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Timely Talk: Responsiveness in Legislator Communications

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by

Zayne Sember

Committee in charge:

Professor Pamela Ban, Chair
Professor Seth Hill
Professor Kevin Lewis
Professor Margaret E. Roberts

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The Dissertation of Zayne Sember is approved, and it is acceptable in quality and form for publication on microfilm and electronically.

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2025

EPIGRAPH

For the politics are not political

For what they stand

For not what they demand

Every senator and diplomat

Combines her certain part

A matter for the heart

Save yourself from recognition

Selflessness and quiet song

To better get along

Sufjan Stevens

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ABSTRACT OF THE DISSERTATION

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by

Zayne Sember

Doctor of Philosophy in Political Science with a Specialization in Computational Social Science
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Professor Pamela Ban, Chair

When and how do legislators respond to changes in their constituencies? In this three paper dissertation, I use the public communications of members of the Congress to investigate how changes in the constituency and country motivate legislators to adapt their messaging. In the first paper, I pair press release and Census data to estimate the effect of changes in constituency demographics on what issues legislators give attention to, finding that changes in partisan demographics are associated with changes in credit-claiming and position-taking and may mediate responsiveness to other demographic changes. In the second paper, I consider how nationalization influences responsiveness by leveraging the COVID-19 pandemic and a novel dataset of legislators' social media

posts to compare responsiveness to local versus national pandemic impacts and test for differential responsiveness between parties. I find that legislators reacted more to national deaths and economic downturns with significant increases in pandemic-related posts, whereas district-level changes had negligible effects and partisan differences in responsiveness were small. In the third paper, I estimate the impact of local media decline on legislators' proclivity to issue locally oriented press releases and newsletters, finding no effect of local media decline, rather that factors such as ideological extremity and elections predict locally oriented messaging. Together, these studies contribute to literatures concerning legislator responsiveness, nationalization, and political communication and move beyond the traditional approaches for measuring responsiveness by combining text as data methods with observational data to give a more complete picture of how legislators present themselves to and represent their constituents.

Chapter 1

New Audience, New Message: Constituency Change and Responsive Congressional Communication

Abstract

A large body of work seeks to understand whether government is responsive to the governed using the legislative activities of members of Congress. Advances in text as data now open the door to the public communications of legislators allowing a more extensive and nuanced understanding of how legislators change their positions and priorities over in response to changes in their constituency. This study builds on previous work on legislator communication and responsiveness by pairing a dataset of over 168,000 press releases over 15 years with Census and election data to measure how members of the 112th and 113th Congresses respond to changes in the electoral safety and demographic composition of their constituency. I find some evidence that increases in electoral safety are associated with less attention to pork barrel topics among Democrats and more attention to divisive policy topics among Democrats and Republicans. I also find some evidence that changes in electoral safety mediate responsiveness to changes in the constituency demographics, though the effects vary by demographic group and party.

1 Introduction

In pursuit of reelection, each legislator develops a unique representational style suited to the contours of their constituency. But what are they to do when that constituency changes? Normative expectations of democracy lead us to expect legislators to be responsive, adapting their behavior to better reflect the interests of the represented in order to win reelection and remain in office. Yet despite evidence that legislators tend to reflect the issue positions of their constituents and that public policy is to a degree responsive to public opinion, most studies of legislators' responsiveness to a changing constituency, sometimes termed "dynamic responsiveness", find little evidence that legislators actively adapt their behavior to changing public opinion (Bartels 1991; Miller and Stokes 1963; Page and Shapiro 1983; L. W. Powell 1982; Stimson, Mackuen, and Erikson 1995). Instead, the strongest evidence of responsiveness is observed through electoral selection–voters throwing out incongruent legislators come election day (Ansolabehere and Jones 2010; Ansolabehere and Kuriwaki 2022; Canes-Wrone, Brady, and Cogan 2002; Fowler 2005).

But perhaps not all hope is lost for dynamic responsiveness: A number of studies find legislators do adapt their roll-call voting, bill introduction, and sponsorship activities to become more congruent with their constituency's ideology and demographics when redistricting changes the composition of a constituency (Crespin 2010; Glazer and

Robbins 1985; M. Hayes, Hibbing, and Sulkin 2010; LeVeaux and Garand 2003; Leveaux-Sharpe 2001), though it is not entirely clear whether this responsiveness is better explained by broader partisan trends (Bertelli and Carson 2011; Wilson and Ellis 2012). While much work has focused on measuring changes in legislative activities, a growing body of work shows legislators also adapt to constituency changes through the content of their public communications like press releases, newsletters, and social media posts (Barberá et al. 2019; Cormack 2021; Cormack and Meidlinger 2022; Kaslovsky and Kistner 2024; Kim et al. 2022). Though sometimes dismissed as mere cheap talk, legislators use their communications as an opportunity to signal their positions and priorities to the media and constituents directly. In doing so, they can demonstrate responsiveness more freely than in their legislative activities where they are constrained by institutional features like party leadership's agenda control and the committee system.

