

# **Issue Attention in Congressional Primary Elections**

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## **Abstract**

Prominent theories of campaign issue strategy provide three main perspectives candidates can adopt when deciding what issues to discuss: (1) issues voters view their party as “owning” (2) “trespassing” onto issues that the other party owns and (3) addressing timely and salient issues (e.g. “wave riding”). This paper examines candidate issue messaging strategies in congressional primary campaigns. By isolating party-owned issues and issue trespassing from wave riding, a distinction not typically made in previous literature, we explore how candidate characteristics and electoral conditions influence the use of these three strategies in primary elections. Leveraging a dataset of campaign website issue platforms for nearly all congressional candidates running in primary elections from 2018-2022, we find that incumbent candidates dedicate relatively more of their campaign platform to party-owned and opposing party-owned issues compared to challengers. Further, we find that candidates who must appeal to a partisan primary electorate spend relatively less time engaging in issue trespassing, but discuss salient, wave riding issues more. Overall, our results contribute to the growing body of literature on issue messaging strategies and primary elections.

## Introduction

The fundamental goal of any aspiring congressional candidate is to appeal to enough voters such that the candidate successfully wins her electoral contest. To do this, candidates design campaigns to best present themselves to potential donors, potential voters, and the public. Campaigns are an essential way for congressional candidates to communicate information about their background, qualifications, and the positions they hold on policy and political issues. Previous research highlights that the most effective (i.e. successful) campaigns are those that resonate with a majority of voters' preferences for candidate experience and issue positions (Popkin 1991, Petrocik 1996). For decades, one of the decisive determinants of a successful congressional candidate was previous elected experience (Jacobson 1989, Jacobson & Kernell 1983). However, more recent scholarship demonstrates that voters may no longer value elected experience the way they once did (Jacobson 2015, Porter and Treul 2024) and that voters from each party have distinct preferences over the past occupational experiences and identities of candidates (e.g. Kirkland and Coppock 2018, Porter and Treul 2025).

This shift in the electoral landscape highlights the increasing importance of candidates' issue strategies. That is, if candidates can no longer bank on past political experience being the accelerant for success, they must find other ways to set themselves apart from their competitors. Thus, the issue positions a candidate communicates while campaigning are increasingly relevant to a candidate's success. Yet, there is little scholarly agreement on what issues candidates should discuss during a campaign. Early scholarship on candidate issue positions argued that the formation of issue agendas should cater to the median voter's preferences (Downs 1957). Other work suggests that candidates might be better off highlighting issues that align with a majority of constituents, even if not located at the median, and downplay ones that do not (Iyengar and Kinder 1987, Simon 2002, Sulkin and Evans 2006). By doing this, campaigns can prime voters to think about these issues and then, hopefully, reward the candidate who focuses on them. More recently, research highlights three prominent strategies that candidates can adopt in their campaign issue agendas: issues that are advantageous to their party (i.e. party-owned issues), issues owned by the other party (i.e. issue trespassing), and issues that are currently salient to the American public (i.e. wave riding).

Choosing what issues to highlight in a campaign today is complicated by the fact that congressional campaigns have changed significantly in recent years. Most past scholarship on issue strategy focuses on the general election stage of congressional contests (Ansolabehere and Iyengar 1994, Sides 2007, Banda 2013).<sup>1</sup> Yet, there are decreasing numbers of districts that are competitive for both parties (Mayhew 1974, Ferejohn 1977, Abramowitz 2006, Rodden 2019). According to Cook PVI (Partisan Voting Index),<sup>2</sup> in the 2022 midterm, just 45 seats were considered competitive, thereby making

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<sup>1</sup> Banda (2015) examined issue formation in congressional primaries, but the data is from 2008 and prior when electoral circumstances differed in important ways from today's.

<sup>2</sup> Cook PVI creates an *ex-ante* index of competitiveness based on how strongly the district leans to the Democratic or Republican party compared to the nation as a whole. PVI is calculated by comparing a congressional district's average Democratic or Republican party share of the presidential vote in the last two

the results of the general election likely a foregone conclusion in 390 districts. Primary elections, meanwhile, have become increasingly competitive in recent years (e.g. Hirano and Snyder 2019). Furthermore, even in non-competitive primaries, the threat of primary competition weighs heavily on incumbents' campaign strategies (Rackey and Thorning 2024, Case 2025). Given that party is held constant in congressional primaries, studying what issues congressional campaigns highlight in these contests can offer important insights into what types of candidates utilize particular issue strategies.

This paper conducts a systematic analysis of the issue strategies primary election candidates employ in modern congressional elections. We leverage candidate campaign websites from all U.S. House primary contests from 2018-2022, which allows us to analyze widespread issue strategies in primary election campaigns and evaluate which candidates employ which strategies. It also gives us variation in primary type, including both partisan primaries and non-partisan primaries (e.g. California's top-two primary). We theorize that candidates, looking to set themselves apart from others in the contest, will leverage their distinct advantages in crafting their issue agendas. Gaining a better understanding of how primary candidates distinguish their issue agendas is important for our understanding of congressional campaigns today, especially since the issues candidates focus on in elections are likely the ones they will focus on in Congress (Sulkin 2009, Sulkin 2011).

The paper proceeds as follows: first, we discuss existing research on campaign issue strategies. We then outline our expectations for which types of candidates will engage in messaging on (1) party owned issues, (2) issues owned by the other party (issue trespassing), and (3) issues that are salient to the public (wave riding). After outlining these expectations, we then overview our data on congressional candidates' issue positions and discuss how we measure the proportion of a candidate's platform dedicated to each of the three issue strategies. Finally, using this measure, we analyze what types of candidates engage in these strategies and find support for many of our expectations. We conclude by discussing the results' broader implications for our understanding of campaign strategy, election outcomes, and future congressional behavior.

## **Congressional Campaigns and Issue Agendas**

Candidates recognize the importance of communicating on issues where voters perceive a built-in advantage and indeed do often center campaigns and campaign communications around issues owned by their party (Riker 1990, Carsey 2000, Meeks 2019). Party-owned issues refer to the issues that the public views a party as being "experts" on (Petrocik 1996) or better at handling (Egan 2013). Egan (2013) and Fagan (2019) suggest party-owned issues are a function of a party's prioritization of that issue, rather than its past performance or the specific policy positions it takes. The issues that are considered "owned" by the parties are remarkably stable over time. For example, as Egan (2013) demonstrates, the issues of crime, taxes, and the military have been consistently viewed by voters as Republican-owned since the 1970s. In contrast, the

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presidential elections to the national average share of those elections. A district is defined as "competitive" when it falls within the R+3 to D+3 range.

issues of health care, jobs, and education have been consistently owned by the Democrats. Importantly, not all issues are considered owned by one party or the other.

Various theories exist about the extent to which candidates should engage in discussing party owned issues. Divergence theories of general election campaign strategy suggest that candidates should center their campaigns on issues that advantage them electorally (Spiliotes and Vavreck 2002). These theories predict candidates dedicate a large proportion of their campaign to party owned issues. This is because a candidate's party is thought to be more competent on these issues and, therefore, enjoys a relative advantage over the other party.

At the same time, however, candidates may still choose to discuss issues owned by the opposing party, also known as issue trespassing (Banda 2013, Banda and Carsey 2015, Sides 2007). Candidates can issue trespass for a variety of reasons, but primarily, this strategy is meant to mitigate the other party's advantage on an issue and thus engage in issue convergence. This difference is particularly pronounced in competitive, general elections, which suggests that a candidate's willingness to engage in issue trespassing is related to the competitiveness of the electoral contest. Relatedly, and important for our study, Banda and Carsey (2015) find that candidates will be more willing to issue trespass when faced with a competitive general election but will focus more attention on party owned issues when facing a contested primary election.

Beyond issue ownership, other literature on candidate issue agendas focuses on how candidates address current issues of the day that are especially salient to voters. In a media and information-rich environment, voters are aware of major news events and the issues that garner national attention. Thus, they may cast their ballot according to how candidates address these salient, timely issues (Dalager 1996, Malzahn and Hall 2023). Recognizing this, the theory of wave riding posits that candidates pay more attention to issues that are salient to the public (Ansolabehere & Iyengar 1994; Kaplan, Park, and Ridout 2006). As Ansolabehere and Iyengar (1994) highlight, candidates need to communicate their credentials on the issues that the public is most concerned with to be viewed as informed, responsive, and overall strong candidates.

Although previous work frequently studies wave riding within party-owned issues (Kahn and Kenney 1999, Kaplan, Park, and Ridout 2006), we are interested in wave riding issues that neither party owns. Issues that are not party owned are typically what Egan (2013) refers to as non-consensus issues. This is because there is not universal agreement between the two political parties over the ultimate goal of the issue area. For the purposes of this paper, we are particularly interested in how different candidates engage in wave riding on these non-consensus issues. For our wave riding issues, we focus on abortion, election administration, and policing.

## **Studying Campaign Issues in the Modern Era**

Although previous scholarship identified two broad categories of issues that candidates can focus on in campaigns: party owned/non-party owned issues, and wave riding issues, there is a lack of research on which congressional candidates engage in these strategies and under what conditions. Previous research on issue ownership and

wave riding has focused largely on campaigns at the presidential level (Petrocik 1996, Damore 2004) or, when studying congressional campaigns, on how candidates employ these strategies through television advertising prior to 2008 (Ansolabehere and Iyengar 1994, Sides 2007, Banda 2015). The focus on television advertising restricts the sample of candidates to those in competitive races and those with enough money to produce ads and purchase airtime (Druckman, Kifer, and Parkman 2009), and largely ignores the vast majority of candidates for the House of Representatives. For example, in 2018, fewer than 15% of challengers and 40% of incumbents running for the U.S. House spent money on TV advertisements (Fowler et al. 2020). In addition, the races where candidates are spending this money will be systematically different than races where candidates are not spending money on television advertisements. This data limitation restricts our broader understanding of congressional campaign issue strategies, especially in primary elections.

