# Median Voters in the Metaverse

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**Abstract**

Digital communication technologies such as ad targeting allow candidates to tailor campaign messages. This paper explores the contrast between how candidates appeal to their traditional audience of local voters and the more ideologically-extreme national donors they can reach with targeted digital ads. Using data on geographically-targeted Facebook ads, I find that candidates' local ads exhibit more overlap and sound more similar across party than do their national ads. Digitization has facilitated communication with distant, polarized audiences, which has created the incentive and ability for candidates to communicate messages that are both distinct from their local messages and more distinct from the opposing party's.

Keywords: candidate positioning, political contributions, polarization, digitization

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# 1 Introduction

> "As a single mom, Katie Porter sticks to a budget–and she thinks Congress should too. That's why she stood up to her party and voted against wasteful spending." - Katie Porter for Congress, local ad (See panel A of Figure 2)

> "I'm Katie Porter. If you don't know me, first and foremost I'm a single parent of three school aged kids. I understand firsthand the challenges families face. Second, I'm a progressive member of Congress. And I don't put up with BS from Wall Street, Big Oil, and Big Pharma executives. I'm fighting for affordable child care, climate action, cheaper health care, and an economy that works for working people..." - Katie Porter for Congress, national ad (See panel B of Figure 2)

Digital technologies like donation platforms and targeted ads have diminished the role of geography in politics, making it easier for individuals to contribute to faraway candidates and for candidates to communicate with non-local audiences. While only a candidate's district's residents are eligible to vote in House elections, there are no place-based restrictions on giving. Relative to congressional districts' median voters, donors tend to be more ideologically extreme (Bafumi and Herron, 2010; Canes-Wrone and Miller, 2022). Candidates face a tension to appeal to ideologically-distinct voters and donors. Yet, traditional campaign communication technologies, like the 30-second television ad, have made communicating to non-voting constituencies moot. Between 2012 and 2018, while 1,971 House candidate campaigns ran a television ad, only 11 ran an ad targeted to an out-of-state, non-overlapping DMA, despite evidence that television advertising can boost campaign contributions enough to cover costs (Urban and Niebler, 2014).[1] Online advertising substantially reduces the cost of targeting (Goldfarb, 2014), offering candidates the possibility of speaking directly to donors and voters in parallel.

In this paper, I study whether candidates emphasize different policy issues and/or use different language when addressing voters versus donors. Anecdotes like the one at the start of the article suggest that candidates may portray themselves differently depending on their audience. A systematic answer to the question requires observing candidate rhetoric explicitly targeted to voters and to donors for many candidates.

Candidate Facebook advertisements provide a suitable testing ground. Candidates can geographically target their Facebook advertisements, and I observe the distribution of state-level impressions for each ad. I infer ads with predominately out-of-state impressions to have been meant for donor audiences because only a candidate's district residents are eligible to vote for them. I refer to these

[1] The number of candidates who ran out of state commercials come from the author's calculations using the Wesleyan Media Project Data.

as nationally-targeted or donor-targeted messages. Indeed, ads with at least 50% out-of-state impressions are over twice as likely to include a donation ask than ads with fewer than 50% out-of-state impressions (14.2% versus 6.3%). In 2022, 520 House candidates ran at least one advertisement on Facebook. The ads range from being targeted entirely within-state to entirely targeted out-of-state. Around 220 candidates target some ads to predominantly out-of-state audiences and some ads to predominantly in-state audiences (above and below 50% within-state impressions).

To understand whether candidates alter their message content depending on their audience, I classify candidates' ads based on the issues they mention. As there are potentially many issues in the universe of candidate platforms, I focus on the seven salient 2022 political issues according to Wesleyan Media Project.[2] These issues include abortion, energy/environment, guns, health care, immigration, inflation, and public safety. While candidates can take different stances about an issue (e.g. pro-choice versus pro-life stances regarding the issue of abortion), I deem candidates mentioning an issue as an acknowledgement of that issue's importance (Petrocik, 1996).

Classifying whether an ad mentions an issue requires knowing which words candidates use to talk about these various issues. To this end, I manually collect all 2022 House candidates' political platforms from their campaign websites. Campaign websites are uniquely suited to study candidate platforms. Websites contain more information than candidates' advertisements, for example, and showcase the campaign in the candidate's "own words", as opposed to media reporting on campaigns (Druckman et al., 2009). The majority of candidates organize their website platforms into issue subsections. I collect candidates' political platforms separately by issue. Using these candidate-by-issue-specific texts, I calculate the most commonly used phrases candidates from both parties use when discussing each issue. I classify ads as mentioning an issue if the ad text includes one of the commonly used phrases same-party candidates use when discussing the issue on their website.

The data allow for within-candidate, across-audience comparisons of message content with which I ask three specific questions. First, do candidates highlight different political issues depending on their audience? Second, do candidates "sound" more moderate locally? And third, do district rival candidates strike more issue overlap in their voter-targeted relative to their donor-targeted messaging? I find that Democrats are more likely to mention inflation and less likely to mention abortion locally compared to nationally, while Republicans are less likely to mention immigration locally. Moreover, candidates from both parties use less partisan language in their locally-targeted ads. Finally, I find that district rival candidates have twice as much voter-targeted—relative to

[2]https://mediaproject.wesleyan.edu/issues-nov22/

donor-targeted—platform overlap.

This paper relates to research that explores the trade off candidates face when appealing to ideologically distinct voters and donors. Previous research suggests that donors' ideologically extreme preferences may lead candidates to adopt more extreme positions in order to attract donations (Bafumi and Herron, 2010; Barber, 2016; Canes-Wrone and Miller, 2022; Waldfogel, 2023). These papers have in common that candidate ideology — however it is measured — responds to donor preferences or exposure to fundraising. This paper explores a complementary approach to answering the question by measuring how candidates curate political platforms that depend on the target audience. In that sense, it is similar to work that contrasts how candidates portray themselves in primary versus general elections (Acree et al., 2020; Di Tella et al., 2023).

This paper also speaks to the role of digital technologies in political campaigns. Much campaign activity has shifted to online, taking advantage of big data, real-time analytics, and the potential to reach large audiences (Howard, 2006; Kreiss, 2012; Bimber and Davis, 2003).[3] Digital technologies have broadened the set of candidates who advertise (Fowler et al., 2021), helped challengers boost fundraising (Petrova et al., 2021), and lead candidates to mention a broader set of issues (Hillygus and Shields, 2008). Two recent papers that use Facebook's political ad library data show that candidates use Facebook's demographic ad targeting capabilities to advertise audience-relevant messages (Fowler et al., 2021) and donor-targeted Facebook ads are more likely to use toxic and negative language (Kim and Brew, 2023). While the former paper explores how candidate issue mentions differ depending on target audience, it does not explore how message content differs between donors and voters, in part because candidates rarely used Facebook to advertise to donors during their sample period of study (Fowler et al., 2021).[4] While the second paper compares candidate messages between voters and donors, it does not explore the *issue* content of those ads, central to this study's analysis.

The current study explores the implications of a digital technology that makes it possible for candidates to a) reach faraway potential donors at scale and b) choose issue content to deliver specifically to them. The findings here show that ad targeting enables candidates to emphasize different parts of their platform to voters and to donors in parallel, allowing candidates to respond

[3]For example, online donation platforms like ActBlue have made it easy for individuals to donate to faraway political candidates, in part replacing traditional in-person fundraising events (Pildes, 2019; Waldfogel, 2023; Bouton et al., 2021). From an ActBlue blog post in 2007: "With a Presidential contest that could exceed $1 billon, we're aware that online donations scale more easily than whipping up a couple thousand more plates of roast beef!" https://blog.actblue.com/2007/03/12/actblue_in_the_/

[4]From Fowler et al. (2021): "Although some candidates are certainly using Facebook to appeal for donations from out of state residents, it appears that such candidates are a relatively small minority (page 139)."

at scale to the strategic tension between appealing to a moderate median voter and ideologically extreme donor.[5]

## 2 Data

Answering the main research question requires observing candidate messages, their targeted audience, and the issues they mention. Candidate ads and their targeting come from Facebook's Political Ad Library. I collect candidate platforms from campaign websites.