Despite advances in computational tools for analyzing legislators' communications, questions remain about when and to what degree legislators change the way their presentation of self and thus the representation they offer to their constituents. While it is established that the electoral environment of a legislator is associated with their choice of presentational style, specifically their preference for credit-claiming versus position-taking, it is not clear whether this occurs through electoral selection or if incumbents actively adapt their messaging strategy as their constituency and electoral environment changes (Grimmer 2010, 2013). Further, there are conflicting findings on how institutional factors mediate adaptation to constituency change and to which constituency changes legislators actually respond to (Glazer and Robbins 1985; M. Hayes, Hibbing, and Sulkin 2010; Leveaux-Sharpe 2001).

To fill these gaps, I leverage the 2010 redistricting cycle and both supervised and unsupervised text classification to measure changes in legislators' pork-policy focus and issue attention in their press releases in response to changes in key subconstituencies: copartisans, senior citizens, Hispanics, and African Americans. I find some evidence that increases in electoral safety are associated with less attention to pork barrel topics among Democrats and more attention to divisive policy topics among Democrats and Republicans. I also find some evidence that changes in electoral safety mediate responsiveness to changes in the demographics of a legislator's constituency, though the effects vary by demographic group and party. In doing so, I contribute to our understanding and measurement of dynamic responsiveness and its broader implications for the functioning of American democracy. I also demonstrate that redistricting can have consequences for how legislators represent their constituents and for political discourse more broadly. If legislators strategically change their messaging to emphasize position-taking when they become more electorally secure, redistricting procedures that create fewer competitive districts may contribute to the increasingly polarized and nationalized rhetoric coming from members of Congress. This, in turn, has implications for the information available for voters to assess their representatives as it is more so legislators' positions, not policy outcomes, that inform constituent evaluations (P. E. Jones 2011).

2 Background

2.1 Responsive communication

Whether elected officials are responsive to the interests of the public has been a central focus of studies of representation for at least half a century. Perhaps the most developed literature in American politics seeking to answer this question concerns legislators, particularly members of Congress. Theoretical debates remain over what exactly constitutes responsiveness but the generally accepted characterization comes to us from Pitkin (1967, 209): "representing [. . .] means acting in the interest of the represented, in a manner responsive to them." From this definition come two related but distinct conceptions of responsiveness: static responsiveness (or issue congruence), the congruence between the representative and represented's ideologies, and dynamic responsiveness, the idea that, when the public's interests change, public policy responds to better represent the public resulting in static responsiveness (Miller and Stokes 1963; Stimson, Mackuen, and Erikson 1995).

Static responsiveness has been the primary focus of studies of representation due to its substantive importance–do legislators actually represent the interests of their constituents?–and ease of measurement as compared to dynamic responsiveness which necessitates measuring changes over time. Static responsiveness is measured as a snapshot in time, comparing legislators' positions to conditions in the constituency, typically public opinion polling. While evidence for this kind of responsiveness is a hopeful sign for democratic governance functioning as intended (Bishin 2000; B. D. Jones and Baumgartner 2004), it does not speak to *how* congruence between legislators and constituents comes about through dynamic responsiveness. For this there are two mechanisms: The first is that electoral selection allows only those who effectively mirror voters' preferences to win and maintain office. Studies of electoral accountability demonstrate this is occurring (Ansolabehere and Kuriwaki 2022; Ansolabehere, Snyder, and Stewart 2001; Arnold 1990; Canes-Wrone, Brady, and Cogan 2002; Fiorina 1980; D. R. Jones 2010; P. E. Jones 2011; David R. Mayhew 1974a). The second is that legislators, anticipating electoral selection, engage in adaptation–changing their representational style when they perceive changes in their constituency to avoid being replaced come election day. This adaptation can take many forms, be it flip-flopping on issue positions, changing priorities, altering rhetorical style, or adopting new platforms to better reach the public (Adler, Gent, and Overmeyer 1998; Cayton 2017; Harden 2013). It is through selection and adaptation that government and public policy can dynamically respond to the public interest and bring the representative-constituent relationship to a state of static responsiveness.

Measurement of both static and dynamic responsiveness for legislators has generally relied on using their legislative activities—introducing, sponsoring, and voting on legislation—to estimate and compare legislator ideology

to constituency ideology (Ansolabehere, Snyder, and Stewart 2001; Bartels 1991; Clinton 2006; Griffin 2006; Jackson and King 1989; S. D. Levitt 1996; Miller and Stokes 1963; Page et al. 1984; L. W. Powell 1982). However, the public has little exposure to these activities, instead assessing the representation they receive primarily through what their legislator says and the coverage is garners in the media (P. E. Jones 2011; Lapinski et al. 2016). For this reason communicating with constituents is key to convincing them to keep a legislator around, evidenced by the numerous platforms (press releases, social media posts, floor speeches, franked mail, newsletters, town halls, etc.) legislators use to advertise their positions and claim credit for their achievements, whether concerning legislative actions or constituency services (David R. Mayhew 1974a).