Furthermore, it is important to note that, with the exception of Banda and Carsey (2015), the literature on campaign issue agendas has focused almost exclusively on the general election stage of congressional campaigns. Yet, in modern congressional campaigns, much of the competition has shifted to the primary stage. As mentioned above, when compared to congressional elections prior to 2008, districts have become safer at the general election stage and relatively more competitive at the primary election stage (Hirano and Snyder 2019). In addition, several states have adopted changes to their primary election rules since 2008, including the adoption of non-partisan primaries, which may shift the incentives candidates face when running for Congress. These changes to the congressional campaign environment make studying the issue agendas of primary candidates critical for bettering our understanding of congressional elections. Given this previous literature, we theorize that the issues candidates focus on in a primary campaign will depend on candidate characteristics and primary election dynamics.

In the following subsections, we outline our expectations for what types of candidates and primary dynamics lead to more or less engagement with each of the three campaign strategies—issue ownership, issue trespassing, and wave riding—relative to other candidates in congressional primaries.

### *Previous Elected Experience*

We first expect there to be differences by candidate experience in the proportion of issue text dedicated to the three campaign strategies. Candidates with previous elected experience, either in Congress or in lower levels of government, can take credit for their previous successes in government during the campaign (Mayhew 1974). Despite the concept of issue ownership being untethered to party performance on issues, existing literature suggests that members of Congress are more likely to both prioritize party owned issues on their legislative agenda and to successfully legislate on those issues (Egan 2013, Green and Jennings 2017). After all, experienced candidates are already a part of the party structure. They have secured a party's nomination in the past and have at least some understanding of what it means to be a Democrat or a Republican. While all candidates enjoy an electoral advantage from discussing party owned issues, it is likely incumbents and experienced challengers discuss these issues more than inexperienced challengers

because they have a record on these issues from their past service and can point to concrete examples of past work in the relevant issue area. Furthermore, experienced challengers and incumbents are strategic actors and have experience running a successful campaign, so it is likely that these candidates more readily recognize the importance of addressing issues that voters perceive them as having a built in advantage (Riker 1990, Carsey 2000, Meeks 2015).

*H1: Incumbent candidates and experienced challengers will dedicate a greater proportion of their issue text to party owned issues than inexperienced candidates.*

We also expect differences in the proportion of a candidate's platform dedicated to issues owned by the other party (issue trespassing) by experience. While existing research suggests that legislators prioritize party owned issues while in office (Egan 2013), it is also the case that legislators cannot work exclusively on issues that benefit their party. In their capacity as a legislator, incumbents must regularly engage in public position taking on a wide variety of issues. In other words, incumbent candidates regularly need to take votes on, and more broadly engage with, issues that are owned by the other party. Because they are required to engage in a wide variety of issues, incumbent candidates might feel pressure to talk about these issues when on the campaign trail. The majority of literature suggests that congressional candidates are held accountable for their roll call voting behavior (Canes-Wrone, Brady, and Cogan 2002, Bovitz and Carson 2006). This is particularly the case on issues that are highly salient to voters, such as healthcare, with specific roll call votes exercising a large impact on an incumbent candidate's electoral margins (Adkins and Dulio 2013, Bussing et al. 2020). Incumbents often feel pressure to explain these positions, even when their position is out of step with voters (Grose, Malhotra, and Van Houweling 2015). Challenger candidates likely do not have the same sense of obligation to talk about issues owned by the other party and will therefore engage in less issue trespassing than incumbent candidates. Specifically, we hypothesize that:

*H2: Incumbent candidates will dedicate a higher proportion of their campaign issue text to issues owned by the opposing party (engage in issue trespassing) than non-incumbents.*

Additionally, we do not expect the proportion of a platform dedicated to issue trespassing to be uniform across all challengers. We expect that experienced challengers will make more strategic decisions about what issues to discuss and omit from their campaign platform. Specifically, it is likely that experienced challengers understand the built in advantages to leaning on party owned issues, whereas inexperienced candidates might not make that same assessment. Specifically, we expect that:

*H3: Inexperienced challengers will dedicate a higher proportion of their campaign issue text to issues owned by the opposing party (engage in issue trespassing) than challengers with previous elected experience.*

Finally, we also expect incumbents to differ from challengers when it comes to wave riding issues. Many wave riding issues, such as the three we examine in this paper (abortion, election administration, and policing), are highly salient but also highly polarizing to voters. Given this, we expect that incumbent candidates are less likely to engage with wave riding issues than challengers. Incumbents may opt to avoid discussing the issues of the day and instead fall back on the strategy of credit claiming, a luxury that challenger candidates do not have, as well as tackling the issues they've already taken stated positions on. Challengers, on the other hand, are often presenting themselves to the electorate for the first time and therefore are likely to take positions on the issues that are currently salient to voters. Furthermore, we also expect that the difference in wave riding between incumbents and challengers will be particularly pronounced among experienced challengers. The strategic nature of experienced candidates suggests they will more readily recognize the importance of addressing issues that are highly salient to voters (Jacobson 1989).

*H4: Challenger candidates (particularly experienced challengers) will devote more of their campaign platform to wave riding issues than incumbents.*

### *Primary Election Dynamics*

Beyond candidate experience, we also expect that primary election dynamics shape candidate issue strategy. Depending on the electoral rules or competition faced during the primary, the voters that candidates need to appeal to differ. For candidates running in partisan primaries, candidates are mainly concerned with persuading a smaller subset of co-partisan voters. Candidates running in non-partisan primaries (e.g. top-two primaries) need to appeal to a primary electorate with a higher proportion of independent and out-partisan voters. Moreover, candidates who do not face competition in the primary election can turn their attention to the broader electorate instead of first persuading a subset of voters. We expect these varying conditions affect who candidates appeal to, and thereby, their campaign issue strategy.

We first expect the partisan dynamics of a primary election contest to shape the proportion of platform text dedicated to issue trespassing. Our expectations here are consistent with the results of Banda and Carsey (2015) who find that candidates competing in contested elections engage in a lower percentage of issue messaging on issues owned by the opposite party than candidates in uncontested primaries. Messaging on issues owned by the other party means spending time talking about issues that even voters from a candidate's party see as a relative weakness for their party. If candidates need to persuade co-partisan voters to support their candidacy, either because of a partisan primary or a contested primary, talking about these issues puts them at a disadvantage at this stage. In uncontested primaries or states with non-partisan primaries, however, candidates are not focused on a subset of partisan voters. This means that these candidates can place a greater emphasis on a broader electorate from the get-go. As such, these candidates will be more likely to issue trespass in order to chip away at the built-in advantage that the opposition candidate has on certain issues heading into the general election. In line with this theory, we hypothesize that:

*H5: Candidates who need to appeal to a partisan primary electorate (contested primary; partisan primary election rules) will dedicate a lower proportion of their issue text to issue trespassing.*

In a similar vein, we also expect that primary dynamics will be related to the frequency with which candidates talk about wave riding issues. For candidates who first need to persuade a smaller subset of partisan voters, we expect these candidates to be more responsive to non-consensus wave riding issues. These issues are important to voters, and tackling them can set the candidate apart from the partisan competition, so to ignore these issues could be politically costly in the primary (Kahn and Kenney 1999). Specifically:

*H6: Candidates who need to appeal to a partisan primary electorate (contested primary; partisan primary election rules) will devote more of their issue text to wave riding issues.*

## **Data**

To analyze under what conditions candidates for Congress engage in these various issue strategies in primary elections, we rely on a dataset of congressional campaign website issue platforms from 2018-2022 (Porter, Case, and Treul 2025). Candidates' campaign websites act as an "information hub" for all parts of the campaign, including candidates' issue positions (Herrnson, Panagopoulos, and Bailey 2019). Candidates dedicate significant time and resources to crafting their campaign websites, knowing that potential voters, donors, journalists, and other election stakeholders may view them to learn about the candidate (Druckman, Kifer and Parkin 2009). In addition, most congressional primary candidates have a campaign website; from 2018 to 2022, 88.3% of all major-party, ballot-eligible candidates had one. Among those candidates who do not have a website, almost all are non-competitive candidates who did not raise any money.

As a part of a typical campaign website, candidates for Congress dedicate space to their issue positions. Among candidates who have a website from 2018 to 2022, 85% included an issue platform on their website (Porter, Case, and Treul 2025). Unlike other communication mediums, such as TV advertisements, candidates are not constrained by space or time on campaign websites (Druckman, Kifer, and Parkin 2009). Despite this, candidates are still selective about the issues they discuss. On average, candidates will have statements regarding 9 issues on their campaign website. These campaign website issue statements, therefore, capture the strategic issue messaging we are interested in measuring without resource or space constraints other communication mediums have.

In sum, campaign website issue pages are (1) available for the vast majority of primary election candidates, allowing us to analyze almost all candidates for the U.S. House; (2) devoid of space and time constraints, allowing us to analyze which issues candidates decide to discuss; and (3) constrained by the electoral context, allowing us to

analyze how the strategic considerations between both stages influence candidates' issue strategy.

## Measurement

We now turn to measuring the proportion of a candidate's issue text that is dedicated to each of the three issue strategies: party owned issues, issue trespassing, and wave riding. To do so, we first need to define what issues each party owns and what issues are wave-riding issues.

As discussed previously, party owned issues are issues that the American public believes one party is better suited to handle once in office (Egan 2013, Fagan 2019). Given we are interested in issues where ownership is largely stable over time and holds after controlling for contemporaneous factors, we use the same issue ownership categorization used by Egan (2013). In this categorization, Republicans are viewed as better suited to handle domestic security, military, immigration, inflation, crime, foreign affairs, trade, taxes, the deficit, and the economy.<sup>3</sup> Democrats are considered better at handling energy, education, jobs, health care, Social Security, environment, and poverty.