### 2.1 Ads from Facebook

I collect the Facebook advertisements of all general election main-party 2022 House candidates who ran Facebook ads during 2022. I observe the ad copy of every ad as well as the date range it ran, the geographic distribution of impressions, and the estimated amount the candidate spent on the ad.

Over half (520) of the general election House candidates (851) spent a non-zero amount on Facebook advertisements in 2022. Candidates in competitive districts are more likely to advertise on Facebook. 84% of candidates running in districts decided by less than a 10 percentage point vote share difference advertised on Facebook, compared to 56% of candidates in more electorally lopsided districts. Conditional on spending anything on Facebook ads, the median candidate spent around $\$15,631$ on ads in 2022.

The median candidate ran 11 unique Facebook ads, and 94% of impressions on the median candidate's median ad were within state. The median masks significant targeting heterogeneity—both across and within-candidates. The distribution of ads' within-state impression percentages is shown in Figure 1. Around 220 candidates run at least one ad above and below the 50% home state percentage threshold, and around 190 candidates have at least one ad that contains the word "donate," (asking the viewer to contribute to their campaign). The median ad with a vote call-to-action has 88% within-state impressions, while the median ad with a donate call-to-action has 40% within-state impressions. These data patterns suggest an ad's geographic targeting is related to its intended audience (of donors versus voters), a crucial premise underlying the analysis.

[5] If candidates have always engaged in this strategic platform framing to donors and voters, at the very least, these digital ad data allow us to observe the behavior at scale and study it. See Hillygus and Shields (2008) for examples of presidential candidates like Truman in 1948 and Dukakis in 1988 tailoring their voter messaging depending on their audience.

## 2.2 Candidate Websites

In addition to observing candidate ads and their targeting, answering the research questions requires a way to classify which political issues are mentioned in each ad. To observe the words candidates use when they talk about various issues, I manually collect policy platforms from candidates' websites. About three-fourths of members of Congress state their political stances on their campaign websites (often on a tab on their website titled "Issues" or "Priorities"). Candidates with websites are broadly representative of candidates who run for election (Meisels, 2023). I find candidate campaign websites by searching for their name and "campaign." I collect each candidate's campaign website from the Wayback Machine using the capture closest to November $8^{th}$, 2022, the date of the general election.

Figure 3 shows two examples of such website pages. These examples are representative in that the vast majority of candidates organize their website platform by issue category. For example, as shown in in Panel A of Figure 3, Julia Letlow (Louisiana, district 5) organizes her issues into various sections: 100% Pro-Life; Putting LA-05 Back to Work; Protecting the 2nd Amendment; Supporting Farmers, Loggers, and Ranchers; etc.[6] Panel B of Figure 3 shows the website of Jerry Nadler (New York, district 12).[7] The union of just these two candidates' stated issues contains twenty six issues. The union of all candidates' issues is both large and sparse. To simplify the set of candidate issues, I focus my attention on the seven political issues deemed salient by Wesleyan Media Project for 2022.[8] See the Appendix for details about characterizing candidate stated issues into the seven issue categories.

## 2.3 Classifying Candidate Ads

Using the website texts, I calculate the phrases that candidates most frequently use when referring to each issue. Tables 1 and 2 show the most popular phrases (bigrams) Democrat and Republicans candidates use when referring to these seven issues. For example, when talking about abortion, Democrat candidates tend to say "reproductive rights" and "pro choice," while Republican candidates tend to say "pro life" and "human life." When discussing guns, Democrats say "gun violence" and

[6] Julia's full set of issues include the aforementioned as well as: Standing up for Oil and Gas; Supporting Our Veterans, Service Members, Law Enforcement, & First Responders; Rebuilding Our Infrastructure; Supporting Education; Protecting Election Integrity; Protecting the $1^{st}$ Amendment; Focus on Rural Development; Supporting Our Seniors; and Support Our Teachers & Public Employees.

[7] The full set of Jerry's issues include: Defending our Democracy; Delivering for New Yorkers; Disability Rights; Women's Rights; LGBTQIA+ Rights; Healthcare; Safeguarding the Environment; 9/11 Survivors; Immigration; Israel; Restoring Balance to the Supreme Court; Legalizing Marijuana; Limiting Corporate Power; Protecting Reproductive Rights; Racial Justice; and Reforming America's Gun Laws.

[8] See https://mediaproject.wesleyan.edu/issues-oct22/

"background checks," while Republicans say "2nd amendment" and "national rifle association." Note that these issues have very few—if any—bigrams in common across party. In contrast, parties use many of the same bigrams when discussing health care and public safety.

I use these word pairs to classify candidate ads by the issues they mention. A candidate mentions an issue in her ad if her ad contains a bigram associated with that issue. For example, if an ad mentions "gun control", "mass shooting," or "second amendment," I code the ad as mentioning the issue guns. A candidate mentions an issue if at least one of her ads does. Figure 4 shows the number of candidates from each party that mention each issue. Immigration, inflation, and public safety were predominantly mentioned by Republican candidates, while abortion and healthcare were mentioned mostly by Democrats. Energy/environment and guns were mentioned approximately equally across parties.

# 3 Empirical Specification

## 3.1 Donor- Versus Voter- Targeted Messages

With data on candidate messages and the ability to observe their issue content, I turn to the analysis. In the contest for votes, Democrat and Republican district rival candidates compete over the same pool of constituents. Candidates from both parties must appeal to their districts' median voter. In the contest for donations, candidates must appeal to their party's donorate, an ideologically-extreme subset of their party (Canes-Wrone and Miller, 2022; Waldfogel, 2023). Because their electorate and donorate are ideologically distinct, candidates may wish to emphasize different aspects of their political platform depending on the message's intended audience.

To explore candidate message targeting systematically, I turn to regression. The empirical strategy relies on within-candidate variation in the tendency to mention an issue as a function of the ad's home state impressions. The sample includes the 188 Democrats and 218 Republicans who ran at least two ads. I run regressions of the form:

$$\text{Mention}_{iac} = \sum_i \sum_c \gamma^0_{ic} + \sum_i \gamma^1_i \times \text{Home state percentage}_{ac} + \mu_{ic} + \epsilon_{iac} \tag{1}$$

where $\text{Mention}_{iac}$ is an indicator variable equal to one if candidate $c$ mentions issue $i$ in ad $a$ (i.e. uses any of the bigrams associated with the issue). $\text{Home state percentage}_{ac}$ is the proportion of ad $a$'s impressions that were within-state. I include issue-by-candidate fixed effects, $\mu_{ic}$. The $\gamma^1$

coefficients capture whether candidates are more likely to mention issues locally. I run the regressions separately by party and cluster standard errors at the candidate level.

Table 3 presents the results for Democrat candidates. Column (1), which includes issue fixed effects (rather than issue-by-candidate), shows that voter-targeted Democrat candidate messages are more likely to mention inflation relative to donor-targeted messages, which are more likely to mention energy/environment and abortion. The results in Column (1) could arise if candidates' advertising geography targeting is correlated with their political platform, for example, if candidates whose platform emphasizes inflation *tend* to advertise locally while those whose platform emphasizes climate change (energy/environment) *tend* to advertise nationally. Column (2) includes candidate-by-issue fixed effects, limiting identifying variation to within-candidate and ruling out the preceding confound. While the standard errors tend increase, the coefficients are qualitatively similar. Results from this specification indicate that Democrat candidates are more likely to mention inflation locally and less likely to mention abortion.

Parallel results for Republican candidates are presented in Table 4. Column (1) shows that voter-targeted Republican candidate messages are more likely to mention inflation and healthcare relative to donor-targeted messages, which are more likely to mention immigration. Results in Column (2), which include candidate-by-issue fixed effects, show that the average Republican candidate is less likely to mention immigration locally. These within-candidate results indicate sophisticated message targeting by the candidate.

Figure 6 shows how each party's platform changes depending on the targeted audience. Immigration plays a smaller role in Republicans' local platforms compared to their national platforms; their local platform becomes more aligned with that of Democrat's who rarely mention immigration. Democrats mention inflation more and abortion less locally, resulting in a local platform that is more similar to that of Republicans who often mention inflation and rarely mention abortion.

Recall Tables 1 and 2, which show that Republicans and Democrats tend to use similar language when discussing public safety, healthcare, and inflation, and more distinct language regarding the remaining four issues. The issues that candidates discuss more (or less) locally are also the ones with more (or less) commonly used language across parties, suggesting candidates mention more issues in common locally *and* sound more similar doing so.

