathway links individual-level information constraints to aggregate fiscal outcomes, and highlights a prominent example of the extent to which information frictions can distort the size and scope of government.

4 Conclusion

This paper provides new evidence that bounded rationality, driven by information costs and attention constraints, shapes both electoral outcomes and downstream fiscal policy. Using California's randomized ballot order across more than 23,000 local elections, we show that the position in which a candidate appears on the ballot has significant and predictable effects on vote shares. These effects are strongest when the cost of acquiring information is high and the perceived benefit is low, consistent with models of rational inattention.

Voters, however, do not rely on ballot position alone. We show that they compensate for limited information by stacking cognitive heuristics: relying on job titles, ascriptive identity, and socioeconomic cues embedded in names to infer candidate quality. These low-cost signals disproportionately benefit incumbents, candidates with task-relevant professional experience, and those who appear to be from underrepresented or lower-SES groups.

We then connect these behavioral responses to real policy consequences. Inattentive voter's heuristic rules elect more experienced candidates who restrain the growth of local government by reducing the number of new revenue and expenditure raising ballot referenda. This final result demonstrates that information frictions do not merely distort who wins, they shape the fiscal behavior of local governments. By mapping boundedly rational voting into aggregate public finance outcomes, we move the literature beyond documenting behavioral anomalies toward understanding how limited information environments shape policymaking.

These findings make three contributions. First, they provide large-scale experimental evidence that attention allocation and cognitive heuristics co-determine electoral outcomes in real-world, high-stakes settings. Second, they identify how candidate attributes interact with heuristic processing for voters who are constrained by limited information and attention. Third, they quantify a major example of how these behavioral distortions affect the size and scope of government at the local level, with substantial economic and political consquences.

Two main limitations merit discussion. While our setting offers unusually clean identification, it is focused on local, (ostensibly) nonpartisan races. Whether similar mechanisms operate in national elections or races with explicit partisan cues remains an open question. Moreover, our name-based inferences capture perceived rather than actual identity or candidate quality, though that distinction is arguably central to the behavior we study.

Future work could explore how institutional reform like per-ballot randomization or office consolidation might mitigate the distortive effects of heuristic voting. More broadly, this paper highlights a need for richer models of electoral behavior that incorporate limited attention, heuristic voting, and downstream policy effects into a unified framework. In settings where political institutions rely on cognitively constrained actors, identifying how voters navigate politics is essential for understanding collective decision-making and improving democratic institutions.

References

Ned Augenblick and Scott Nicholson. Ballot Position, Choice Fatigue, and Voter Behaviour. The Review of Economic Studies, 83(2):460–480, April 2016. ISSN 0034-6527. doi: 10.1093/restud/rdv047. URL https://doi.org/10.1093/restud/rdv047.

Barbara Biasi, Minseon Park, John Singleton, and Seth Zimmerman. Identity and Ideology in the Boardroom. 2025.

Christina Brown, Supreet Kaur, Geeta Kingdon, and Heather Schofield. Cognitive Endurance as Human Capital*. The Quarterly Journal of Economics, 140(2):943–1002, May 2025. ISSN 0033-5533. doi: 10.1093/qje/qjae043. URL https://doi.org/10.1093/qje/qjae043.

Matteo Cervellati, Giorgio Gulino, and Paolo Roberti. Random Votes to Parties and Policies in Coalition Governments. Econometrica, 92(5):1553–1588, 2024. ISSN 1468-0262. doi: 10.3982/ECTA20942. URL https://onlinelibrary.wiley.com/doi/abs/10.3982/ECTA20942. _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.3982/ECTA20942.

Thomas S. Dee. Technology and Voter Intent: Evidence from the California Recall Election. The Review of Economics and Statistics, 89(4):674–683, 2007. ISSN 0034-6535. URL https://www.jstor.org/stable/40043093. Publisher: The MIT Press.

Brett Fischer. No Spending without Representation: School Boards and the Racial Gap in Education Finance. American Economic Journal: Economic Policy, 15(2):198–235, May 2023. ISSN 1945-7731. doi: 10.1257/pol.20200475. URL https://www.aeaweb.org/articles?id=10.1257/pol.20200475.

Sean Freeder, Justin de Benedictis-Kessner, and Rachel Bernhard. Alphabet Soup: Ballot Order Randomization and Gender- and Ethnicity-Based Voter Biases. 2024.

Daniel E. Ho and Kosuke Imai. Estimating Causal Effects of Ballot Order from a Randomized Natural Experiment: The California Alphabet Lottery, 19782002. Public Opinion Quarterly, 72(2):216–240, January 2008. ISSN 0033-362X. doi: 10.1093/poq/nfn018. URL https://doi.org/10.1093/poq/nfn018.