These communications offer far more flexibility for legislators to cater to and represent their constituents' interests, unlike legislative activities for which the agenda-setting power of party and committee leadership dictates what gets voted on and when as well as the costly nature of crafting legislation to be introduced, legislators can use their communications to address constituency-specific concerns and signal their policy priorities as frequently as they like and with relatively low cost. From the researcher's perspective, the resulting communications offer a plethora of data allowing a more complete understanding of a legislator's style and positions (Cormack 2016b; Grimmer 2013). As such, a growing literature examines these communications to characterize how and why legislators develop their unique presentational style.

Grimmer (2010, 2013), in his seminal works on congressional communication, classifies members' press releases with supervised topic modeling, developing a "policy-pork spectrum" to describe the key dimension underlying members' communications: proclivity to credit-claim versus take positions. He finds that legislators adopt an appropriator style, emphasizing credit-claiming for particularistic benefits, when they are so-called "marginals"—representing a constituency not safely held by their own party. The logic is straightforward: to take a position on an issue, while satisfying one portion of the electorate, necessarily alienates another. When a member faces a serious threat of defeat, position-taking on these divisive issues is risky. Credit-claiming, in contrast, allows members to demonstrate they are working to bring tangible benefits to their constituents, even those belonging to the opposing party. For "aligned" members whose constituency overwhelmingly consists of copartisans, position-taking in-line with the party is less risky and potentially electorally beneficial while also bolstering a member's standing within their party. It also does not require the legislator to hold a position on a powerful committee or for their party to control the chamber. Members, of course, can choose to walk and chew gum at the same time, simultaneously credit-claiming and position-taking—and most do—however it is clear that a member's electoral environment is central in determining how they communicate with the public and the balance they strike between these activities.

In addition to molding their presentational style to the electoral environment, recent work finds that legislators adapt their communications to changes in public preferences and constituency conditions. While studies

of responsiveness have generally characterized responsiveness as congruence between legislator and constituency ideology (typically using roll-call vote ideal points and public opinion polling or presidential vote share), advances in textual analysis open the door to measuring responsiveness in communications. A legislator who seeks to be responsive to the represented should strategically craft their communications to cater to the contours of their particular constituency, and indeed they do. Barberá et al. (2019) find the issue attention of members of the 113th Congress' tweets to be responsive to issue attention of the general public and copartisans' tweets. Kim et al. (2022) examine the Twitter use of state legislators and find evidence of responsiveness to both state policy change and COVID-19 deaths at the state and national level. Similarly, Cormack and Meidlinger (2022) observe responsiveness in the content of newsletters to district-level COVID-19 fatalities among House members of both parties. Perhaps most relevant to this study, Kaslovsky and Kistner (2024) find legislators engage in more extreme partisan rhetoric in social media posts when redistricted into more partisan districts. Legislators understand that their communications allow constituents to learn about and evaluate their activities and thus craft a presentational style catering to the constituency. Given this, when a constituency's preferences or makeup changes, a re-election minded legislator should adapt their presentational style accordingly, opening the door to a test of dynamic responsiveness reliant not on constrained legislative activities, but communications that explain those activities and more to constituents.

2.2 Demographic change

Staying in office as a modern legislator means being attuned to your constituency. Studies of Congress find that voters do generally hold their legislators accountable for the positions they take, despite earlier work painting a more dismal picture of congressional accountability (Ansolabehere and Kuriwaki 2022; Ansolabehere, Snyder, and Stewart 2001; Arnold 1990; Canes-Wrone, Brady, and Cogan 2002; Fiorina 1980; D. R. Jones 2010; P. E. Jones 2011; David R. Mayhew 1974a). This accountability is the clearest mechanism for the finding that American government does exhibit some degree of responsiveness to changes in public opinion (Fowler 2005; Page and Shapiro 1983; Stimson, Mackuen, and Erikson 1995; Wlezien 1996). Aware that voters hold them accountable, legislators appear to generally exhibit issue congruence with constituents in their roll-call voting (Ansolabehere, Snyder, and Stewart 2001; Bartels 1991; Bishin 2000; Clinton 2006; Griffin 2006; Jackson and King 1989; S. D. Levitt 1996; Milita, Ryan, and Simas 2014; Miller and Stokes 1963; Page et al. 1984; L. W. Powell 1982). This is particularly the case for high visibility issues and those which are salient to key subconstituencies (Bishin 2000; Milita, Ryan, and Simas 2014).

Though to date there is more concrete evidence of selection rather than adaptation driving responsiveness, studies leveraging redistricting find consistent evidence of legislators adapting their legislative activities to improve congruence with their constituency (Crespin 2010; Glazer and Robbins 1985; M. Hayes, Hibbing, and Sulkin 2010; LeVeaux and Garand 2003; Leveaux-Sharpe 2001). This responsiveness to relatively small redistricting-induced

changes in district demographics is observed in spite of the vanishing of marginal seats discussed at length in the congressional literature, indicating that legislators are attuned to changes in electorally significant subconstituencies (Ansolabehere, Brady, and Fiorina 1992; Fiorina 1977; David R. Mayhew 1974a).