### 3.2 Partisan Lean of Messages

The preceding section shows that candidates highlight different issues depending on their intended audience. Democrats discuss inflation instead of abortion locally, relative to nationally, while Republicans are less likely to mention immigration locally.

A related, but different question, is: what is the partisan lean of the candidate's message? Relative to the preceding analysis which asked *whether* a candidate mentioned a bigram, the following analysis explores *which* kinds of words the candidate uses. The distinction is made clear in the following example. In the preceding analysis, a candidate who mentions either "criminal justice reform" or "violent crime" is characterized as mentioning the same issue of public safety. But one might think these phrases are associated with different partisan stances on the issue. In this section, I explore whether candidates *sound* more conservative (liberal) in their locally-targeted messaging.

I calculate candidate-by-targeted geography political positions using an unsupervised text scaling procedure called *Wordfish* (Slapin and Proksch, 2008). Developed and used by political scientists, *Wordfish* recovers unidimensional, document-specific latent political positions based on word frequencies. The key assumption underlying the method is that document text contain language useful in discriminating between a conservative and liberal dimension (Slapin and Proksch, 2008; Grimmer and Stewart, 2013), which I validate. The algorithm sorts documents in one dimension based on word usage similarity. In particular, *Wordfish* assumes that document word frequencies are drawn from a Poisson distribution with an expectation that depends on word-specific ability to sort documents ($\beta_j$) and document-specific latent position ($\omega_{cg}$). In addition, the Poisson rate includes controls for the overall tendency for candidates to use a particular word ($\psi_j$) as well as controls for each document's wordiness ($\alpha_{cg}$).

$$\lambda_{jcg} \sim \text{Poisson}(\lambda_{jcg}) \text{ where} \tag{2}$$

$$\lambda_{jcg} = \exp(\alpha_{cg} + \psi_{cg} + \beta_j \omega_{cg}) \tag{3}$$

Estimation follows via expectation maximization (EM) because the likelihood contains an unobservable variable — latent document positions. The two-step EM algorithm iterates between fixing word-specific ($\psi$ and $\beta$) parameters and maximizing a likelihood to estimate candidate-by-document-specific parameters ($\alpha$ and $\omega$), and fixing $\alpha$ and $\omega$ to estimate $\psi$ and $\beta$, until a convergence

criterion is met.[9]

To highlight the intuition, consider the following example. Suppose candidates use only three words in their ads: "illegal", "reproductive", and "communities." Suppose further that only Republican candidates use "illegal", only Democrats "reproductive", while members of both parties use "communities." With all word weights initialized to zero, there is no way for the algorithm to match the fact that different documents use these phrases at different rates. Now, suppose the weight on "illegal" begins at a positive value. Then, for the likelihood to reflect that some documents mention "illegal" more than others, those documents need to receive a positive latent position, $\omega$. With $\beta$ and $\omega$ both positive, the Poisson rate, $\lambda$, that those documents use "illegal" is higher than for other documents. Documents without "illegal" receive non-positive $\omega$s to account for the word's absence. "Reproductive" receives a negative weight: The likelihood reflects negative $\omega$ documents' higher usage tendencies. Holding document positions fixed, "communities" receives a weight of zero: It does not help discriminate between documents across the $\omega$ spectrum.

Before recovering each document's latent position, I clean the text in a four steps. First, I remove words related to the ad's call to action (e.g. "contribute", "donate", "grassroots", "re-elect", "ballot") to avoid identifying a geographic targeting dimension.[10] Second, I stem words so they are represented by their root (e.g."immigrant", "immigrants", and "immigration" become "immigrant"). Third, I replace commonly-used bigrams — as flagged by Tables 1 and 2 — with their concatenated version (e.g. "reproductive rights" becomes "reproductive_rights") so that *Wordfish* considers the word *pair* — rather than the individual words — as informative about partisan lean. Finally, I keep words/phrases that are used by at least ten candidates, eliminating most proper nouns like "Virginia" and "Josh." I manually remove any remaining state names.

Figure 7 displays the ten most conservative and ten most liberal phrases. The ten most liberal phrases include "Roe v Wade" and "reproductive rights," while the ten most conservative include "border" and "reckless spending." The procedure correctly identifies and groups phrases we consider conservative (liberal) together, indicating that Facebook ads seem to contain left-right ideological information. Candidates' national and local political positions, $\omega_{cg}$, are plotted in Figure 8. The dotted lines trace out candidate positions implied by locally-targeted ads; the solid lines, nationally-targeted ads. The national Republican distribution is to the right of the local Republican distri-

[9] Updated estimates for $\alpha$ and $\omega$ come from maximizing $\sum_{j=1}^{m}(-\lambda_{jcg} + \ln(\lambda_{jcg}) \times y_{jcg})$ where $\lambda_{jcg} = exp(\alpha_{cg} + \psi_j^{\text{start}} + \beta_j^{\text{start}} \times \omega_{cg})$. Updated estimates for $\psi$ and $\beta$ come from maximizing $\sum_{cg=1}^{n}(-\lambda_{jcg} + \ln(\lambda_{jcg}) \times y_{jcg})$ where $\lambda_{jcg} = exp(\alpha_{cg}^{\text{previous step}} + \psi_j + \beta_j \times \omega_{cg}^{\text{previous step}})$. The algorithm converges when changes in the log likelihood, $\sum_{j}^{m}\sum_{cg=1}^{n}(\lambda_{jcg} + \ln(\lambda_{jcg}) \times y_{jcg})$, fall below some threshold.

[10] See appendix for additional details about this step.

bution meaning Republican candidates use more conservative language in their nationally-targeted ads. Democrat candidates use more liberal language in their national ads. Candidates from both parties appear to use less partisan language in their local ads.[11]

I explore the relationship between a candidate's locally-targeted message partisanship and nationally-targeted message partisanship with the following regression:

$$\text{Platform ideology}_{gc} = \gamma \text{Local}_g + \mu_c + \epsilon_{gc} \tag{4}$$

where the dependent variable is the conservatism of candidate $c$'s platform that is targeted to geography $g$. Local is an indicator if the platform is locally-targeted, and $\mu_c$ are candidate fixed effects. $\gamma$ indicates whether and to what extent candidates moderate in their locally-targeted ads.

Results are shown in Table 5. Column (1) shows the specification without fixed effects. The coefficients indicate that Democrat candidates, in their nationally-targeted ads, have the most liberal positions, on average, followed by Democrat candidates in locally-targeted ads. The difference of average ideological positions follows the same pattern for Republican candidates. With the inclusion of candidate fixed effects in Column (2), the coefficients indicate the average *within* candidate change in political persona depending on their audience. The point estimates imply that candidates use around 33% more partisan language when talking to donors than to voters (Dem: 40% and Rep: 26%). The ideological distance between Republican and Democrat messages targeting donors ($\approx 2$) is 33% larger (more partisan) relative to the distance between parties targeting voters ($\approx 1.5$).

### 3.3 Candidate Dialogue

Finally, I explore whether district rival candidates have more dialogue locally versus nationally. I create measures of district rival candidate local and national platform differences, which capture the difference in candidates' campaign priorities. This measure is similar to the congruence measure used in Kaplan et al. (2006) who study whether district rival candidates strike more issue overlap if they run in a competitive district. The *overlap* between rival candidates $c$ in running in district $d$ in ads targeted to geography $g \in \{\text{local}, \text{national}\}$ is given by:

$$\text{Overlap}_{dg} = 1 - \left( \sum_i |P_{i(g),c(d)} - P_{i(g),-c(d)}|/2 \right) \tag{5}$$

[11] Recall that words members of both parties tend to use locally are removed. As such, these results are *not* driven by candidates from both parties urging local ad viewers to "vote" or return their "ballot."

where $P_{i,c(d)}$ is the proportion of candidate $c$'s (running in district $d$) ads (targeted to geography $g$) that mention issue $i$, and $P_{i,-c(d)}$ is the same quantity for her rival.[12] I construct two measures of a district's candidates' platform difference: one for local and one for national. I consider ads local if at least 80% of impressions are within-state and show robustness to this cutoff choice.