For wave riding issues, we focus on three issues that increased in issue salience after the 2020 congressional elections: abortion, election integrity, and policing. For abortion, the previous few election cycles had seen an increased focus on the issue, but attention increased prior to the 2022 midterm cycle. In December 2021, 3 months before the first 2022 congressional primary, the Supreme Court heard oral arguments for *Dobbs v. Jackson Women's Health Organization*. This was the first abortion case to reach the Supreme Court since President Trump nominated three justices to the Court during his time in office.<sup>4</sup> For election integrity, there was a similar rise in salience after the events on January 6<sup>th</sup>, 2021, when protesters stormed the Capitol attempting to overturn the 2020 presidential election result. Meanwhile, toward the end of the 2020 primary calendar, George Floyd's murder and subsequent protests raised the salience of policing as an issue for voters before the 2022 midterms.<sup>5</sup> In addition to our three wave riding issues including events that clearly raised issue salience for the 2022 election, we should highlight all three issues are non-consensus issues (Egan 2013). Unlike previous studies, this allows us to

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<sup>3</sup> While previous work has defined the economy and foreign affairs as performance issues (Petrocik 1996, Egan 2013) where ownership can shift over time, we still consider these issues advantageous for Republicans for our analysis, as both issues trend towards Republicans on average. Our results in the following section are largely similar when we exclude these issues from being Republican owned.

<sup>4</sup> The salience of this issue was further increased on May 2<sup>nd</sup>, 2022, when a draft decision was leaked that suggest the Court would overturn *Roe v. Wade* (1973). At the time when the draft was leaked, only Texas had held a primary election. As a result, both events raised the relative salience of abortion in the 2022 primary elections.

<sup>5</sup> While Floyd's death and subsequent protests occurred in the middle of the 2020 primary election calendar, 11 states had already held their primary elections before May 25<sup>th</sup>. An additional 18 states held their congressional primaries within a month of Floyd's death. So, while the events that increased the salience of policing did occur during the 2020 election cycle, we do expect these events to more fully affect 2022 candidates than 2020 candidates.

test the pure wave riding hypothesis by isolating the phenomenon of wave riding from issue ownership (and subsequently, consensus issues).

The aforementioned twenty issue areas – ten Republican-owned issues, seven Democrat-owned issues, and three wave-riding issues – constitute the issue topics we are interested in labeling in campaign website issue statements.<sup>6</sup> We first split the text into individual paragraphs to label issue content in candidates’ statements. We focus on the paragraph as a naturally occurring linguistic unit that is concise enough to focus on a coherent topic (as opposed to a full statement) while retaining important context (as opposed to a sentence). This decision is consistent with previous work using issue classification in campaign appeals (e.g. Case and Porter 2025).

To label each paragraph for our twenty issue areas, we take advantage of recent advancements in large language models, specifically GPT-4, that allow for the high-performing and efficient labeling of political texts. Large language models are trained to perform “next-word” prediction tasks. In these tasks, models are provided with a sequence of text and then predict the token(s) to appear after the sequence of text. Researchers across the social sciences have leveraged this next-word prediction to carry out a variety of text-as-data applications (for example, see Ornstein, Blasingame, and Truscott 2025). For our specific application, LLMs are ideally suited to carry out the policy classification of campaign statements. For one, the size of our corpus (approximately 150,000 paragraphs) is too large to hand-label all the data efficiently or at a low cost. Our task also includes twenty different policy categories. Because of the number of issue categories, using human labelers would be cognitively-intensive and prone to recall errors. LLMs allow us to carry out this categorization across the full corpus at a lower cost and better performance than supervised machine learning models (Ornstein, Blasigame, and Truscott 2025).

For this task, we use the `promptr` package in R, developed by Ornstein, Blasingame, and Truscott (2025), to label our campaign issue statements using the OpenAI API. For each paragraph, GPT-4 is provided with the following prompt:

“You will be provided with a text from a candidate running for the U.S. Congress. For each paragraph, please specify the issue area that the text corresponds to. Please respond with *\*only\** one the following issue areas: abortion, election administration, policing, domestic security, military, immigration, inflation, crime, foreign affairs, trade, taxes, deficit, economy, energy, education, jobs, health care, social security, environment, poverty, or none. Do not provide any additional text beyond the issue area.”

Following the prompt, GPT-4 is provided with the campaign statement paragraph and will return text corresponding to the issue area it classifies the text as. In other words, the next-word prediction after the prompt and paragraph. After GPT classified all paragraphs in our

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<sup>6</sup> A full description of our twenty policy areas can be found in SI A1.1.

dataset, we cleaned the text to ensure that it only contained labels related to our 20 issue areas.<sup>7</sup>

With the labels assigned to each paragraph, we take additional steps to ensure that the model returns labels that reflect our issue areas of interest specified in SI A1.1 To validate the classification labels, we labeled 1,000 paragraphs according to the instructions specified in SI A1.1. Based on these labels, we calculate Cohen's kappa among the human-generated labels and the GPT-generated labels. The Cohen's kappa between the human-generated labels and the GPT-generated labels is 0.84, which is consistent with prior work performing similar tasks (e.g. Porter, Case, and Treul 2025) and suggests GPT is reliably capturing the concept of interest.

While proprietary large language models do offer better performance for human intelligence tasks, such as labeling documents, there are concerns about the replication of these results that we do take seriously. As noted by Barrie, Palmer and Spirling (2024) these models are not replicable in the traditional sense of political science replication: our exact code prompting sent to OpenAI will not produce the *exact* same results if run at a different time, even with the same data and code. While this concern also extends to crowdsourcing or research assistant tasks, repeat human intelligence tasks are less variable than large language models (Barrie, Palmer, and Spirling 2024). As such, we take these concerns seriously and carry out several steps to ensure the reproducibility of our results.

First, all large language prompts have the temperature set to 0, ensuring that the model outputs the most likely completion from our prompt each time. While not a catch-all solution, this does ensure that our labeling will produce the same output if repeated at the same time we conducted our labeling rather than the model introducing additional variance. Second, we repeat our coding process over time. The results in the main body of the paper were produced using the procedure mentioned above in December 2024. In February of 2025, we repeated our coding procedure with the same prompting and code. This allows us to assess how our results vary as OpenAI changes its model on the back end. We replicate all of the models in our analysis using the data from February 2025. We find our results are remarkably consistent, and for this specific task, there is minimal variation from re-running our procedure across time. SI A1.2 reports inter-coder reliability measures between our hand-labeled sample, the December 2024 labels, and the February 2025 labels. We also reproduce all of the results in the main body of our paper in SI A2.

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<sup>7</sup> In less than 0.5% of paragraphs, GPT returned tokens that were neither one of our policy areas nor “none.” In those cases, we converted these tokens to “none.”

**Figure 1: Mean Proportion of Issue Text Dedicated to Issue Area by Party**

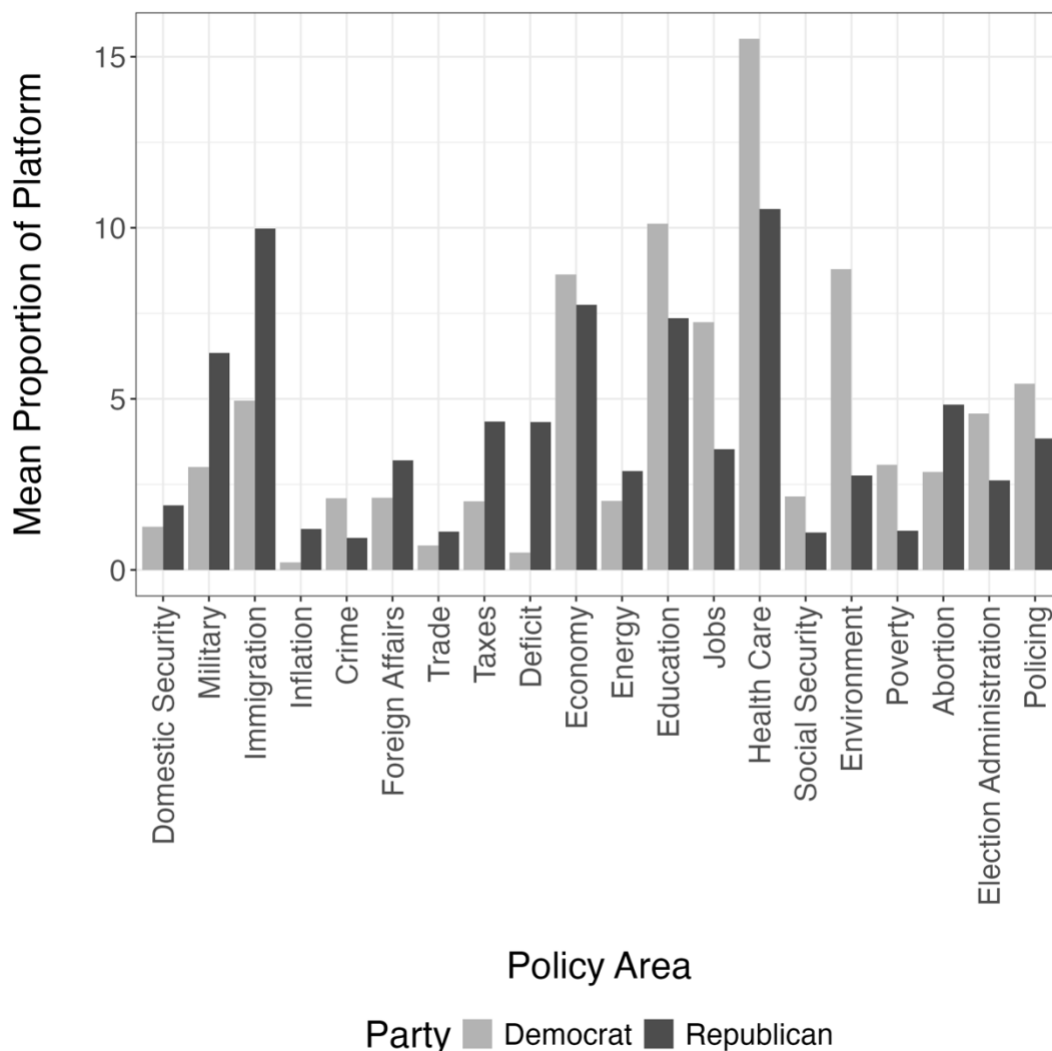


Figure 1 plots the mean proportion of candidates' issue text by issue area from 2018 to 2022 broken down by party. Issue areas along the x-axis are sorted from most Republican owned issues (left) to most Democratic owned issues (right), according to Egan (2013). Our three wave riding issues that are not party owned (abortion, election administration, and policing) can be found on the far right of the x-axis.