Jonathan Gs Koppell and Jennifer A. Steen. The Effects of Ballot Position on Election Outcomes. The Journal of Politics, 66(1):267–281, 2004. ISSN 0022-3816. doi: 10.1046/j.1468-2508.2004.00151.x. URL https://www.jstor.org/stable/10.1046/j.1468-2508.2004.00151.x. Publisher: [The University of Chicago Press, Southern Political Science Association].

Filip Matjka and Guido Tabellini. Electoral Competition with Rationally Inattentive Voters. Journal of the European Economic Association, 19(3):1899–1935, June 2021. ISSN 1542-4766. doi: 10.1093/jeea/jvaa042. URL https://doi.org/10.1093/jeea/jvaa042.

Marc Meredith and Yuval Salant. On the Causes and Consequences of Ballot Order Effects. Political Behavior, 35(1):175–197, March 2013. ISSN 1573-6687. doi: 10.1007/s11109-011-9189-2. URL https://doi.org/10.1007/s11109-011-9189-2.

Ying Shi and John D. Singleton. School Boards and Education Production: Evidence from Randomized Ballot Order. American Economic Journal: Economic Policy, 15(1):438–472, February 2023. ISSN 1945-7731. doi: 10.1257/pol.20200435. URL https://www.aeaweb.org/articles?id=10.1257/pol.20200435.

Tables

Table 1: Estimated Effect of Ballot Position on Vote Share

	(1)	(2)	(3)	(4)	(5)	(6)
First Position	0.0152***	0.0153***	0.0152***	0.0136***	0.0135***	0.0136***
	(0.0012)	(0.0010)	(0.0011)	(0.0013)	(0.0011)	(0.0011)
Ballot Position				-0.0005***	-0.0004***	-0.0004***
				(0.0002)	(0.0002)	(0.0002)
Field Size FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	No	Yes	Yes
Contest FE	No	No	Yes	No	No	Yes
No. Candidates	≥2	≥2	≥2	≥3	≥3	≥3
Sample Size	85,335	82,895	82,895	68,461	68,461	66,452

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. First Position refers to an indicator for being listed first place on the ballot within a contest. Ballot Position refers to a linear variable for the precise ballot position a candidate was assigned. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table 2: Estimated Effect of Ballot Position on Vote Share

Characteristic	(1)	(2)	(3)	(4)
First Position	0.0100***	0.0140***	0.0112***	0.0131***
	(0.0034)	(0.0013)	(0.0031)	(0.0012)
Ballot Position	-0.0025	-0.0009***	-0.0021	-0.0009***
	(0.0021)	(0.0002)	(0.0019)	(0.0002)
Last Position	0.0011	0.0064***	-0.0001	0.0070***
	(0.0033)	(0.0013)	(0.0030)	(0.0012)
Field Size FE	Yes	Yes	Yes	Yes
Controls	No	No	Yes	Yes
No. Candidates	3 or 4	≥5	3 or 4	≥5
Sample Size	30,139	38,322	29,322	37,130

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. First Position refers to an indicator for being listed first place on the ballot within a contest. Ballot Position refers to a linear variable for the precise ballot position a candidate was assigned. Last Position refers to an indicator for being listed last place on the ballot within a contest. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table 3: Estimated Effect of Ballot Position on Vote Share by Level of Office

	(1)	(2)	(3)	(4)	(5)	(6)
Office-Level	County	City	Special	County	City	Special
First Position	0.0088***	0.0123***	0.0199***	0.0090***	0.0128***	0.0197***
	(0.0034)	(0.0018)	(0.0016)	(0.0030)	(0.0016)	(0.0014)
Field Size FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	Yes	Yes	Yes
No. Candidates	≥2	≥2	≥2	≥2	≥2	≥2
Sample Size	13,501	33,633	38,201	13,172	32,630	37,093

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. County refers to county-level offices, city refers to city-level offices, and special refers to special district offices below the city level. First Position refers to an indicator for being listed first place on the ballot within a contest. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table 4: Estimated Effect of Ballot Position on Vote Share by Google Search Intesity

	(1)	(2)
First Position	0.0244***	0.0244***
	(0.0026)	(0.0024)
1st x Google Trends	-0.0014***	-0.0013***
	(0.0004)	(0.0003)
Field Size FE	Yes	Yes
Controls	No	Yes
Google Trends Control	Yes	Yes
No. Candidates	≥2	≥2
Sample Size	85,335	82,895

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. County refers to county-level offices, city refers to city-level offices, and special refers to special district offices below the city level. First Position refers to an indicator for being listed first place on the ballot within a contest. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table 5: Estimated Effect of Ballot Position on Vote Share by Candidate Job Title