The earliest work on responsiveness to redistricting-induced changes in constituency comes from Stone (1980) examining the 84th to the 93rd Congresses (corresponding to the 1960 and 1970 redistricting cycles). He finds changes in constituency opinion on domestic welfare and civil rights issues measured through the National Election Survey to be only weakly correlated with changes in members' roll-call voting, though mixed evidence is found of members with slimmer margins of victory altering their voting to be more in line with constituent preferences. Glazer and Robbins (1985) examine the 1970 and 1980 redistricting cycles but rather than rely on polling as Stone (1980) does, use presidential vote share as a proxy for district ideology. Estimating the correlation between change in presidential vote share and roll-call voting, they find substantial evidence of responsiveness to constituency ideology, especially among more senior members of the House.

Several studies go on to examine responsiveness to constituency change after the 1990 Census: Leveaux-Sharpe (2001) finds responsiveness to ideological change consistent with Glazer and Robbins (1985) but with one wrinkle: senior members were found to exhibit less responsiveness than their junior counterparts. This contrary finding is explained as a generational effect, with the junior (and least responsive) members observed in earlier work now being senior. Yet this is not consistent with a public that holds legislators electorally accountable—if junior cohorts are indeed less responsive on average, electoral selection should weed out the least responsive members over time. Only the most responsive should survive reelection repeatedly and achieve seniority. Further muddling things, later work by Hayes, Hibbing, and Sulkin (2010) finds, during the 2000 redistricting cycle, no impact of tenure on changes in bill introduction, cosponsoring, or roll-call voting behavior. In examining behavior beyond roll-call voting which is subject to the agenda control of party leadership, they provide a more nuanced view of how members adapt to constituency changes. While they found roll-call voting to be most responsive to changes in a district's partisan composition, members' agenda content (bill introductions and cosponsorship) exhibited responsiveness to demographic changes beyond party for a range of relevant issue areas. Though the effect of tenure on responsiveness is unclear, there remains consistent evidence that members adapt their roll-call voting and the extremity of their rhetoric in response to redistricting-induced ideological change in their district (Crespin 2010; M. Hayes, Hibbing, and Sulkin 2010; Kaslovsky and Kistner 2024).

Considering normative concerns over racial redistricting harming the descriptive and substantive representation of minority groups, a related literature examines whether redistricting-induced changes in racial demographics result in changes in issue attention among legislators. Leveaux-Sharpe and Garand (2003) find that members of both parties (though Republicans more modestly) responded to gaining African-American constituents

by voting more liberally while Overby and Cosgrove (1996) find losing African-American constituents reduced sensitivity to concerns of the black community among white incumbents. In contrast, Wilson and Ellis (2012) find no evidence of this responsiveness after the 2000 redistricting in members' National Hispanic Leadership Agenda (NHLA), Leadership Conference on Civil Rights, and National Association for the Advancement of Colored People (NCAA) scores, finding instead that party trends drove changes in members' scores. This lack of responsiveness is attributed to the trend of redistricting creating more electorally secure constituencies for both parties, limiting the need for members to adapt to changes in their constituency (Bertelli and Carson 2011).

Given the evidence that legislators are generally responsive to key demographic groups in their legislative activities and that the characteristics of a constituency influence the style and content of legislators' communications, the following section theorizes about why legislators will use their public statements to demonstrate responsiveness and to what subconstituencies I expect this responsiveness to be evident for.

3 Theory

Legislators demonstrate responsiveness to their constituencies in numerous ways, one being how they present themselves in their communications, communications which constituents use to hold them accountable and which shape broader political discourse (Lipinski 2001). I first focus on two dimensions of these communications known to relate constituency composition: The first, pork-policy focus, describes a legislator's preference for credit-claiming vs. position-taking. The second, issue attention, describes the issue areas legislators choose to prioritize within their communications. If re-election minded legislators craft their representational style to cater to their constituency, then when their constituency changes they will change their representational style to reflect the constituency. If legislators are responsive to the public in accordance with democratic norms, this responsiveness will be evident in what they choose to communicate about.

3.1 Pork and policy

Credit-claiming and position-taking (pork and policy, respectively) constitute the bulk of legislators' communications and contain the clearest signals about their positions and priorities relayed to constituents. As Grimmer (2013) demonstrates, the relative share of communications dedicated to each of these categories reveals an important dimension of a legislator's representational style. A legislator's pork-policy focus does not develop in a vacuum, rather the electoral environment is a key determinant of how legislators position themselves. Those with significantly more copartisans than outpartisans ("aligned" legislators) systematically engage in more position-taking

while those representing constituencies with more outpartisans ("marginal" legislators) prefer credit-claiming (Grimmer 2010, 2013).

Though some dismiss these communications as cheap talk meant to sway voters without meaningful action behind them, credit-claiming and position-taking convey important information to constituents about what their representative has accomplished, what they are currently doing, and what they intend in the future. Jones (2011) shows that constituents are generally more concerned with the positions legislators take on issues than actual policy outcomes. Similarly, Grimmer, Messing and Westwood (2012) find that the volume (and not necessarily the content) of credit-claiming messages effectively build support from constituents. Though what legislators say and actually do can differ, for example claiming credit for distributive benefits they had nothing to do with or even opposed, the correlation between pork-policy focus and electoral safety is reflected in both communications and legislative activities: marginal legislators' districts receive more earmarks (when they are in the majority), enabling more credit-claiming and tend to avoid position-taking in roll-call votes (Cormack 2016a; D. R. Jones 2003; Lazarus 2009). These findings indicate that the communications of legislators offer valuable insight into the nature and quality of representation.