Using classified issue paragraphs, we can calculate the percentage of a candidate's issue text that is dedicated to a given issue area using word counts. To do this, for a given issue area, we add up the number of words in paragraphs labeled as about that issue area. We then divide that number by the total word count on a candidate's issue page. Figure 1 plots the average proportion by party for each of our twenty issue areas. Issue areas along the x-axis are arranged from most Republican owned (left) to most Democratic owned (right), with the three wave riding issues on the right side of the graph. Consistent with prior research, Republicans dedicate a higher percentage of their platform than Democrats to issues owned by Republicans. This finding is consistent across issues, with crime and the economy being the only exceptions. In many instances, the proportion of the platform Republican candidates dedicate to Republican owned issues is orders of magnitude larger

than the proportion of platform dedicated by Democrats, including immigration (10.0% versus 5.0%), military (6.3% versus 3.0%), taxes (4.3% versus 2.0%) and the deficit (4.3% versus 0.5%).

We also find similar patterns among Democrats and their discussion of Democratic owned issues. Across the seven policy areas voters view as Democratic-owned, Democrats dedicate a higher proportion of their platform, on average, to six of the seven Democratic owned issues. The lone exception is energy. In many instances, the proportion of the platform that Democrats dedicate to these issues is orders of magnitude larger than Republican candidates. We find particularly large discrepancies on the environment (8.8% versus 2.8%), health care (15.5% versus 10.5%), and jobs (7.2% versus 3.5%).

We do also see small partisan differences across 2018 to 2022 among wave riding issues. Republicans, on average, dedicate a higher proportion of their platform to abortion than Democrats (4.8% versus 2.9%). For both election administration and policing, Democrats dedicate a higher proportion to both issues than Republicans (4.6% versus 2.6%; 5.4% versus 3.8%). We should note that across all three election years, policing (4.6%), abortion (3.9%), and election administration (3.6%) are the eighth, ninth, and tenth most discussed issues among our twenty issue areas.

There is substantial variation across years in the amount of attention dedicated to each issue area, suggesting our data captures year-to-year election dynamics well. Figure 2 plots the average proportion of campaign platforms dedicated to each of our twenty policy areas by year. While certain issues are consistent year to year – for example, 1.4%, 1.4%, and 1.7% of platform text was dedicated to crime in 2018, 2020, and 2022 respectively – others show drastic changes from year to year. Some changes coincided with the presidential election in 2020 and were more discussed in those years (e.g., immigration and the environment). Other issues saw a reduction of salience over time (e.g., healthcare, military, and jobs). We do see an increase in average platform text dedicated to our three-wave riding issues in 2022. For abortion, candidates dedicated 4.3% of platform text in 2022 versus 3.3% in 2018 and 4.0% in 2020. Policing exhibited a similar increase in platform discussion across the three elections, going from 3.9% of platform text in 2018 to 4.5% in 2020 to 5.4% in 2022. Election administration saw the greatest spike in single-year spike in 2022 of the three issues, going from 3.0% of platform text in 2018 and 2020 to 4.8% of platform text in 2022.

**Figure 2: Mean Proportion of Issue Text Dedicated to Issue Area by Year**

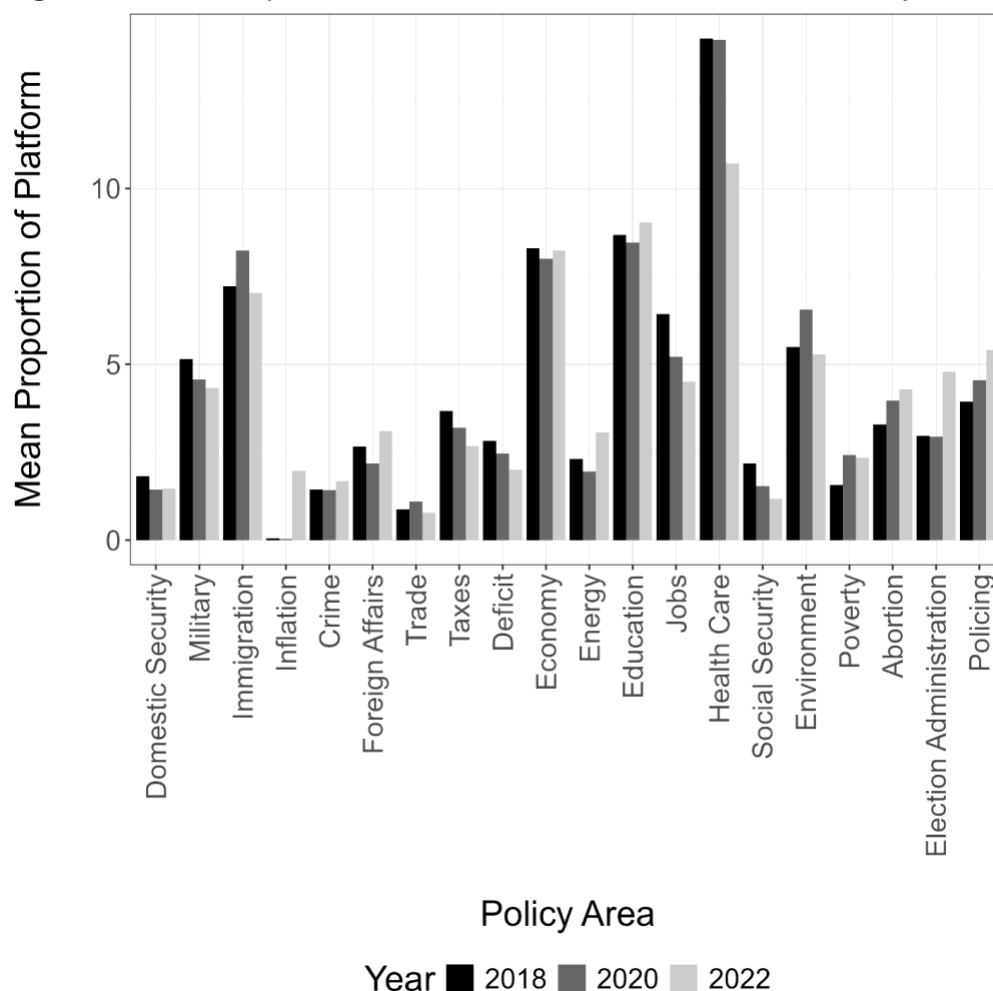


Figure 2 plots the mean proportion of candidates' issue text by issue area from 2018 to 2022 broken down by year. Issue areas along the x-axis are sorted from most Republican owned issues (left) to most Democratic owned issues (right), according to Egan (2013). Our three wave riding issues that are not party owned (abortion, election administration, and policing) can be found on the far right of the x-axis.

Based on our classified paragraphs, we create three candidate-level measures that capture the percentage of words on each candidate's platform dedicated to the three issue strategies: party owned issues, issue trespassing, and wave-riding. To do this, we first counted the number of words each candidate uses on her platform. Then, for each paragraph that was classified into one of the twenty policy areas, we add the number of words in that paragraph to the numerator of the relevant strategy for that candidate.

Descriptively, our results match with overall trends in issue strategies and those seen in Figures 1 and 2. First, candidates are spending more time discussing issues their party owns than issues the other party owns. The average candidate dedicates 44.97% of their platform to party owned issues and 27.43% to issue trespassing. Second, we also find that candidates dedicated more issue attention to wave riding issues in 2022 than in previous election years. On average, candidates in 2022 dedicated 23.53% of their platform to our selected wave-riding issues (abortion, election administration, and

policing) compared with only 19.38 of their platform dedicated to these issues from 2018 and 2020. These descriptives are consistent with prior research and demonstrate that candidates engage in all three issue strategies, indicating that campaign website issue statements are a reliable way to gain insight into the issue platforms of candidates not previously studied. In the following section, we analyze the factors that predict when candidates engage in each of our three issue coverage strategies.

## Results

We now turn to empirically testing our hypotheses to see how candidate characteristics and the electoral context predict the proportion of a candidate's issue platform dedicated to each of the three campaign strategies: party owned issues, issue trespassing, and wave riding. For each strategy, we fit a negative binomial model predicting the proportion of a candidate's platform text dedicated to the corresponding strategy. As mentioned previously, the numerator of the proportion is the number of words used in paragraphs labeled as issue areas that fall into each of the three issue strategies (party owned issues, issue trespassing, and wave riding). The denominator is the total number of words on a candidate's issue page. Across all models, our primary independent variables of interest are candidate experience, partisan primary, and contested primary. We measure candidate inexperience using a three-level factor variable, taking on values of incumbent, experienced challenger, and inexperienced challenger. For partisan primary, this is a binary variable that is equal to one if a candidate's state holds partisan primary elections (either open, closed, or semi-open/closed) and zero if a candidate's state holds a non-partisan primary (top-two, top-four, or jungle primary).<sup>8</sup> Finally, an uncontested primary is a binary variable equal to one if another candidate is in the primary and zero if the primary is contested. We treat a non-partisan primary with only two candidates as uncontested.