	(1)	(2)	(3)	(4)	(5)	(6)
Office	All	Educ	City	All	Educ	City
First Position	0.0088***	0.0169***	0.0103***	0.0086***	0.0162***	0.0101***
	(0.0012)	(0.0017)	(0.0017)	(0.0012)	(0.0015)	(0.0016)
1st x Incumbent	0.0197***			0.0216***		
	(0.0015)			(0.0015)		
1st x Educator		0.0134***			0.0145***	
		(0.0027)			(0.0026)	
1st x City Official			0.0179***			0.0183***
			(0.0035)			(0.0035)
Field Size FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	Yes	Yes	Yes
No. Candidates	≥2	≥2	≥2	≥2	≥2	≥2
Sample Size	85,335	82,895	38,465	29,090	37,354	28,226

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. Educ refers to contests for school board or superitendant and city refers to contest for city council. Educator refers to candidates who have ballot titles indicating work experience as an educator and city official refers to candidates whose ballot titles indicate that they have work experience in city government. First Position refers to an indicator for being listed first place on the ballot within a contest. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table 6: Estimated Effect of Ballot Position on Vote Share by Candidate Job Title

	(1)	(2)	(3)	(4)
Office	Educ	City	Educ	City
First Position	0.0149***	0.0089**	0.0138***	0.0093**
	(0.0047)	(0.0041)	(0.0045)	(0.0041)
1st x Educator	0.0169**		0.0232***	
	(0.0067)		(0.0069)	
1st x City Official		0.0246*		0.0322**
		(0.0141)		(0.0151)
Field Size FE	Yes	Yes	Yes	Yes
Controls	No	No	Yes	Yes
No. Candidates	≥2	≥2	≥2	≥2
Sample Size	38,465	29,090	37,354	28,226

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. Educ refers to contests for school board or superitendant and city refers to contest for city council. Educator refers to candidates who have ballot titles indicating work experience as an educator and city official refers to candidates whose ballot titles indicate that they have work experience in city government. First Position refers to an indicator for being listed first place on the ballot within a contest. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table 7: Estimated Effect of Ballot Position on Vote Share by Candidate Characteristics

	(1)	(2)	(3)	(4)
First Position	0.0316***	0.0668***	0.0280***	0.0496**
	(0.0072)	(0.0223)	(0.0066)	(0.0205)
1st x Income	-0.0014**		-0.0011**	
	(0.0006)		(0.0005)	
1st x Education		-0.0037**		-0.0025*
		(0.0016)		(0.0015)
Field Size FE	Yes	Yes	Yes	Yes
Controls	No	No	Yes	Yes
No. Candidates	≥2	≥2	≥2	≥2
Sample Size	85,335	85,335	82,895	82,895

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. Educ refers to contests for school board or superitendant and city refers to contest for city council. Educator refers to candidates who have ballot titles indicating work experience as an educator and city official refers to candidates whose ballot titles indicate that they have work experience in city government. First Position refers to an indicator for being listed first place on the ballot within a contest. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table 8: Estimated Effect of Ballot Position on Vote Share by Candidate Demographics

	(1)	(2)	(3)	(4)
First Position	0.0141***	0.0136***	0.0142***	0.0135***
	(0.0013)	(0.0013)	(0.0011)	(0.0012)
1st x Hispanic	0.0049**		0.0052**	
	(0.0022)		(0.0020)	
1st x Female		0.0049***		0.0051***
		(0.0018)		(0.0017)
Field Size FE	Yes	Yes	Yes	Yes
Controls	No	No	Yes	Yes
No. Candidates	≥2	≥2	≥2	≥2
Sample Size	85,335	85,335	82,895	82,895

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. Educ refers to contests for school board or superitendant and city refers to contest for city council. Educator refers to candidates who have ballot titles indicating work experience as an educator and city official refers to candidates whose ballot titles indicate that they have work experience in city government. First Position refers to an indicator for being listed first place on the ballot within a contest. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table 9: Effect of Having an Incumbent First on the Ballot on Subsequent Policy

Measure	(1) All Prop	(2) Tax Prop	(3) Bond Prop	(4) All Pass	(5) Tax Pass	(6) Bond Pass
Incumbent First	-0.0467**	-0.0263	-0.0204*	-0.0285*	-0.0093	-0.0192**
	(0.0212)	(0.0169)	(0.0108)	(0.0160)	(0.0125)	(0.0086)
Field Size FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	No	Yes	Yes
Contest FE	No	No	Yes	No	No	Yes
No. Candidates	≥2	≥2	≥2	≥2	≥2	≥2
Sample Size	85,335	82,895	82,895	85,335	82,895	82,895

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. First Position refers to an indicator for being listed first place on the ballot within a contest. Ballot Position refers to a linear variable for the precise ballot position a candidate was assigned. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Online Appendices

A Balance Tests

Table A.1: Association between Candidate Characteristics and First Position

Characteristic	(1)
Incumbent	0.0024
	(0.0039)
Education Index	-0.0013
	(0.0040)
Income Index	-0.0040
	(0.0113)
White	0.0025
	(0.0033)
Hispanic	-0.0025
	(0.0029)
Asian	-0.0017
	(0.0014)
Black	-0.0003
	(0.0007)
Sample Size	85,335

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses.