It is clear that legislators are highly strategic in their balance between messaging about pork and policy. It is also clear that legislators understand that explaining themselves to constituents is key to forming their representational style and ultimately securing re-election (Fenno 1978; Grimmer 2013; David R. Mayhew 1974b). As such, a change in the partisan composition of a district should induce a change in how the incumbent presents themselves to constituents. When a district loses copartisans and gains outpartisans such that the incumbent is facing a much more competitive upcoming election than previously, the legislator must win over more moderate voters, including outpartisans—individuals they did not previously need to mobilize in order to be reelected. This presents a dilemma to the incumbent: how can they win over moderates without losing the support of their base? Legislators do seem to adapt their issue positions to be more ideologically congruent with their constituency after a change in partisan composition via their legislative activity, but this strategy is costly (Crespin 2010; Glazer and Robbins 1985; Leveaux-Sharpe 2001). They may win the vote of some moderates but at the risk of alienating the party base and opening the door to a primary challenge. Moderating may also hamper fundraising, given that most congressional campaign contributions come from ideologically aligned individual donors (Jacobson and Carson 2016).

Preferable to this costly ideological adaptation is adapting one's presentational style to focus on claiming credit for non-ideological and non-controversial deliverables rather than taking positions on divisive national issues. Adopting a style oriented toward credit-claiming offers a means of appearing more moderate to voters while avoiding accusations of flip-flopping that may come along with moderating ideologically. Given the strong evidence that legislators moderate their roll-call voting when redistricting removes copartisans–a potentially costly strategy–they

should be equally, if not more, willing to adapt their presentational style to focus on credit-claiming.

Conversely, when an incumbents' district gains copartisans such that the incumbent's seat is much safer in the upcoming election than previously, the legislator is no longer incentivized to appeal to moderates and less concerned with the electoral costs of party loyalty (Canes-Wrone, Brady, and Cogan 2002; Carson et al. 2010). This frees them up to engage in more position-taking on divisive issues on the party's agenda, appealing to the party base and appeasing party leadership (Leighton and Lopez n.d.). Legislators in this position are also incentivized to adapt their voting behavior to be more ideologically extreme to improve congruence with their changed constituency and, unlike in the case of losing copartisans, flip-flopping here may not be particularly costly. However, considering only voting behavior may underestimate legislators' willingness to adapt if party leadership chooses to not put extreme legislation to a vote that could jeopardize marginal members. As such, more adaptation should be evident in legislators' position-taking communications, over which they have total control, as opposed to position-taking via floor votes which leadership has agenda control over.

For these reasons, I expect legislators whose districts lose copartisans and become more electorally marginal will respond by engaging in more credit-claiming and less position-taking in their communications **(H1a)**. Conversely, I expect legislators whose districts gain copartisans and become more electorally safe will respond by engaging in more position-taking and less credit-claiming in their communications **(H1b)**.

3.2 Issue attention

While legislators must strike a balance between pork and policy in their communications, they must also be strategic in what issues they focus their attention on. By communicating more frequently about an issue or set of issues, legislators signal to constituents what they prioritize in a way that roll-call voting cannot. With innumerable issues circulating in public discourse simultaneously, legislators develop a keen understanding of the subconstituencies they represent, using this knowledge to inform which issues they focus their attention on (Cormack 2021; Fenno 1978; Page et al. 1984; Whitby 1985). This issue attention is not reflected in roll-call votes, rather these votes reflect the agenda of the majority party's leadership and only reveal legislators' positions on policies, not which policies they deem most important. Despite this constraint, modest changes in legislators' roll-call voting do seem to occur when the size of key subconstituencies changes—legislators take more positions in line with subconstituencies when their membership grows (Glazer and Robbins 1985; Overby and Cosgrove 1996; Sharpe and Garand 2001; Stratmann 2000). Unlike in institutionally constrained roll-call votes, in their public statements legislators are free to develop their own issue agenda tailored to the needs of the constituency. If roll-call voting appears responsive to changes in the composition of the constituency, responsiveness to constituency change should be even more evident in changing

issue attention—potentially even for subconstituencies whose changing composition has not been found to instigate changes in voting behavior. For this reason, I expect to observe changes in issue attention corresponding to changes in constituency composition.