In addition to our independent variables related to our hypotheses, we also control for several additional factors across all three campaign strategies. This includes a candidate's gender (equal to one if a candidate is male; zero otherwise), candidate party (equal to one if a candidate is a Republican; zero if a candidate is a Democrat), and fixed effects by election year. We also include controls for pre-primary campaign fundraising (logged)<sup>9</sup>, and the partisanship of a district. We measure this through same-party presidential vote share in the congressional district (averaged across the previous three presidential elections). This allows us to capture the overall partisan leaning and electoral

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<sup>8</sup> We choose to treat open primaries, closed primaries, and partially open/closed primaries as a single "partisan primary" variable. In SI A3, we show the effect is consistent when considering different types of partisan primaries separately.

<sup>9</sup> Data on candidate fundraising comes from Bonica (2024). Given that we are focused on issue messaging strategies in congressional primary elections, we use a measure of candidate fundraising from before a candidate's primary election occurs. This isolates candidate viability at the primary stage, avoiding conflation with funds raised after winning the primary—when viability has already been demonstrated. We take the natural log of pre-primary fundraising; for candidates who report raising no funds, we assign a value of 0.

environment of the congressional district, providing a stable indicator of the baseline support candidates can expect from co-partisans in their constituency. We also include a model that controls for candidate ideology (measured by CFScores (Bonica 2024)). We use the given CFScore for Republican candidates and multiply CFScores for Democrats by -1 so that for all candidates higher CFScores indicate more ideological extremity and lower CFScores indicate more moderate candidates. While we believe there is a relationship between candidate ideology and discussion of issues, using CFScores limits our sample of primary candidates to only those who raised money from donors who gave to multiple candidates. As a result, we ensure our results are consistent across both specifications. In addition, we also include random effects by congressional race to account for the fact that candidates running in the same district are not independent observations.

**Table 1:** Predicting Proportion of Platform Text Dedicated to Party Owned Issues

	<i>Dependent variable:</i>	
	Proportion of Platform Text: Party Owned Issues	
Male	0.006 (0.015)	0.004 (0.014)
Experienced Challenger	0.071*** (0.020)	0.056*** (0.020)
Ref: Inexperienced Challenger		
Incumbent	0.071*** (0.021)	0.062*** (0.020)
Ref: Inexperienced Challenger		
Same Party Presidential Vote	-0.001** (0.001)	-0.002*** (0.001)
Contested Primary	0.007 (0.020)	-0.003 (0.019)
Pre-Primary Fundraising (Log)	0.007*** (0.002)	0.004* (0.002)
Partisan Primary	-0.020 (0.019)	-0.018 (0.019)
Ideological Extremity		-0.002 (0.022)
Republican	-0.172*** (0.013)	-0.142*** (0.015)
2020	0.003 (0.016)	-0.010 (0.016)
2022	-0.024 (0.016)	-0.029* (0.016)
Constant	3.861*** (0.039)	3.942*** (0.052)
Observations	4,670	3,396
Congressional Race RE?	Yes	Yes

Table 1 presents the results from a negative binomial model predicting the proportion of a candidate's policy platform text dedicated to party owned issues. Units of analysis are candidates running as major party candidates in for the U.S. House of Representatives from 2018-2022. Republican owned issues are domestic security, military, immigration, inflation, crime, foreign affairs, trade, taxes, the deficit, and the economy. Democrat owned issues are energy, education, jobs, health care, Social Security, environment, and poverty. \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Starting with party owned issues, Table 1 presents the results of a negative binomial model predicting the proportion of a candidate's platform text dedicated to party owned issues. In the first column, we do not control for ideological extremity and include all candidates with a website issue page. In the second column, we control for CFScores, which restricts our sample to only candidates with a CFScore and a website issue page. Across both models, we find support for our hypothesis that experienced candidates and incumbent candidates dedicate a higher proportion of their issue text to party owned issues than inexperienced candidates. These results are both statistically and substantively significant. From the model in the left column, we find that being an incumbent or an experienced candidate results in 3.3 percentage points more of a platform dedicated to party owned issues when compared with inexperienced candidates.

We should note, the results from control variables are consistent with previous findings related to campaign platform strategy. We first find that candidates running in districts with higher same party presidential vote dedicate a lower proportion of their issue text to party owned issues. We also find that Republicans dedicate a lower proportion of their issue text to party owned issues than Democrats. Finally, candidates who receive more pre-primary fundraising are also dedicating a higher proportion of their platform to party owned issues. This is consistent with our theory that strategic candidates should discuss party owned issues more.

Next, we turn to assessing what factors predict the proportion of a candidate's platform text dedicated to issue trespassing. For this, we again fit a negative binomial model with the same independent variables as above. Our dependent variable is the proportion of a candidate's issue platform text dedicated to issue trespassing. The results from this model are presented in Table 2. We again run separate models with and without a control for candidate ideology measured by CFScores.

Starting with candidate experience, we again find support for our expectations. Specifically, incumbent candidates dedicate more of their platform to issue trespassing than inexperienced and experienced challengers ( $p\text{-value} < 0.01$  across both models). In substantive terms, our model predicts that incumbents dedicate 7.1 percentage points more to issue trespassing than experienced challengers and 5.5 percentage points more than inexperienced challengers. Consistent with our expectations, we also find that experienced challengers dedicate a lower proportion of their issue text to issue trespassing than inexperienced challengers.

**Table 2:** Proportion of a Candidate's Platform Text Dedicated to Issue Trespassing

	<i>Dependent variable:</i>	
	Proportion of Platform Text: Issue Trespassing	
Male	-0.003 (0.024)	-0.028 (0.026)
Experienced Challenger	-0.061* (0.034)	-0.087** (0.035)
Ref: Inexperienced Challenger		
Incumbent	0.190*** (0.035)	0.150*** (0.036)
Ref: Inexperienced Challenger		
Same Party Presidential Vote	-0.002*** (0.001)	-0.003*** (0.001)
Contested Primary	-0.054* (0.032)	-0.052* (0.032)
Pre-Primary Fundraising (Log)	-0.004 (0.003)	0.001 (0.004)
Partisan Primary	-0.099*** (0.031)	-0.100*** (0.034)
Ideological Extremity		-0.211*** (0.040)
Republican	0.147*** (0.022)	0.209*** (0.028)
2020	-0.075*** (0.027)	-0.064** (0.029)
2022	-0.141*** (0.026)	-0.136*** (0.029)
Constant	3.574*** (0.064)	3.721*** (0.093)
Observations	4,670	3,396
Congressional Race RE?	Yes	Yes

Table 2 presents the results from a negative binomial model predicting the proportion of a candidate's policy platform text dedicated to issue trespassing. Units of analysis are candidates running as major party candidates in for the U.S. House of Representatives from 2018-2022. Democratic issue trespassing is discussions of domestic security, military, immigration, inflation, crime, foreign affairs, trade, taxes, the deficit, and the economy. Republican issue trespassing is discussions of energy, education, jobs, health care, Social Security, environment, and poverty. \*p<0.1;\*\*p<0.05; \*\*\*p<0.01

Beyond candidate experience, we also find that primary election dynamics predict the proportion of a candidate's platform text dedicated to issue trespassing. In line with our expectations, we find that candidates running in partisan primaries, and thus first having to win over a subset of partisan voters, dedicate a lower proportion of their issue platform text to issue trespassing ( $p$ -value  $< 0.05$  in both models). In substantive terms, running in a state with partisan primaries results in a 2.9 percentage point decrease in the proportion of a candidate's platform text dedicated to issue trespassing. We also find weak evidence that members of Congress who face a contested primary dedicate a lower proportion of their platform to issue trespassing. This effect is negative and statistically significant at the 0.1 level both when we include all candidates when we control for CFScores. Both of these results point to primary election dynamics shaping candidates' issue strategy.

As with party owned issues, we also find results related to issue trespassing that are consistent with previous work. For example, the proportion of a candidate's platform text is related to the district partisanship; candidates running in districts with a higher proportion of same-party voters dedicate a lower proportion of their platform text to issue trespassing. We also find that Republicans engage in more issue trespassing, and mixed evidence that candidates who raise more money engage in more issue trespassing.

For our final models, we use a negative binomial model to analyze which candidates engage in more or less wave riding. Our dependent variable is the proportion of a candidate's platform dedicated to our three wave riding issues (abortion, election administration, and policing). Unlike the previous two models, where we were interested in cross-sectional patterns, we are now interested in candidates' campaign strategy in 2022 relative to 2018 and 2020. This ensures that the results we observe capture which candidates and electoral circumstances are predictive of adopting a higher proportion of platform text to wave riding issues in response to the increased salience of those issues. This also ensures that any patterns we find are not the result of certain types of candidates talking about these issues more prior to the 2022 election. In addition, we also run three models in which we predict the proportion of a candidate's platform dedicated to each wave riding issue separately. This means the dependent variables are the proportion of a candidate's platform dedicated to abortion, election administration, and policing, respectively. In these single-issue models, as with the composite wave riding measure, we are interested in capturing candidates' campaign strategy in 2022 relative to 2018 and 2020.

To do this, we interact candidate experience, primary type, and contested primary with a binary variable for 2022. Our hypotheses related to wave riding are specifically focused on the coefficient for the interaction terms. The interaction term in this model reflects how much more the coefficient of interest increases or decreases as the salience of abortion, election administration, and policing increase for the 2022 election. In substantive terms, a positive (negative) coefficient can be interpreted as candidates being more (less) responsive to issues increasing in salience in 2022, and thus candidates engaging in a higher (lower) proportion of wave riding. In addition to these interactions, we also control for the same independent variables as Tables 1 and 2. For presentation purposes, we present the change in predicted proportion from the interaction terms

between 2022 and candidate experience, partisan primary, and contested primary, respectively. Full model results are available in SI A4.1. We also repeat the analysis with the inclusion of CFScores as a control variable, the results of which are also presented in SI A4.