Table A.2: Association between Candidate Characteristics and First Position

Characteristic	(1)
Businessperson	-0.0006
	(0.0029)
Law, Justice	0.0040**
	(0.0019)
Educator	-0.0021
	(0.0028)
Health Worker	0.0001
	(0.0009)
Finance, Accounting	0.0005
	(0.0013)
Farmer, Rancher	0.0006
	(0.0011)
Retired	-0.0017
	(0.0023)
Engineer	-0.0004
	(0.0011)
City Official	-0.0035*
	(0.0020)
Parent	-0.0024
	(0.0017)
Sample Size	85,335

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses.

Table A.3: Association between Candidate Characteristics and Ballot Position

Characteristic	(1)
Incumbent	-0.0008
	(0.0008)
Education Index	0.0010
	(0.0010)
Income Index	0.0022
	(0.0029)
White	0.0003
	(0.0008)
Hispanic	-0.0004
	(0.0007)
Asian	0.0001
	(0.0004)
Black	0.0002
	(0.0002)
Sample Size	85,335

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity-robust standard errors clustered by contest.

Table A.4: Association between Candidate Characteristics and Ballot Position

Characteristic	(1)
Businessperson	-0.0005
	(0.0008)
Law, Justice	-0.0006
	(0.0006)
Educator	-0.0007
	(0.0007)
Health Worker	-0.0002
	(0.0002)
Finance, Accounting	-0.0003
	(0.0003)
Farmer, Rancher	0.0002
	(0.0002)
Retired	-0.0003
	(0.0006)
Engineer	-0.0001
	(0.0003)
City Official	0.0003
	(0.0005)
Parent	0.0004
	(0.0004)
Sample Size	85,335

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity-robust standard errors clustered by contest.

B Extensions and Robustness

Table B.1: Estimated Effect of Ballot Position on Vote Share by Type of Office

	(1)	(2)
First Position	-0.0017	-0.0008
	(0.0074)	(0.0062)
1st x City Council	0.0146*	0.0138**
	(0.0075)	(0.0064)
1st x Law/Justice	0.0006	-0.0003
	(0.0100)	(0.0089)
1st x Public Admin	0.0218	0.0245
	(0.0195)	(0.0172)
1st x Public Finance	0.0425***	0.0412***
	(0.0138)	(0.0122)
1st x School Board	0.0213***	0.0202***
	(0.0075)	(0.0064)
1st x Superintendant	0.0501**	0.0409**
	(0.0215)	(0.0196)
1st x Services/Planning	0.0102	0.0101
	(0.0084)	(0.0074)
1st x County Supervisor	0.0133	0.0130*
	(0.0088)	(0.0076)
1st x Advisory	0.0170	0.0152
	(0.0126)	(0.0117)
Field Size FE	Yes	Yes
Controls	No	Yes
Office FE	Yes	Yes
No. Candidates	≥2	≥2
Sample Size	85,335	82,895

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. First Position refers to an indicator for being listed first place on the ballot within a contest. The omitted group in the interaction term is mayor's contests, meaning that the coefficient on first position recovers the effect for mayors contests specifically. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.

Table B.2: Estimated Effect of Ballot Position on Vote Share by Candidate Job Title

	(1)	(2)	(3)	(4)	(5)	(6)
First Position	0.0169***	0.0164***	0.0157***	0.0167***	0.0164***	0.0158***
	(0.0012)	(0.0012)	(0.0012)	(0.0011)	(0.0011)	(0.0011)
1st x Business	-0.0106***			-0.0089***		
	(0.0022)			(0.0021)		
1st x Law/Justice		-0.0125***			-0.0110***	
		(0.0035)			(0.0034)	
1st x Retired			-0.0067**			-0.0053*
			(0.0028)			(0.0027)
Field Size FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	Yes	Yes	Yes
No. Candidates	$\geq$2	$\geq$2	$\geq$2	$\geq$2	$\geq$2	$\geq$2
Sample Size	85,335	85,335	85,335	82,895	82,895	82,895

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Heteroskedasticity robust standard errors clustered on contest in parentheses. First Position refers to an indicator for being listed first place on the ballot within a contest. Field Size FE refers to fixed effects for the number of candidates running within a contest. Controls refer to controls for candidate characteristics like an index of inferred education and income, race, and job titles as well as a set of controls for contest characteristics like type of office, county, and election date. Sample sizes shrink slightly in specifications that include individual-level controls because these variables are not available for all candidates.