The senior vote has long been coveted in congressional elections. Despite constituting a small share of the country's voters, seniors' high turnout and voter registration rate as well as frequent consumption of news media make them a valuable mobilization target for campaigns (Binstock 2012; Curry and Haydon 2018). Retired Americans constitute one of the largest groups of campaign contributors, giving over $300 million and $800 million in 2012 and 2022, respectively. Along with their individual influence, older Americans have one of the largest interest groups in the country on their side. The AARP boasts 37 million members and spends upwards of $20 million on lobbying efforts each year in support of Social Security, Medicare, and other senior issues (Secrets n.d.). These lobbying efforts reflect strong support for entitlements among older Americans, for example a 2013 survey found 85% of respondents in the Silent Generation (born before 1946) held a favorable view of Social Security compared to 65% of respondents in Generation Y (born after 1980) (Tucker, Reno, and Bethell 2013). Previous work finds a correlation between the size of a constituency's senior population and legislative activity concerning senior issues like social welfare programs (Curry and Haydon 2018; M. Hayes, Hibbing, and Sulkin 2010). In addition to entitlements, seniors also place more importance on issues of defense than younger Americans with the 2012 Cooperative Election Study showing respondents 65 and over were 15% more likely to object to defense spending cuts. Given seniors' political importance and prioritization of entitlements and defense, I expect legislators whose districts gain senior constituents to exhibit greater attention to Social Security, Medicare, Medicaid, and issues related to defense in their communications **(H2)**.

Hispanic and Latino Americans, the country's largest racial minority, are an increasingly important subconstituency for legislators with the number of eligible voters in this group seeing significant growth in recent decades (Natarajan and Im 2022). While there is evidence that a larger Hispanic population corresponds to more liberal legislator ideology, more recent work lumps Hispanics in with other minority groups, investigating the relationship between changes in white population and legislative activity on civil rights issues (M. Hayes, Hibbing, and Sulkin 2010; Welch and Hibbing 1984). Considering responsiveness to changes in the size of Hispanic subconstituencies on their own, I focus on one key issue area: immigration. Since evolving into a partisan issue in the 1990s, legislative attempts to overhaul the immigration system have repeatedly failed leaving immigration a lingering issue highly salient to many Hispanic Americans as they or their loved ones interact with the system firsthand (Krogstad and Lopez 2021; Natarajan and Im 2022). The salience of this issue area is reflected in polling, for example with 70% of Latino voters rating immigration as very important in 2016, compared to just 45% of all voters (López 2016). Despite a lack of legislative success, floor votes on failed immigration legislation reveal that legislators of both parties with a larger foreign-born population in their constituency are less likely to support restrictive immigration policies, indicating

some degree of responsiveness to this subconstituency (Wong 2017). I expect legislators whose districts gain Hispanic constituents will exhibit greater attention to immigration issues in their communications **(H3)**.

African Americans, the second largest racial minority and a key part of the Democratic Party's coalition since the Southern Realignment, have been the subject of most work to date considering legislator responsiveness to changing racial demographics. This is unsurprising given controversy around race-based redistricting has revolved around how African American populations are strategically packed and cracked with implications for their substantive and descriptive representation (Canon 2022; Epstein and O'Halloran 1999; Overby and Cosgrove 1996; Sharpe and Garand 2001). When districts gain African American constituents, legislators have been shown to respond by supporting more liberal and civil rights-oriented legislation in their roll-call voting (Hutchings, McClerking, and Charles 2004; LeVeaux and Garand 2003; Sharpe and Garand 2001). With gains in African American constituents linked to changes in legislator behavior in the constrained domain of roll-call voting, responsive legislators should also change their issue attention to better align with their constituency. Black Americans consistently rank racial and criminal justice as important issues at higher rates than other racial groups (Black Futures Lab 2019; Crowder-Meyer 2022). Given this, I expect legislators whose districts gain African American constituents will exhibit greater attention to issues of criminal and racial justice in their communications **(H4)**.

4 Data

4.1 Press releases

To test for responsiveness to changes in district demographics, I use Wang's (2022) dataset of congressional press releases issued between 2004 and 2019, restricting it to those issued by representatives from states with more than one congressional district who served for the entirety of the 112th and 113th Congresses—the congresses immediately preceding and following the 2010 redistricting cycle. (81,262 press releases issued by 92 legislators from 33 states including 30 Republicans and 62 Democrats).[1] To classify press releases I use a dictionary search as well as both supervised and unsupervised learning approaches for robustness.

For the unsupervised approach I use the `stm` package in `R` to estimate an unsupervised structural topic model (Roberts, Stewart, and Tingley 2019). Before being fed to the classifier, press releases were cleaned to remove punctuation and stop words before being stemmed and transformed into a document-term matrix. Following the lead of Grimmer (2013, 46), the topic model was estimated with 44 topics with each topic then manually labelled after

[1] 315 press releases written in Spanish were dropped from the analysis. 4 legislators were dropped from the analysis due to having fewer than 5 pre-redistricting press releases in the dataset: Bennie Thompson (D-MS), Frank Sensenbrenner (R-WI), Sheila Jackson Lee (D-TX), and Susan Davis (D-CA).