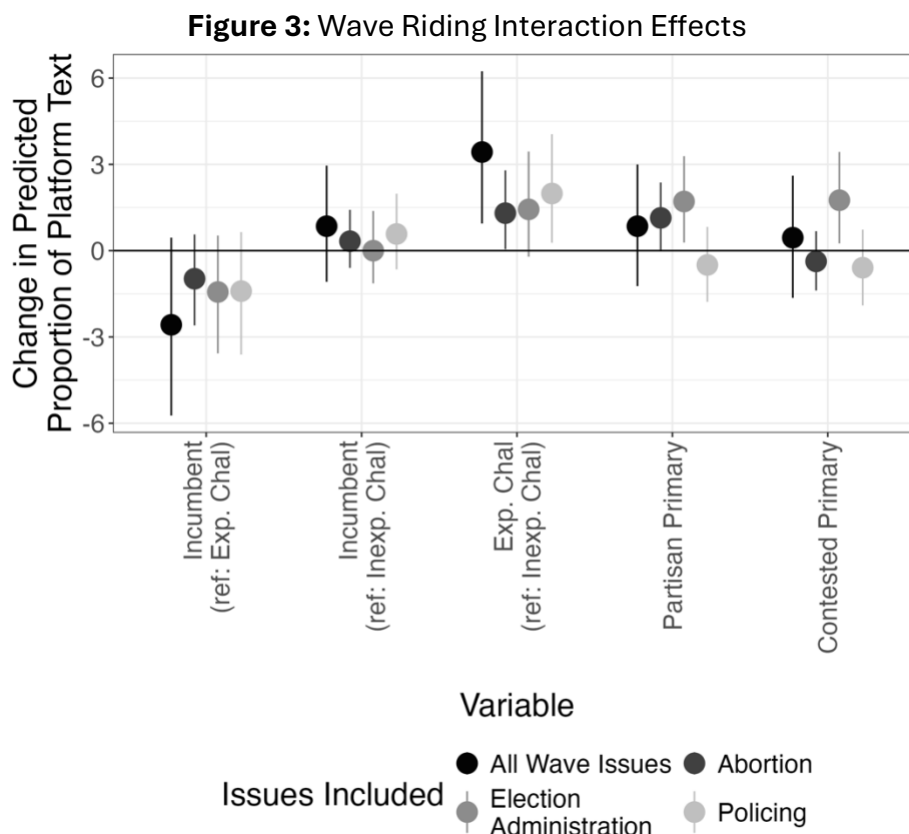


Figure 3 plots the interactive effects between 2022 and our variables of interest as a change in predicted proportion of platform text dedicated to wave riding along with 90% confidence intervals. Predicted proportions are generated using an observed values approach using 10,000 simulated beta values. Coefficient values can be interpreted as the extent to which candidates are responsive to increased issue salience in 2022 and dedicate a higher proportion of their platform text to wave riding issues in 2022. Positive (negative) values indicate that candidates are engaging in relatively more (less) wave riding in their issue rhetoric. Full model results generating these findings can be found in SI A4.

First, we fail to find support for our hypothesis that wave riding differs between challenger candidates and incumbents. We find no statistically significant difference between incumbents and experienced challengers or incumbents and inexperienced challengers. Still, we find some support that wave riding differs by candidate characteristics such as experience. Experienced challengers are more responsive to wave riding issues than inexperienced challengers (p-value <0.05 in model with all three wave riding issues; p-value <0.1 in models with only abortion and only policing).

When turning to primary election dynamics, we find mixed evidence that primary election factors shape candidates' responses to wave riding issues. While the composite model with all three wave riding issues fails to demonstrate support for our hypothesis that

candidates who must appeal to a partisan primary electorate will devote more text to wave riding, we find some differences when examining each wave riding issue separately. In terms of primary type, candidates running in partisan primary states engage in more wave riding than candidates running in non-partisan primary states for certain issues (p-value < 0.1 for abortion; p-value < 0.05 for election administration). We also see candidates facing off in a contested primary are engage in wave riding on the issue of election administration more than candidates who are running uncontested (p-value < 0.1 in election administration model). While the evidence here is mixed depending on which wave riding issues we model, it does point to candidates responding to primary election factors. If candidates first need to win over primary election voters, either due to a partisan primary election or a contested primary, they are more responsive to wave riding issues in their issue group strategy.

## **Discussion**

This paper contributes to the literature on campaign communication and strategy by conducting a systematic analysis of three different methods candidates use when deciding what issues to highlight during their congressional campaigns. We demonstrate that the strategies of focusing on party owned issues, trespassing on issues owned by the opposing party, and riding the wave by addressing timely and salient issues are highly prevalent messaging strategies that candidates engage in with regularity. Of congressional candidates who had a dedicated issue platform on their campaign website between 2018-2022, these candidates spent an average of 91%-95% of their issue platform engaged in these three strategies. Furthermore, we demonstrate that candidate characteristics, particularly previous political experience, and primary election dynamics are associated with the extent to which candidates employ each of these three strategies. Incumbent candidates dedicate more of their issue platform to party owned issues and issues owned by the opposing party than do challenger candidates. Challenger candidates with previous political experience discuss party owned issues and wave riding issues but avoid issue trespassing more than challengers without previous political experience. We also find evidence suggesting the dynamics of the primary election contest influence how much candidates engage in these three strategies. In particular, candidates who must appeal to a partisan primary electorate are less likely to issue trespass and emphasize issues for which their party is perceived as weaker.

Additionally, candidate characteristics and primary election dynamics are differentially associated with the extent to which candidates discuss individual wave riding issues. Among challengers, those with previous political experience are more likely to engage in wave riding and emphasize the issues of abortion and policing in 2022, but this is not true for the issue of election administration. However, candidates appear to be responsive to primary election dynamics when deciding whether to wave ride on the issue of election administration. This suggests that there are some issues for which candidate experience appears to play a more important role (abortion, policing) and others for which primary dynamics exercise a larger influence (election administration). Overall, this highlights that strategic wave riding varies by issue area, and future research should

investigate the conditions under which candidates choose to lean into wave riding issues as they become nationally salient.

Furthermore, we focus our attention on primary elections, an increasingly important aspect of the electoral process that remains understudied. In the United States, a growing number of congressional districts are drawn such that they are reliably won by one party or the other. In districts such as these, the locus of competition shifts from the general election to the primary election. In primary elections, candidates seek to distinguish themselves from other same-party candidates. One of the key ways candidates can accomplish this is through their issue messaging strategies. We demonstrate that candidates in congressional primaries, looking to set themselves apart from other partisans leverage their distinct advantages, such as their political background, in crafting their issue agendas. Of course, there is much more to explore related to issue messaging in primary elections. Evaluating how individual candidates engage in issue messaging raises questions about how the specific dynamics of each individual primary election contest influence the prevalence of these three issue messaging strategies. In other words, how does the campaign dialogue relate to these three issue messaging strategies? If one candidate in a primary election focuses on wave riding issues, do the other candidates in that contest also focus on wave riding issues? Additionally, evaluating how differences in issue salience across districts influences the adoption of these strategies in primary election campaigns provides an area for future analysis.

Ultimately, understanding how candidates campaign in primary elections is crucial for understanding electoral outcomes. In an increasing number of districts, winning the primary election is akin to winning a seat in Congress. In primary elections, where partisan cues are often uninformative and competition is intraparty rather than interparty, understanding issue messaging strategies becomes especially important. How candidates lean into party-owned issues, trespass on issues, and ride the wave reveals how candidates attempt to differentiate themselves on the campaign trail, however these choices may also have downstream consequences as these candidates are likely to pursue their campaign priorities if elected to office (Sulkin 2011). Ultimately, understanding the strategic choices candidates make in primary contests is essential to understanding electoral outcomes and how these legislators behave once in office.

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## **Supplementary Materials for: Issue Attention in Congressional Primary Elections**

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## **A1: Issue Area Coding**

### **A1.1 Issue Area Codebook**

*Note:* Party-owned issue areas are from Egan (2013). Democratic-owned issues are energy, education, jobs, health care, Social Security, environment, and poverty. Republican-owned issues are domestic security, military, immigration, inflation, crime, foreign affairs, trade, taxes, the deficit, and the economy. In addition, we include three wave-riding issues that increased in salience after the 2020 congressional primary elections. These issues are abortion, election integrity, and policing. Below is a description of the types of statements that fall into each issue category. Policy area descriptions are adapted from the Comparative Agendas Project (<https://www.comparativeagendas.net/codebook>).

#### **Policy Area (Category)**

##### **Abortion**

- Stance on pro-life / pro-choice
- Reproductive rights more broadly (e.g. “reproductive healthcare”)
- Planned parenthood (specifically related to abortion)

##### **Election Administration**

- Issues related to voting rights, expanding or contracting the franchise
- Increase the security of elections (voter ID laws, ballot fraud, fake results, audits, January 6<sup>th</sup> from an election administration lens)
- Increase access to elections (open primaries, long lines on election day, early voting, vote-by-mail, absentee voting, holiday for election day)

##### **Policing**

- Police reform (e.g. use of force, investigations and discipline)
- Support for police / Back the Blue
- Demilitarize the police
- NOT criminal justice reform with respect to non-police elements (e.g. sentencing, incarceration)

##### **Domestic Security**

- Discussions of domestic terrorism (e.g. white supremacist terrorism)
- Homeland security
- Human trafficking

##### **Military**

- Domestic military spending
- Size and scope of the military
- Supporting the troops

- Veterans' welfare (e.g. mental health, homelessness)
- Improving/reforming the VA
- Discussions of specific Authorization Acts

## **Immigration**

- Issues related to immigration/immigration reform, refugees, and citizenship
- DACA
- Border security, ICE, sanctuary cities, deportation, separation of families
- Build the Wall
- Broad discussion of immigrants or immigrant experience
- Path to citizenship, birthright citizenship

## **Inflation**

- Issues related to inflation, cost of living, prices (e.g. food, housing), and interest rates