As an example, suppose a candidate mentions abortion in three of her and inflation in six, so abortion comprises one-third of her local platform. If her rival candidate's local platform is one-fourth abortion, then their local platform difference measure regarding abortion is one-twelfth. I sum over all seven issues to create an ad targeting geography specific measure. District rival platforms have a overlap of one if they devote identical proportions of their platforms to each issue. Smaller values of overlap indicate means more distinct platforms between candidates; a value of zero means candidates share no issues in common.

The average campaign-level local overlap is 0.21, lower than both the Presidential campaign overlap found in Sigelman and Buell (2004) and Senate campaign overlap found in Kaplan et al. (2006), but higher than the average campaign-level national overlap of 0.09 that I find. To understand how candidate platform similarity depends on target audience, I run the following regression:

$$\text{Overlap}_{dg} = \alpha_1 \text{Local} + \mu_d + \epsilon_{dg} \tag{6}$$

where Local is an indicator for whether the ads were targeted locally and $\mu_d$ are district fixed effects. Standard errors are clustered at the district level. Table 6 presents the results: The point estimate implies that rival candidates' local platforms are 16 p.p. more congruent than their national platforms. Figure 9 shows that this result is robust to a variety of local ad cutoffs. This effect is large: local platforms are over twice as congruent as national platforms. Kaplan et al. (2006) finds that highly competitive elections have 15 p.p. higher congruence than non-competitive elections. Thus, the difference in rival candidates' messages to donors relative to voters is equivalent to the difference in rival candidates' messages in uncompetitive relative competitive districts.

## 4 Conclusion

This paper provides systematic evidence that candidates emphasize different issues to their electorate and donorate, highlighting candidates' strategic behavior facilitated by ad targeting. I find that

[12] The numerator of this quantity is the number of locally-targeted ads that mention issue $i$; the denominator is the total number of locally-targeted ads that mention any issue.

candidates tailor their political persona to match their audience's preferences. Democrat candidates are more likely to mention inflation and less likely to mention abortion locally, while Republicans are less likely to mention immigration. Additionally, candidates use more partisan language in their national ads rather than their local ads. Rival candidates strike more issue overlap when addressing voters, and the effects are sizable. The difference in rival candidate national versus local platform congruence is approximately that of rival candidates in uncompetitive districts relative to rival candidates in competitive districts. Results from this study suggest that the incentive to appeal to national audiences have contributed to more polarized messaging across parties and that ad targeting capabilities have facilitated these diverging messages to faraway potential donors.

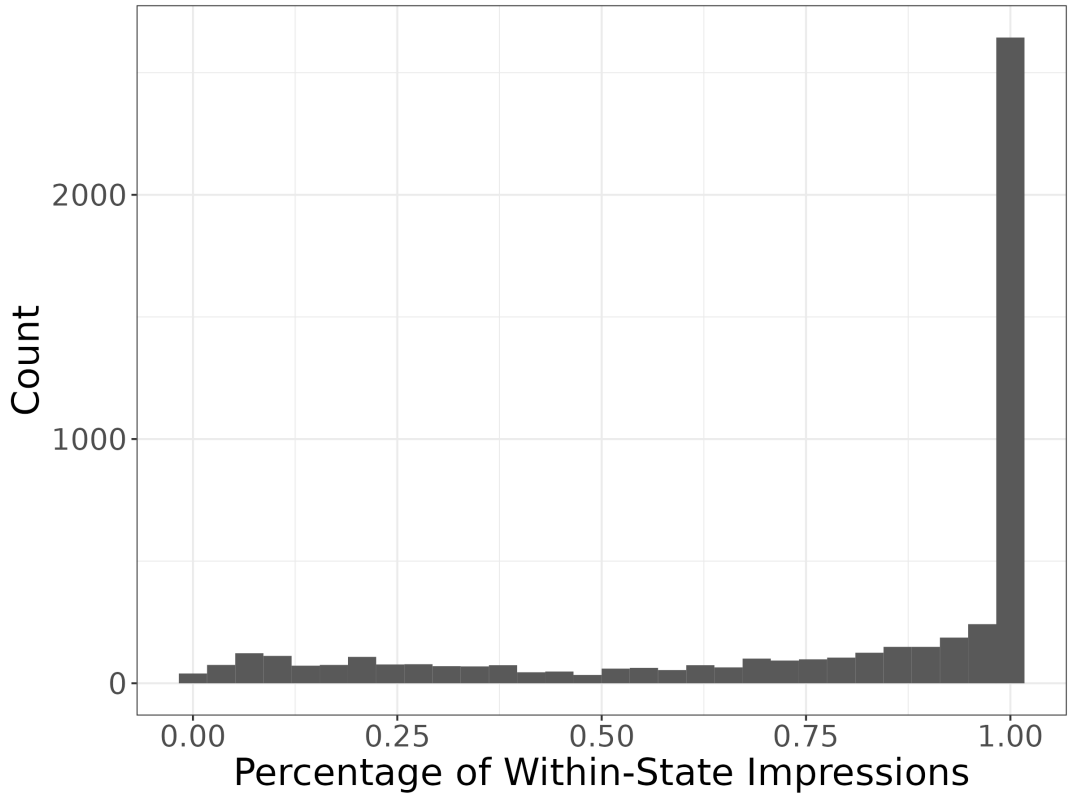



Figure 1: Ad-level distribution of within-state impressions

## 5 Characterizing Candidate Website Issues

Candidates refer to the same issue in different ways. Here, I list a sample of the issue headers I classify into each of the seven issues.

1. **Abortion**: "Protect the Right to Life", "Pro-Life", "Defending Life", "Right to Life", "Protecting the Right to Choose", "Fighting for the Sanctity of Life", "Protecting Family", "Women's Health and Freedom", "Safeguarding Reproductive Rights", "Defending the Unborn", "Choice & Women's Health", "STAND UP FOR OUR PRO-LIFE VALUES", etc.

2. **Energy/Environment**: "Energy & Environment", "Global Warming and Climate Change", "Protect Our Climate", "Combating the Climate Crisis", "A Green New Deal", "Unleashing American Energy", "Moving Toward Energy Independence", "Protecting the Environment", "Restore America's Energy Independence", "Energy Policy and the Climate Crisis", "Domestic Energy Policy", "Fire Protection", "Water", etc.

3. **Guns**: "Conservative Alabama Values", "Gun Violence", "THE SECOND AMENDMENT",