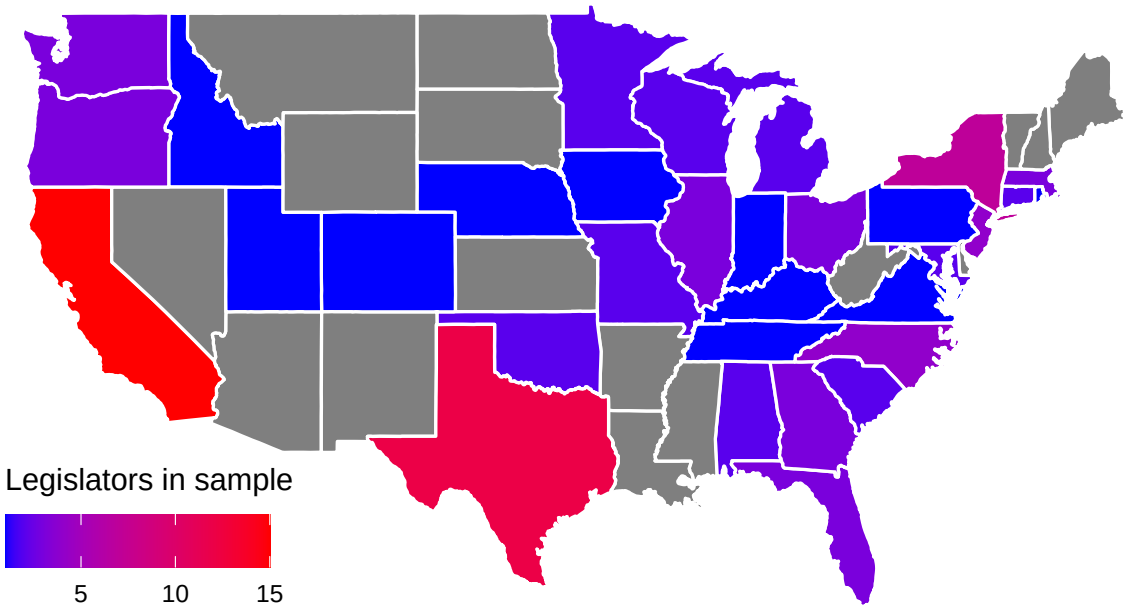

Figure 1: Geographic Composition of Sample

reviewing the most common stems in each and reading a random sample of 20 press releases classified under each topic. Each press release is classified under the topic for which it has the largest θ–the proportion of words in the document classified under each topic. A table of topics is provided in Appendix 23. If legislators are responsive to demographic changes in their district, I expect them to shift their communications to give greater attention to issues salient to growing subconstituencies. For each demographic group I identify salient issues and manually select the topic clusters that most closely relate to them.

The first hypothesis concerns communications about policy **(H1a)** and pork **(H1b)**. The theoretical expectation is that legislators will become more willing to give attention to divisive policy issues by position-taking when their district grows safer. On the other hand, those whose district grows more competitive will choose to focus on non-divisive pork barrel topics. I identify 18 policy topics containing 63% of all press releases on which legislators' positions have generally been divided along party lines in the past decade: the Middle East, guns and crime, foreign affairs, food and transit safety, investigations into the executive branch, the economy, social welfare, energy, technology/communication, presidential speeches, veterans issues, healthcare and insurance, the judiciary, immigration, agriculture, public lands and wildlife, trade, and science. I further identify seven pork topics containing 16% of all press releases covering ways in which legislators bring funding and particularistic benefits to their districts: waterfront project, disaster relief, first responder grants, budget, education grants, infrastructure, and defense.[2]

For Hispanic constituents **(H2)**, I identify immigration as a key issue area important to those in both parties

[2]Though debates over military involvement are polarized, based on the highest probability terms and inspection of press releases categorized under this topic, it is more focused on base openings and expansions which are a common form of pork. See Appendix 23 for lists of terms differentiating each topic.

(Pew 2021). Topic 36 contains press releases concerning immigration and border security constituting 1.6% of all press releases. For senior citizens **(H3)**, I identify two salient issue areas based on previous work and public opinion data: entitlements and defense. Of the 44 topics, I identify two corresponding to entitlements, topic 18 which covers social welfare programs and topic 33 covering healthcare and insurance programs such as Medicare, and two corresponding to issues of defense, topic 8 covering American military involvement in the Middle East as well as topic 31 covering defense more generally. In total, 9% of all press releases are classified under these topics.

For the supervised approach, I employ a team of four research assistants to each manually label a training set of 5,100 press releases each. Each press release was coded as either credit-claiming, position-taking, or other following the procedure detailed here. Of the 17,700 press releases coded, 888 of the same press releases were coded by all of the assistants as well as myself to assess inter-rater agreement using Cohen's and Fleiss' Kappa. Doing so revealed only two of the assistants' codings to be reliable enough, demonstrating moderate agreement with my own codings ($\kappa = 0.505, 0.426$) and with each other and my own codings ($\kappa = 0.436$). The result was a training set of 9,312 press releases, 5.5% of the total set of press releases. I then use an elastic-net logistic regression and random-forest classifier from White III (2023) to classify the test set of press releases resulting in 47.6% classified as credit-claiming, 43.7% as position-taking, and 8.7% as other.