## **Crime**

- Prevalence of violent crime/shootings
- War on Drugs, cannabis, drug legalization
- Reforming the criminal justice system
- Reducing crime, improving public safety
- NOT discussions of the police

## **Foreign Affairs**

- Discussions of how the U.S. should act with other countries (diplomacy, isolationism)
- Importance of prioritizing the U.S. on the world stage
- Promoting peace, democracy, economic development worldwide
- Involvement of U.S. in international organizations (United Nations, NATO)
- The role the U.S. plays in crises abroad (e.g. foreign aid)
- Specific discussions of interactions with other countries (e.g., U.S. relationship with Russia, China, Israel, Ukraine, Iran, North Korea)
- International human rights violations

## **Trade**

- How the U.S. should conduct trade policy
- Specific trade agreements (e.g. NAFTA)
- Tariffs; imports and exports
- Domestic industry protections

## **Taxes**

- Tax reform broadly
- Cut taxes, tax the rich
- Taxes on businesses/corporations

- Discussions of specific acts (e.g. Tax Cuts and Jobs Act of 2017)

### **Deficit**

- Size of debt/deficit
- NOT discussions of specific spending programs (e.g. increasing/cutting Medicare/SS spending)

### **Economy**

- Discussions of general domestic economic policy
- State of the economy
- Government regulation of commerce
- Small business considerations
- Discussions of local economies

### **Energy**

- Discussions of energy policies; energy independence
- Renewables (solar, wind, biomass, geothermal, hydroelectric, nuclear)
- Fossil Fuels (oil, natural gas, coal)
- Energy conservation and efficiency (e.g. vehicles, homes)

### **Education**

- Broad discussions of improving education (access, affordability)
- Parental involvement in education, school choice
- Government role in education
- Universal Pre-K
- Curriculum reform in primary and secondary schools (e.g. limiting what is being taught, Critical Race Theory, No Child Left Behind)
- Higher education for all / higher education accessibility (e.g. tuition concerns, vocational or trade schooling)
- Discussions of homeschooling; charter, religious, or magnet schools

### **Jobs**

- Job creation
- Unemployment rates; impact of unemployment
- Minimum wage
- Labor conditions/protections

### **Health Care**

- Any discussion of health care/health insurance
- Affordable Care Act / Obamacare, Medicare for All
- Prescription drug prices
- Medicare/Medicaid
- Mental health care
- Disease prevention / vaccinations

- Addiction (e.g. opioid epidemic)

### **Social Security**

- Discussions of social security (cuts, expand, save)

### **Environment**

- Protecting the environment (conservation, reducing pollution)
- Climate change (rising temperatures, natural disasters getting worse, CO2 in atmosphere)
- Government's role in environmental protection (e.g. EPA)
- Environmental regulation
- Water; resource conservation
- Protecting federal lands / resources on federal lands

### **Poverty**

- Poverty / homelessness
- Social welfare policies (e.g. assistance for low-income individuals/families)
- Affordable housing
- Specific government programs (e.g. SNAP, TANF)
- Elderly / disabled / low income assistance

## **A1.2 Classification Validation**

**Table A1.2:** Classification Validation, Cohen's Kappa

	Author Hand-Label	GPT-4 (12/2024)	GPT-4 (2/2025)
Author Hand-Label	1.0	--	--
GPT-4 (12/2024)	0.83	1.0	--
GPT-4 (2/2025)	0.84	0.98	1.0

Table A1.2 presents the Cohen's Kappa for our hand labeled data and the GPT-4 generated data. As discussed in the body of the paper, these values demonstrate the consistency of GPT-4 in classification and that the LLM is capturing the concept of interest, the policy area of each issue paragraph.

## A2 Results Using February 2025 GPT-4 Classification

*Note:* The models below replicate the analysis in the body of the paper using the GPT-4 generated issue statement labels from February 2025 instead of the December 2024 labels. The results using the GPT-4 generated labels from two different instances produce consistent results. In Table A2.3 we present the results for the composite measure of all wave riding issues, rather than each wave riding issue separately.

**Table A2.1:** Predicting Proportion of Platform Dedicated to Party Owned Issues, February 2025 GPT-4 Labels

	<i>Dependent variable:</i>	
	Proportion of Platform Text: Party Owned Issues	
Male	0.006 (0.015)	0.005 (0.014)
Experienced Challenger	0.065*** (0.020)	0.049** (0.019)
Ref: Inexperienced Challenger		
Incumbent	0.074*** (0.021)	0.067*** (0.020)
Ref: Inexperienced Challenger		
Same Party Presidential Vote	-0.001** (0.001)	-0.002*** (0.001)
Contested Primary	0.009 (0.020)	0.001 (0.018)
Fundraising (Logged)	0.007*** (0.002)	0.004 (0.002)
Partisan Primary	-0.018 (0.019)	-0.016 (0.019)
Extremity		-0.003 (0.022)
Republican	-0.175*** (0.013)	-0.143*** (0.015)
2020	-0.0001 (0.016)	0.010 (0.016)
2022	-0.028* (0.016)	-0.030* (0.016)
Constant	3.865***	3.953***

	(0.039)	(0.052)
Observations	4,670	3,396
Congressional Race RE?	Yes	Yes
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

**Table A2.2:** Predicting Proportion of Platform Dedicated to Issue Trespassing, February 2025 GPT-4 Labels

	<i>Dependent variable:</i>	
	Proportion of Platform Text: Issue Trespassing	
Male	-0.001 (0.024)	-0.022 (0.026)
Experienced Challenger	-0.062* (0.034)	-0.085** (0.035)
Ref: Inexperienced Challenger		
Incumbent	0.187*** (0.034)	0.146*** (0.035)
Ref: Inexperienced Challenger		
Same Party Presidential Vote	-0.002*** (0.001)	-0.003*** (0.001)
Contested Primary	-0.053* (0.032)	-0.053* (0.031)
Fundraising (Logged)	-0.004 (0.003)	0.002 (0.004)
Partisan Primary	-0.098*** (0.031)	-0.098*** (0.034)
Extremity		-0.212*** (0.039)
Republican	0.150*** (0.022)	0.213*** (0.027)
2020	-0.068** (0.027)	-0.055* (0.029)
2022	-0.136*** (0.026)	-0.130*** (0.029)
Constant	3.555***	3.695***

	(0.064)	(0.092)
Observations	4,670	3,396
Congressional Race RE?	Yes	Yes
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

**Table A2.3:** Predicting Proportion of Platform Dedicated Wave Riding, February 2025 GPT-4 Labels

	<i>Dependent variable:</i>	
	Proportion of Platform Text: Wave Riding Issues	
Male	-0.018 (0.039)	-0.011 (0.041)
Experienced Challenger	-0.154** (0.067)	-0.102 (0.071)
Ref: Inexperienced Challenger		
Incumbent	-0.488*** (0.066)	-0.433*** (0.068)
Ref: Inexperienced Challenger		
2022	0.102 (0.144)	0.004 (0.153)
Same Party Presidential Vote	0.003** (0.001)	0.006*** (0.002)
Fundraising (Logged)	0.009** (0.004)	0.003 (0.007)
Partisan Primary	0.134** (0.062)	0.120* (0.070)
Extremity		0.334*** (0.062)
Contested Primary	0.121* (0.066)	0.109* (0.066)
Republican	-0.196*** (0.036)	-0.335*** (0.045)
2018	-0.166*** (0.043)	-0.116** (0.047)
<i>Experienced Challenger*2022</i>	0.245**	0.212*

	(0.107)	(0.112)
<i>Incumbent*2022</i>	0.077	0.063
	(0.096)	(0.096)
<i>Partisan Primary*2022</i>	0.076	0.164
	(0.103)	(0.116)
<i>Contested Primary*2022</i>	0.046	0.126
	(0.105)	(0.104)
Constant	2.164***	1.801***
	(0.116)	(0.161)
Observations	4,670	3,396
Congressional Race RE?	Yes	Yes
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

### A3 Models Using Alternate Partisan Primary Coding

*Note:* The below models repeat the analysis from the body of the paper using a finer breakdown of primary type. In these models primary type is a factor variable with levels of “non-partisan primary,” “open primary,” “closed primary,” and “partially-closed primary.” For simplicity, we only replicate the results for the models that do not include a control for candidate extremity (measured by CFScore), but the results hold with the inclusion of that control as well. Similarly, we only replicate the composite measure of wave riding issues, but the results are consistent when considering each wave riding issue separately. For all models the reference category is nonpartisan primary.