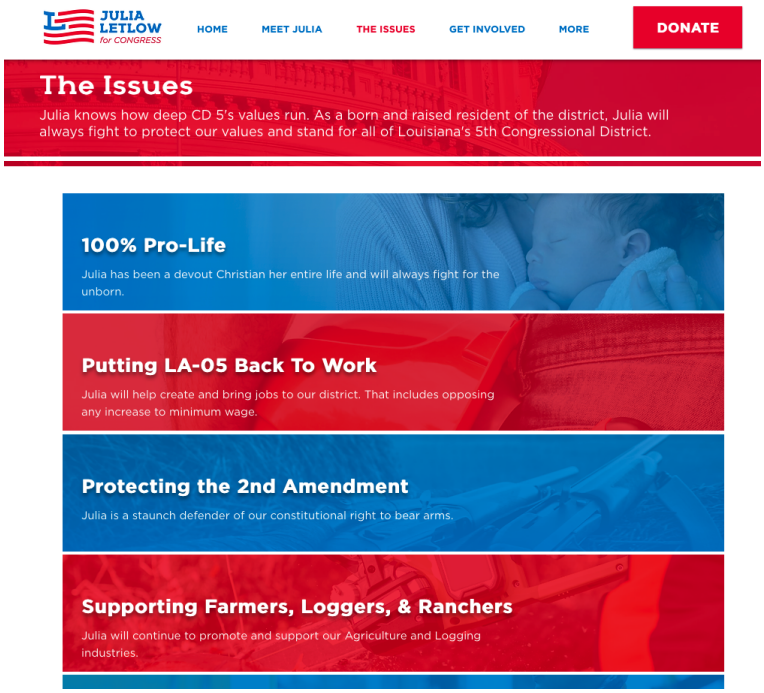



(a) Katie Porter California-targeted ad

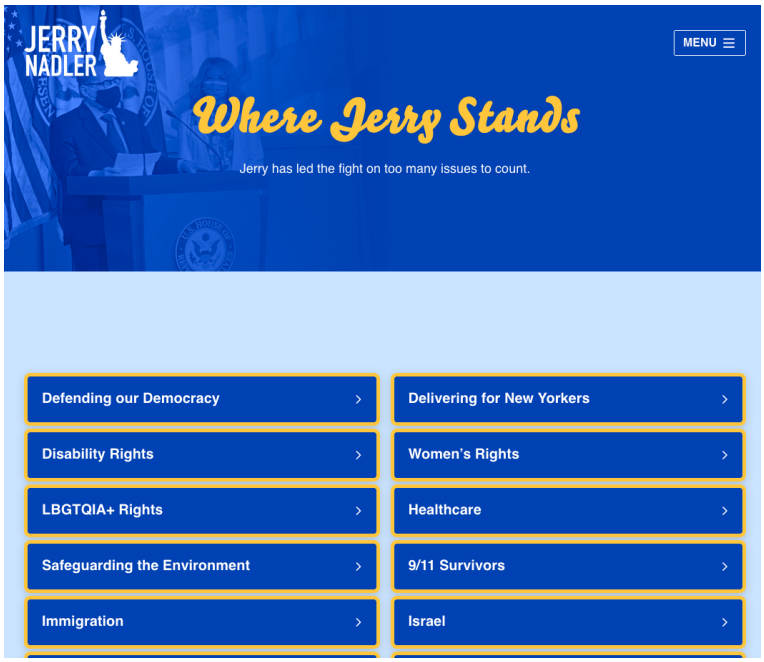



(b) Katie Porter nationally-targeted ad

Figure 2: Katie Porter Facebook Ads




(a) Julia Letlow Issue Page




(b) Jerry Nadler Issue Page

Figure 3: Example of Candidate Website Issue Pages

Table 1: Ten most commonly-used phrases by Democrats

| abortion | energy/environment | gun | healthcare | immigration | inflation | public safety |
|---|---|---|---|---|---|---|
| reproductive rights | climate change | gun violence | health care | immigration reform | supply chain | law enforcement |
| reproductive health | clean energy | background check | prescription drug | immigration system | middle class | criminal justice |
| abortion care | renewable energy | gun safety | affordable care | comprehensive immigration | minimum wage | public safety |
| reproductive freedom | climate crisis | common sense gun | mental health | undocumented immigrants | paying jobs | justice system |
| health protection | environmental justice | assault weapons | health insurance | american dream | supply chains | police officers |
| birth control | clean air | violence prevention | pre existing conditions | broken immigration | price gouging | justice reform |
| pro choice | clean water | universal background | drug prices | border security | clean energy | police departments |
| codify roe | energy economy | red flag law | affordable health | promise act | gas prices | george floyd |
| care decisions | natural resources | mass shootings | healthcare system | dream act | lower costs | policing act |
| abortion access | fossil fuel | weapons ban | drug costs | deferred action | rising costs | communities safe |

Table 2: Ten most commonly-used phrases by Republicans

| abortion | energy/environment | gun | healthcare | immigration | inflation | public safety |
|---|---|---|---|---|---|---|
| pro life | energy independence | 2nd amendment | health care | southern border | government spending | law enforcement |
| human life | american energy | bear arms | pre existing conditions | illegal immigration | middle class | enforcement officers |
| life begins | energy production | amendment rights | health insurance | border security | national debt | communities safe |
| born alive | natural gas | law abiding | prescription drug | illegal immigrants | gas prices | police officers |
| 100 pro | gas prices | abiding citizens | healthcare system | border patrol | economic growth | public safety |
| hyde amendment | energy independent | gun control | care system | immigration system | reckless spending | violent crime |
| defund planned parenthood | domestic energy | gun owner | affordable care | national security | wasteful spending | violent criminals |
| unborn child | energy sources | concealed carry | healthcare costs | border wall | lower taxes | local law |
| abortion survivors | natural resources | national rifle association | insurance companies | immigration laws | pro growth | criminal justice |
| alive abortion | climate change | constitutional rights | affordable healthcare | human trafficking | supply chain | cashless bail |