**Table A3.1:** Predicting Proportion of Platform Dedicated to Party Owned Issues, Alternate Partisan Primary Coding

	<i>Dependent variable:</i>
	Proportion of Platform Text: Party Owned Issues
Male	0.006 (0.015)
Experienced Challenger	0.071***
Ref: Inexperienced Challenger	(0.020)
Incumbent	0.071***
Ref: Inexperienced Challenger	(0.021)
Same Party Presidential Vote	-0.001** (0.001)
Contested Primary	0.007 (0.020)
Fundraising (Logged)	0.007*** (0.002)
Closed Primary	-0.021
Ref: Nonpartisan Primary	(0.021)
Open Primary	-0.020
Ref: Nonpartisan Primary	(0.020)
Partially Closed	-0.017
Ref: Nonpartisan Primary	(0.025)
Republican	-0.172*** (0.013)
2020	0.003

	(0.016)
2022	-0.024
	(0.016)
Constant	3.861***
	(0.039)
Observations	4,670
Congressional Race RE?	Yes
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

**Table A3.2:** Predicting Proportion of Platform Dedicated to Issue Trespassing, Alternate Partisan Primary Coding

	<i>Dependent variable:</i>
	Proportion of Platform Text: Issue Trespassing
Male	-0.004
	(0.024)
Experienced Challenger	-0.059*
Ref: Inexperienced Challenger	(0.034)
Incumbent	0.193***
Ref: Inexperienced Challenger	(0.035)
Same Party Presidential Vote	-0.003***
	(0.001)
Contested Primary	-0.054*
	(0.032)
Fundraising (Logged)	-0.004*
	(0.003)
Closed Primary	-0.046
Ref: Nonpartisan Primary	(0.035)
Open Primary	-0.114***
Ref: Nonpartisan Primary	(0.033)
Partially Closed	-0.175***
Ref: Nonpartisan Primary	(0.041)
Republican	0.149***
	(0.022)

2020	-0.077*** (0.027)
2022	-0.142*** (0.026)
Constant	3.584*** (0.064)
Observations	4,670
Congressional Race RE?	Yes
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

**Table A3.3:** Predicting Proportion of Platform Dedicated to Wave Riding, Alternate Partisan Primary Coding

<i>Dependent variable:</i>	
	Proportion of Platform Text: Wave Riding Issues
Male	-0.018 (0.039)
Experienced Challenger Ref: Inexperienced Challenger	-0.167** (0.067)
Incumbent Ref: Inexperienced Challenger	-0.503*** (0.066)
2022	0.105 (0.143)
Same Party Presidential Vote	0.004*** (0.001)
Fundraising (Logged)	0.009** (0.004)
Closed Primary Ref: Nonpartisan Primary	0.070 (0.069)
Open Primary Ref: Nonpartisan Primary	0.122* (0.066)
Partially Closed Ref: Nonpartisan Primary	0.240*** (0.082)
Contested Primary	0.128*

	(0.066)
Republican	-0.203***
	(0.036)
2018	-0.169***
	(0.043)
<i>Experienced Challenger*2022</i>	0.268**
	(0.107)
<i>Incumbent*2022</i>	0.067
	(0.096)
<i>Closed Primary*2022</i>	-0.010
	(0.115)
<i>Open Primary*2022</i>	0.128
	(0.109)
<i>Partially Closed*2022</i>	-0.001
	(0.135)
<i>Contested Primary*2022</i>	0.040
	(0.104)
Constant	2.174***
	(0.115)
<hr/>	
Observations	4,670
Congressional Race RE?	Yes
<hr/>	
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

#### **A4 Wave Riding Models**

*Note:* A4 contains the full model results for the wave riding model presented in the body of the paper. For readability, only the interaction terms are presented in the figure in the body of the paper. We also replicate the figure in the body of the paper while including a control for CFScores in Figure A4.2 and present the full model results with CFScores included.

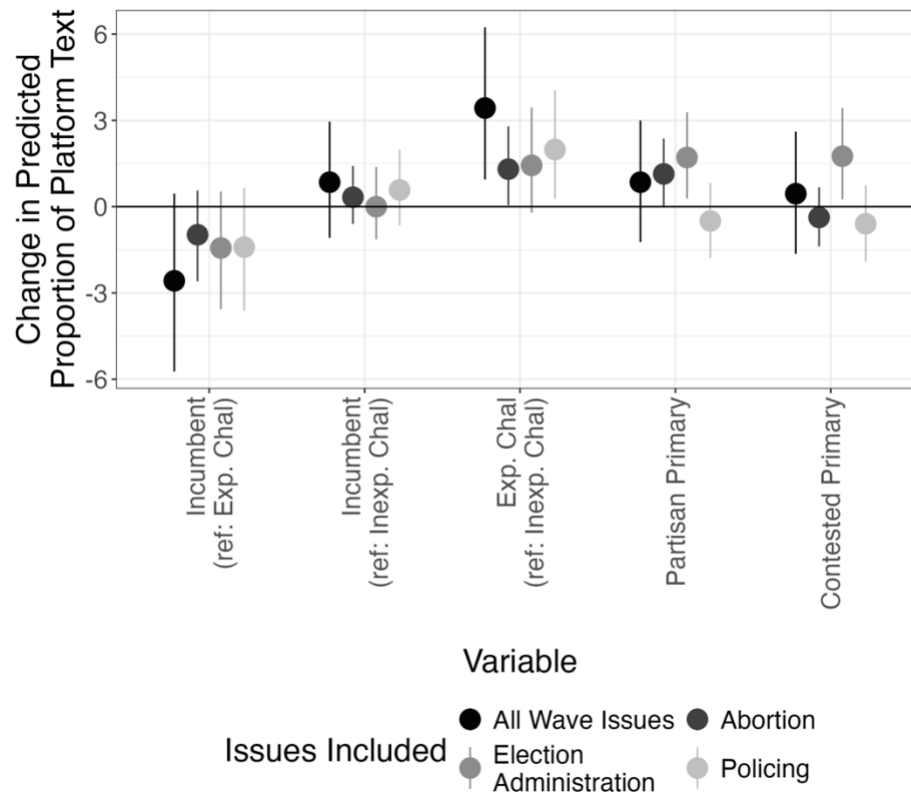
**Table A4.1:** Predicting the Proportion of Platform Text Dedicated to Wave Riding Issues

	<i>Dependent variable:</i>			
	Proportion of Platform Text:			
	(All Wave Issues)	(Abortion)	(Election Admin)	(Policing)
Male	-0.017 (0.039)	-0.219*** (0.061)	0.160** (0.078)	-0.026 (0.065)
Experienced Challenger	-0.158** (0.067)	-0.011 (0.104)	-0.483*** (0.136)	-0.210* (0.112)
Ref: Inexperienced Challenger				
Incumbent	-0.494*** (0.066)	-0.307*** (0.103)	-0.656*** (0.139)	-0.661*** (0.109)
Ref: Inexperienced Challenger				
Same Party Presidential Vote	0.004*** (0.001)	0.010*** (0.002)	-0.001 (0.003)	-0.001 (0.002)
Fundraising (Logged)	0.009** (0.004)	0.020*** (0.006)	-0.002 (0.009)	0.008 (0.007)
Partisan Primary	0.123** (0.062)	0.284*** (0.098)	-0.091 (0.124)	-0.022 (0.104)
Contested Primary	0.124* (0.066)	0.126 (0.104)	0.049 (0.136)	0.245** (0.109)
Republican	-0.197*** (0.036)	0.533*** (0.056)	-0.971*** (0.076)	-0.461*** (0.062)
2022	0.111 (0.143)	-0.120 (0.222)	-0.028 (0.295)	0.395* (0.239)
2018	-0.166*** (0.043)	-0.115* (0.067)	-0.145* (0.086)	-0.227*** (0.071)
<i>Experienced Challenger*2022</i>	0.247** (0.107)	0.283* (0.167)	0.304 (0.215)	0.348* (0.178)
<i>Incumbent*2022</i>	0.066 (0.096)	0.074 (0.149)	-0.013 (0.200)	0.108 (0.159)
<i>Partisan Primary*2022</i>	0.066 (0.102)	0.273* (0.163)	0.417** (0.206)	-0.112 (0.171)
<i>Contested Primary*2022</i>	0.036 (0.105)	-0.100 (0.163)	0.424* (0.217)	-0.131 (0.172)
Constant	2.179*** (0.115)	0.182 (0.176)	1.609*** (0.242)	1.671*** (0.196)
Observations	4,670	4,670	4,670	4,670
Congressional Race RE?	Yes	Yes	Yes	Yes

Note:

\* p&lt;0.1; \*\* p&lt;0.05; \*\*\* p&lt;0.01

**Figure A4.2:** Wave Riding Interaction Effects, controlling for CFScores



**Table A4.3:** Predicting the Proportion of Platform Text Dedicated to Wave Riding Issues, controlling for CF Scores

	<i>Dependent variable:</i>			
	Proportion of Platform Text:			
	(All Wave Issues)	(Abortion)	(Election Admin)	(Policing)
Male	-0.006 (0.041)	-0.136** (0.065)	0.107 (0.083)	-0.045 (0.071)
Experienced Challenger	-0.095 (0.071)	0.071 (0.108)	-0.206 (0.143)	-0.275** (0.122)
Ref: Inexperienced Challenger				
Incumbent	-0.433*** (0.068)	-0.202** (0.103)	-0.466*** (0.142)	-0.707*** (0.116)
Ref: Inexperienced Challenger				
Same Party Presidential Vote	0.005*** (0.002)	0.014*** (0.003)	-0.002 (0.003)	-0.001 (0.002)
Fundraising (Logged)	0.004 (0.007)	0.013 (0.010)	-0.006 (0.014)	0.006 (0.012)
Extremity	0.334*** (0.062)	0.614*** (0.108)	0.287*** (0.109)	-0.096 (0.111)
Partisan Primary	0.108 (0.070)	0.477*** (0.110)	-0.231 (0.142)	-0.148 (0.120)
Contested Primary	0.113* (0.066)	0.163 (0.102)	0.006 (0.137)	0.211* (0.110)
Republican	-0.337*** (0.045)	0.262*** (0.074)	-1.256*** (0.089)	-0.474*** (0.079)
2022	0.010 (0.153)	0.106 (0.235)	-0.394 (0.317)	0.220 (0.261)
2018	-0.120** (0.047)	-0.018 (0.073)	-0.122 (0.096)	-0.247*** (0.080)
<i>Experienced Challenger*2022</i>	0.201* (0.112)	0.249 (0.172)	0.005 (0.229)	0.392** (0.190)
<i>Incumbent*2022</i>	0.050 (0.096)	0.005 (0.147)	-0.109 (0.200)	0.150 (0.163)
<i>Partisan Primary*2022</i>	0.161 (0.116)	0.079 (0.181)	0.901*** (0.236)	-0.014 (0.197)
<i>Contested Primary*2022</i>	0.115 (0.104)	-0.037 (0.159)	0.577*** (0.216)	-0.027 (0.174)
Constant	1.821*** (0.161)	-0.833*** (0.253)	1.553*** (0.317)	1.992*** (0.288)
Observations	3,396	3,396	3,396	3,396

Congressional Race RE?	Yes	Yes	Yes	Yes
<i>Note:</i>			* p<0.1; ** p<0.05; *** p<0.01	