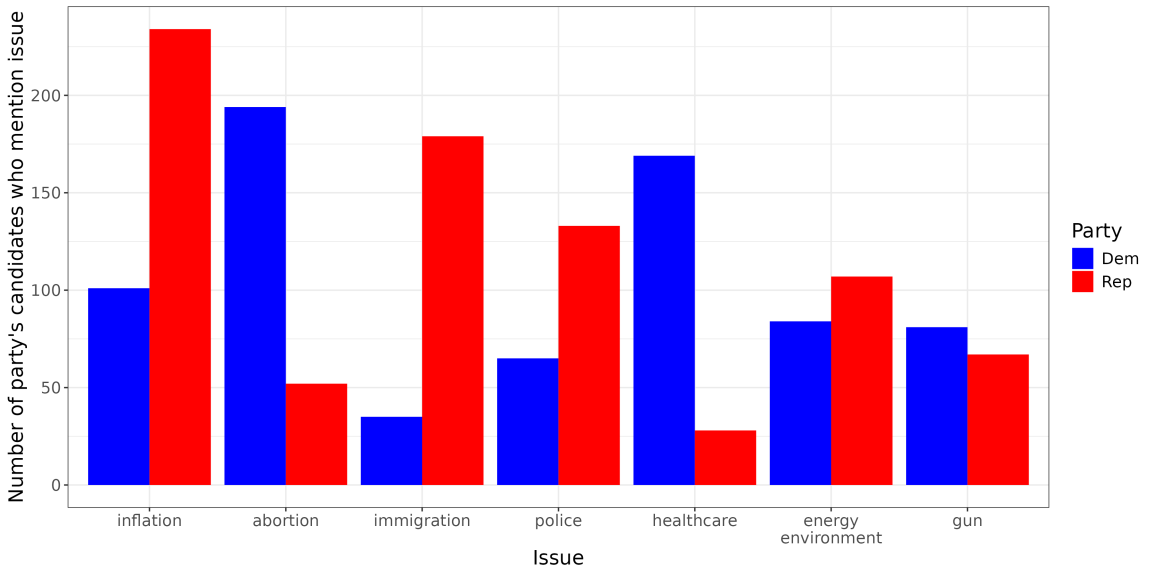



Figure 4: Candidates' Facebook ad issue mentions by party

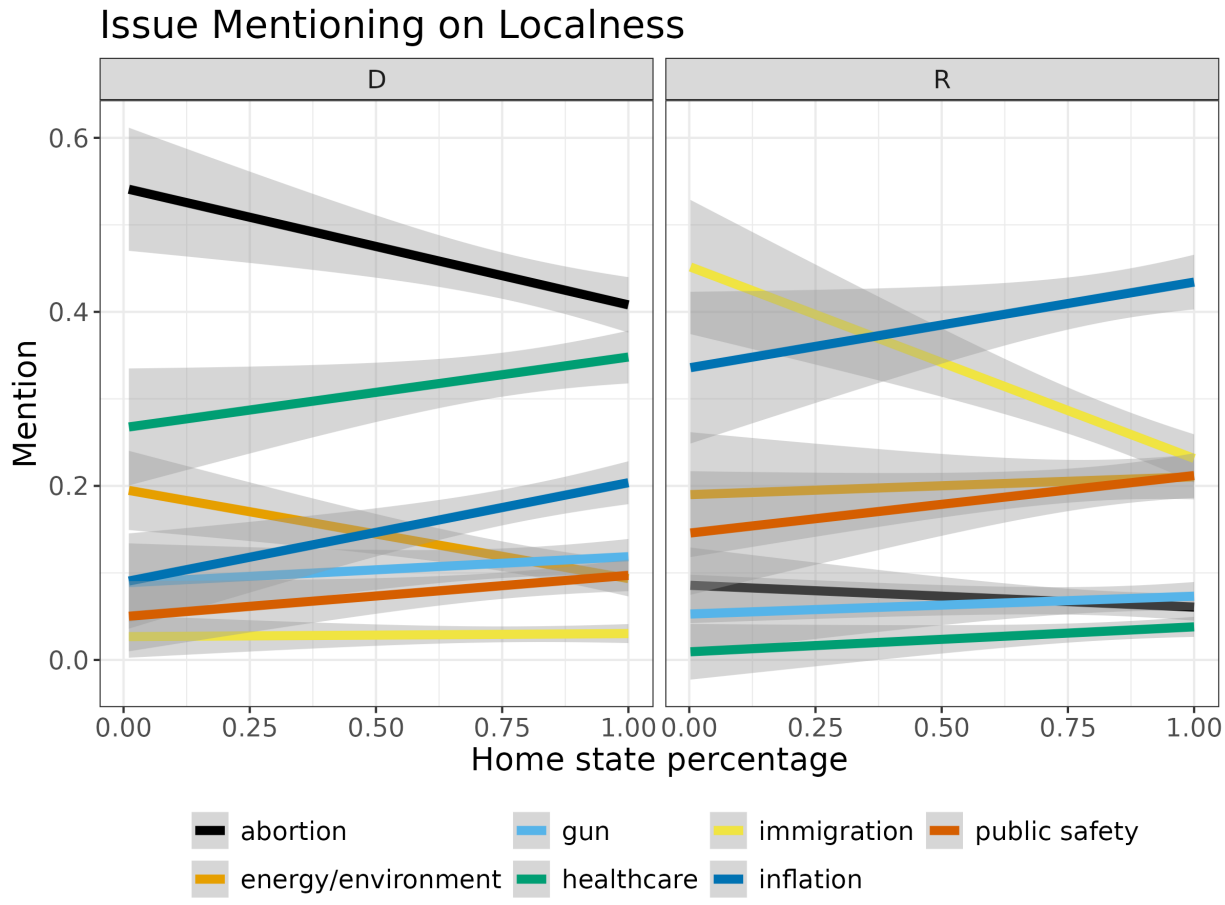



Figure 5: Issue mention gradient as a function of localness

Table 3: Democrat tendency to mention issues locally

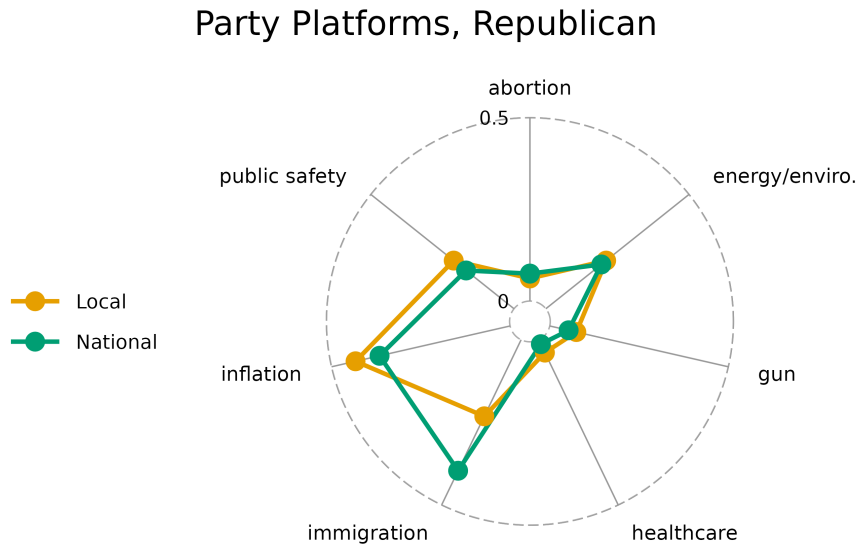
| Dependent Variable: | Mention | |
|---|---|---|
| Model: | (1) | (2) |
| *Variables* | | |
| Abortion x Localness | -0.1343* | -0.1518* |
| | (0.0701) | (0.0819) |
| Gun x Localness | 0.0301 | -0.0130 |
| | (0.0432) | (0.0454) |
| Energy/enviro. x Localness | -0.1024** | -0.0402 |
| | (0.0503) | (0.0664) |
| Immigration x Localness | 0.0036 | 0.0042 |
| | (0.0188) | (0.0169) |
| Public safety x Localness | 0.0475 | 0.0291 |
| | (0.0386) | (0.0253) |
| Inflation x Localness | 0.1142** | 0.1549** |
| | (0.0534) | (0.0696) |
| Healthcare x Localness | 0.0812 | 0.0987 |
| | (0.0583) | (0.1021) |
| *Fixed-effects* | | |
| issue | Yes | |
| candidate-issue | | Yes |
| *Fit statistics* | | |
| Observations | 9,478 | 9,478 |
| $R^2$ | 0.12676 | 0.35148 |
| Within $R^2$ | 0.00542 | 0.00287 |

*Clustered (candidate) standard-errors in parentheses*
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

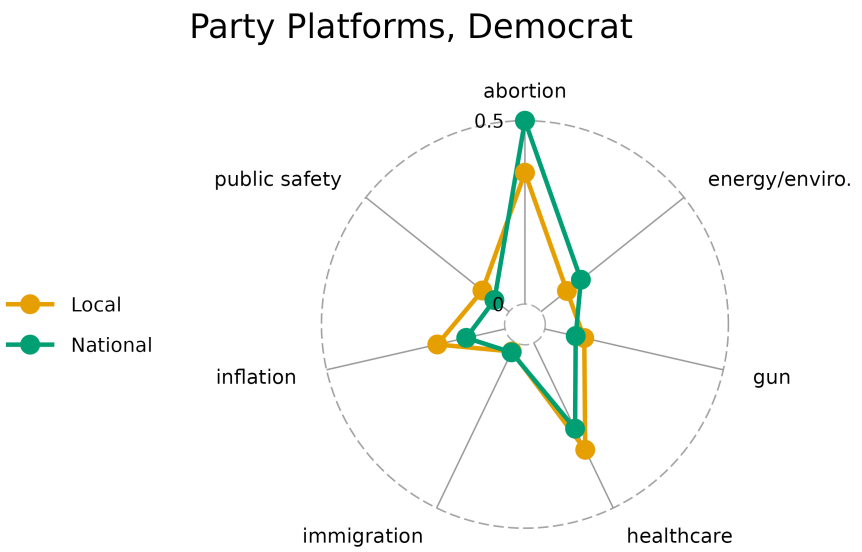
Table 4: Republican tendency to mention issues locally

| Dependent Variable: | Mention | |
|---|---|---|
| Model: | (1) | (2) |
| *Variables* | | |
| Abortion x Localness | -0.0251 | -0.0170 |
| | (0.0318) | (0.0272) |
| Gun x Localness | 0.0205 | -0.0419 |
| | (0.0250) | (0.0389) |
| Energy/enviro. x Localness | 0.0205 | 0.0322 |
| | (0.0419) | (0.0618) |
| Immigration x Localness | -0.2206*** | -0.1389* |
| | (0.0578) | (0.0709) |
| Public safety x Localness | 0.0662 | 0.0076 |
| | (0.0478) | (0.0580) |
| Inflation x Localness | 0.0986** | 0.0872 |
| | (0.0454) | (0.0765) |
| Healthcare x Localness | 0.0287* | 0.0517 |
| | (0.0162) | (0.0410) |
| *Fixed-effects* | | |
| issue | Yes | |
| candidate-issue | | Yes |
| *Fit statistics* | | |
| Observations | 8,267 | 8,267 |
| $R^2$ | 0.11416 | 0.35175 |
| Within $R^2$ | 0.00598 | 0.00180 |

*Clustered (candidate) standard-errors in parentheses*
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*




(a)




(b)

Figure 6: Party Platforms by Ad-Targeting Geography

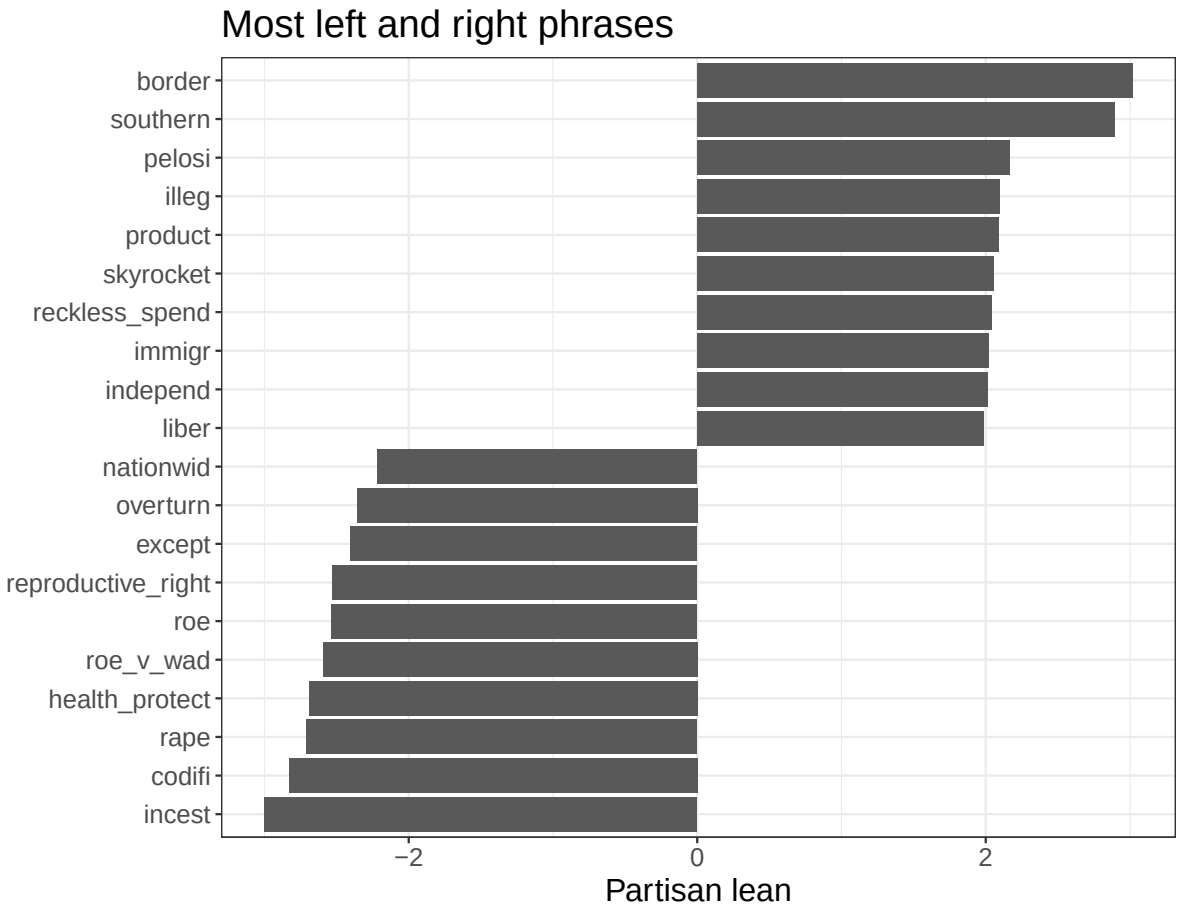



Figure 7: Partisan lean of ten most conservative and liberal phrases from *wordfish*

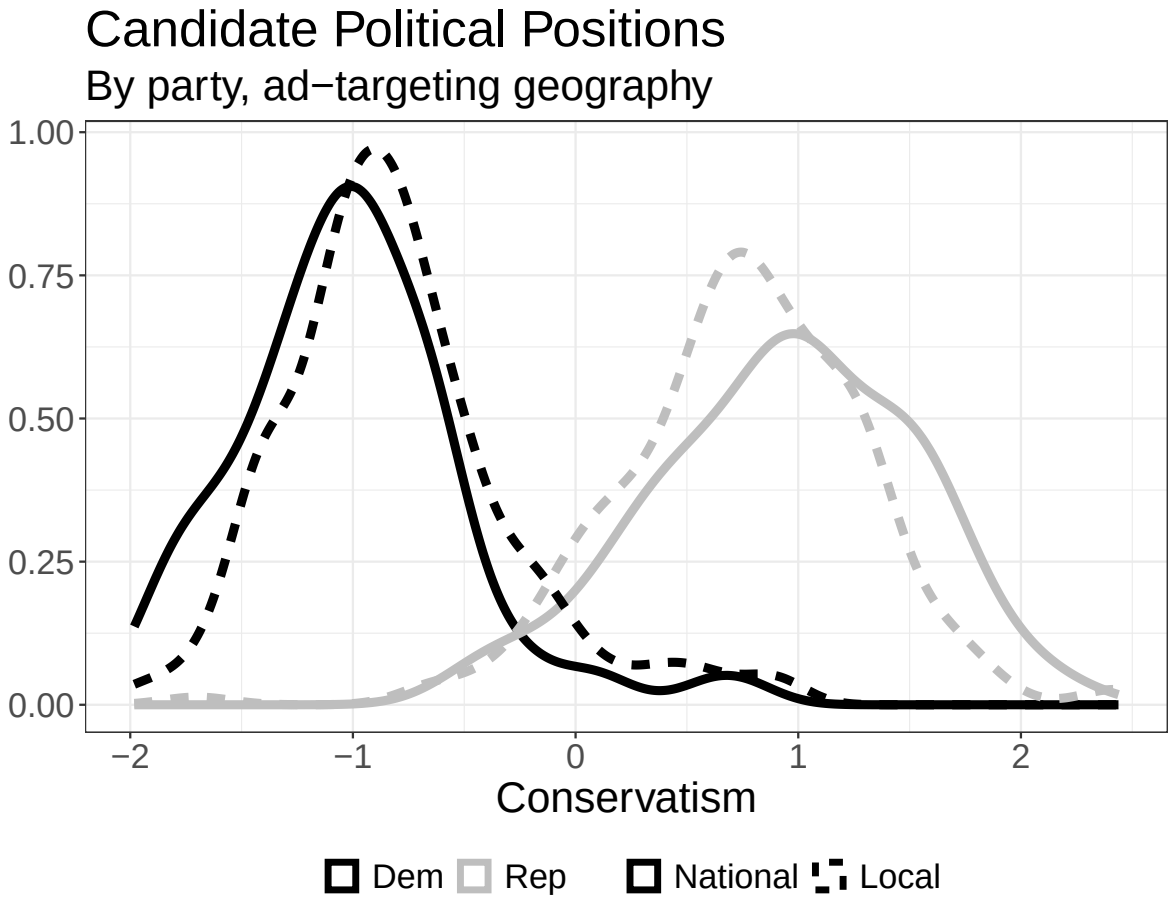



Figure 8: Distribution of candidate's local and national platform conservatism by party

Table 5: Candidate partisanship as a function of audience

| Dependent Variable: | Platform Conservatism | |
|---|---|---|
| Model: | (1) | (2) |
| *Variables* | | |
| Dem x Local | -0.7449*** | 0.2972*** |
| | (0.0450) | (0.0822) |
| Dem x National | -1.047*** | |
| | (0.0614) | |
| Rep x Local | 0.7352*** | -0.1872** |
| | (0.0411) | (0.0910) |
| Rep x National | 0.9257*** | |
| | (0.0663) | |
| *Fixed-effects* | | |
| Candidate | | Yes |
| *Fit statistics* | | |
| Observations | 499 | 499 |
| $R^2$ | 0.68486 | 0.95813 |
| Within $R^2$ | | 0.13746 |

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Table 6: District rival candidate platform overlap

| Dependent Variable: | Overlap | |
|---|---|---|
| Model: | (1) | (2) |
| *Variables* | | |
| Constant | 0.0932*** | |
| | (0.0306) | |
| Local | 0.1117*** | 0.1642** |
| | (0.0374) | (0.0684) |
| *Fixed-effects* | | |
| CD | | Yes |
| *Fit statistics* | | |
| Observations | 101 | 101 |
| $R^2$ | 0.04916 | 0.93908 |
| Within $R^2$ | | 0.37087 |

*Clustered (CD) standard-errors in parentheses*
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

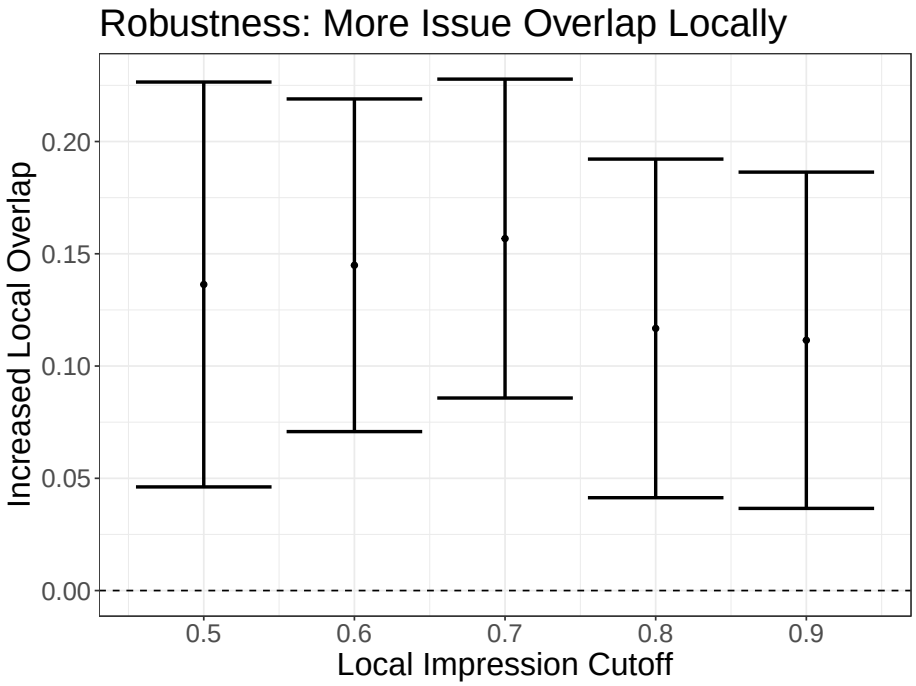



Figure 9: Increased local overlap for a range of local ad definitions

"Second Amendment Rights", "PREVENTING GUN VIOLENCE", "CONSTITUTIONAL RIGHTS", "COMMON SENSE GUN REFORM", "Protecting The 2nd Amendment", "Keeping Kids Safe", "Hunting and Fishing", etc.

4. **Healthcare**: "LOWERING PRESCRIPTION DRUG PRICES", "Affordable and Accessible Healthcare", "Repealing Obamacare", "Healthcare", "Providing Healthcare for All", "MEDICARE FOR ALL", "Quality Healthcare For All", "Fixing Our Broken Healthcare System", "Lower Health Care Costs", "Good Healthcare", "Pro-Affordable Healthcare", etc.

5. **Inflation**: If one of the issues mentions inflation, I consider that issue relating to inflation. "Fighting for the Middle Class", "Combating Rising Inflation Crushing Working Families", "Economy" "Inflation and Cost of Living", "JOBS AND ECONOMIC SECURITY", "Economic Growth", "Accountability in Government Spending", "Inflation & Gas Prices", "ECONOMIC RELIEF", "Tackling Rising Costs", "Taxes, Jobs & The Economy", "Fixing Inflation", "NATIONAL DEBT", etc.

6. **Immigration**: "BORDER SECURITY", "Stopping Illegal Immigration", "Build the Wall!", "Immigration Fixing The Broken System", "Immigration Reform", "Building a Compassionate Immigration System", "Ending Sanctuary State & Cities", "Securing our Southern Border",

"BACK THE BLUE & DEFEND THE BORDER", "Building the Wall and Enforcing Our Laws", "Comprehensive Immigration Reform", "BORDER", etc.

7. **Public Safety**: "MILITARY, VETERANS & FIRST RESPONDERS", "Crime", "PUBLIC SAFETY", "Making Communities Safer", "Reimagining Justice", "Law Enforcement", "SOCIAL JUSTICE", "Criminal Justice", "RACIAL JUSTICE", "Law Enforcement", "Policing Reform", "Law & Order", "Criminal Justice Reform", "Public Safety and Criminal Justice Reform", "Crime and Safety", etc.

# 6 Text Processing Details

To avoid identifying a geographic targeting dimension of the ads, I systematically remove non-ideological words that members of both parties tend to use to a particular geography. I construct a list of these words in the following way.

First, I run a wordfish procedure on all the Democrat candidates' ads. I characterize the ads into those that are targeted locally and those that are targeted nationally. There are two documents: local and national. The rate at which geography $g$ uses word $j$, $y_{jg}$ comes from a Poisson distribution. Consequently, the word weight outputs ($\beta_j$) from the procedure indicate the tendency for the word to be used locally versus nationally. Higher (lower) weights indicate a higher tendency to use the word locally (nationally). Second, I run the parallel procedure on all Republican ads. Third, I calculate the words that both parties *tend* to use locally. I consider words with an average "local" weight above 1 (21 words) to be local words. These words include "congressman", "event", "plan", "8th", "town", etc. Finally, I calculate the words that both parties tend to use nationally (words with below -0.5 weights, 22 words). These words include "grassroot", "chip", "deadline", "donate", "flip", etc.

## References


Acree, B. D., J. H. Gross, N. A. Smith, Y. Sim, and A. E. Boydstun (2020): "Etch-a-sketching: evaluating the post-primary rhetorical moderation hypothesis," *American Politics Research*, 48, 99–131.

Bafumi, J. and M. C. Herron (2010): "Leapfrog Representation and Extremism: A Study of American Voters and their Members in Congress," *American Political Science Review*, 104, 519–542.

Barber, M. J. (2016): "Ideological donors, contribution limits, and the polarization of American legislatures," *The Journal of Politics*, 78, 296–310.

Bimber, B. and R. Davis (2003): *Campaigning online: The Internet in US elections*, Oxford University Press.

Bouton, L., J. Cage, E. Dewitte, and V. Pons (2021): "Small Campaign Donors," *Available at SSRN 3978318*.

Canes-Wrone, B. and K. M. Miller (2022): "Out-of-District Donors and Representation in the US House," *Legislative Studies Quarterly*, 47, 361–395.

Di Tella, R., R. Kotti, C. Le Pennec, and V. Pons (2023): "Keep Your Enemies Closer: Strategic Platform Adjustments During US and French Elections," Tech. rep., National Bureau of Economic Research.

Druckman, J. N., M. J. Kifer, and M. Parkin (2009): "Campaign communications in US congressional elections," *American Political Science Review*, 103, 343–366.

Fowler, E. F., M. M. Franz, G. J. Martin, Z. Peskowitz, and T. N. Ridout (2021): "Political advertising online and offline," *American Political Science Review*, 115, 130–149.

Goldfarb, A. (2014): "What is different about online advertising?" *Review of Industrial Organization*, 44, 115–129.

Grimmer, J. and B. M. Stewart (2013): "Text as data: The promise and pitfalls of automatic content analysis methods for political texts," *Political analysis*, 21, 267–297.

Hillygus, D. S. and T. G. Shields (2008): *The persuadable voter: Wedge issues in presidential campaigns*, Princeton University Press.

Howard, P. N. (2006): *New media campaigns and the managed citizen*, Cambridge University Press.

Kaplan, N., D. K. Park, and T. N. Ridout (2006): "Dialogue in American political campaigns? An examination of issue convergence in candidate television advertising," *American Journal of Political Science*, 50, 724–736.

Kim, Seo-young Silvia, J. Z. and B. Brew (2023): "Donate To Help Us Fight Back: Mobilization Rhetoric in Political Fundraising," *ASPA Preprint*.

Kreiss, D. (2012): *Taking our country back: The crafting of networked politics from Howard Dean to Barack Obama*, Oxford University Press, USA.

Meisels, M. (2023): "Positioning in Congressional Primary Campaigns," *Unpublished manuscript. URL: https://www. mellissameisels. com/files/MMPCPC. pd f.*

Petrocik, J. R. (1996): "Issue ownership in presidential elections, with a 1980 case study," *American journal of political science*, 825–850.

Petrova, M., A. Sen, and P. Yildirim (2021): "Social media and political contributions: The impact of new technology on political competition," *Management Science*, 67, 2997–3021.

Pildes, R. H. (2019): "Small-Donor-Based Campaign-Finance Reform and Political Polarization," *Yale LJF*, 129, 149.

Sigelman, L. and E. H. Buell (2004): "Avoidance or engagement? Issue convergence in presidential campaigns," *American Journal of Political Science*, 48, 650–661.

Slapin, J. B. and S.-O. Proksch (2008): "A scaling model for estimating time-series party positions from texts," *American Journal of Political Science*, 52, 705–722.

Urban, C. and S. Niebler (2014): "Dollars on the Sidewalk: Should US Presidential Candidates Advertise in Uncontested States?" *American Journal of Political Science*, 58, 322–336.

Waldfogel, S. (2023): "Selling Misrepresentation: The Effect of Out-of-District Donors on Candidate Positioning," .