Finally, to measure issue attention for issues salient to African American constituents, I employ a dictionary search using the Black Centered Dictionary generously provided by Chris Stout with 489 keywords relating to civil rights and racial justice (see Appendix 24).[3] The number of keywords appearing in each text was calculated and four keyword thresholds were tried, classifying a text as being about salient issues when it contained at least 1, 2, 3, and 5 keywords. Each threshold was then manually validated by randomly sampling 100 texts to assess the frequency of misclassifications. A keyword threshold of 1 predictably resulted in a large number of false positives, with 13% of all texts containing at least one keyword. A keyword threshold of 5, on the other hand, proved too restrictive with just 0.9% of texts meeting the threshold and shorter texts systematically being misclassified. Ultimately, a keyword threshold of 3 was found to sufficiently avoid false positives while not being overly restrictive, yielding 2.5% of all texts classified as pertaining to civil rights and racial justice.

To construct the dependent variable measuring each legislator's issue attention across time, the share of press releases classified under the pertinent topic groups is calculated at the legislator-week level by dividing the number of press releases in the topic groups by the total number of press releases issued by the legislator in that week. For time series of the aggregate counts of press releases see Appendix 25.

[3] Before turning to a simple dictionary search, classification was attempted with unsupervised and keyword assisted topic models but failed to produce coherent topic clusters.

4.2 District demographics

To estimate changes in electoral safety due to redistricting I draw on Cook Political Report's (n.d.) Partisan Voting Index (PVI). PVI scores are calculated for districts from the vote shares of each party in the two most recent presidential elections.[4] Because PVI scores are reported as a string with the favored party plus an estimate of how much they are favored by (e.g. D+5 indicates a district is favors the Democratic candidate by 5 points), scores were recoded to be numeric and bounded within [-1, 1], with positive values indicating the incumbent's party is favored and negative values indicating the out-party is favored. Zero values indicate a toss-up. Cook provides scores for each district of the 112th Congress before and after redistricting, allowing the change in electoral safety to be calculated by calculating the difference between the two. A positive difference thus indicates a legislator faces a less competitive election after redistricting while a negative difference indicates they face a more competitive election.

Table 1: Independent Variable Descriptive Statistics

Variable	Min	Q1	Median	Mean	Q3	Max	Std Dev
safety change	-0.093	-0.018	0.001	0.002	0.018	0.106	0.037
senior change	-2.200	-0.100	0.200	0.278	0.600	2.000	0.732
Hispanic change	-14.300	-1.825	0.100	-0.537	0.800	24.300	4.789
AA change	-11.800	-1.100	0.000	-0.271	0.600	13.700	3.217

Table 1 provides descriptive statistics for each demographic variable considered. First is the change in electoral safety needed to test **H1a** and **H1b**. The mean and median electoral safety change are both near zero and inspection of the distribution provided in Appendix 26 shows most districts saw relatively small changes in their competitiveness, though there is some variation with a standard deviation of about 0.04. For **H2**, **H3**, and **H4**, the change in the share of each legislator's constituency over 65 years old, identifying as Hispanic, and identifying as African American are drawn from the 2011 and 2012 American Community Survey 5 year estimates which provide district-level demographics just before and just after redistricting took effect.

4.3 Redistricting

The political dimension of redistricting motivates the inclusion of a control for the redistricting procedure each state follows. These procedures vary widely but for this study are narrowed to two categories: political, when

[4] PVI scores prior to 2022 placed equal weight on the two previous elections, PVI scores for 2022 and later weigh the most recent election more heavily (Wasserman 2022).

redistricting is overseen by a legislature or political appointees, and nonpolitical, when overseen by an independent commission or a court. States with advisory or backup commissions are coded as political as state legislatures may overrule the advisory commissions and backup commissions are typically composed of elected officials. States with only one congressional district are coded as nonpolitical. The result is an indicator variable for whether a state has a political redistricting process, with 39 states coded as political for the 2010 cycle.

When new districts are finalized and how long they remain in effect also varies by state on account of the differing processes described above and the ability for courts to order them redrawn. This raises broader concerns about time dynamics when measuring the effect of redistricting on legislator behavior–a lengthy court battle is a case where a legislator could anticipate the change in their constituency and respond before redistricting is finalized. Of the 33 states in the sample, only one had its congressional district lines struck down by a court: the Fourth Circuit Court of Appeals ruled North Carolina's 2012 redistricting unconstitutional on February 19, 2016 (J. Levitt 2020). For this reason, the four legislators in the sample from this state have press release data included only up to this date. Appendix 26 provides a map of the geographic variation of the sample in terms of redistricting type. Given that most states employ some sort of political process to redraw lines, legislators coded as coming from states with political redistricting processes are over represented with 72 coded political and 20 coded non-political.

5 Research Design

The ideal scenario for estimation of the causal effect of demographic change on communications would be the random assignment of legislators to a control group which sees no change in demographics (no "dose") and a treatment group which is randomly assigned a particular "dose" of demographic change. Importantly, in order to recover a causal effect, the dose of demographic change in one district would need to be independent of the dose in any other district—i.e. no spillover of the treatment. Further, all districts would ideally be redrawn simultaneously. This is obviously far from reality—not only is redistricting an inherently political process with legislatures and commissions gerrymandering based on demographics, but within each multi-district state a change in one district's lines must cause a spillover effect to at least one neighboring district. Complicating matters further, each state's redistricting process differs with districts being finalized, put in place, and overturned at different times opening the door to time dynamics and anticipation by legislators that are difficult to model.

These realities make the first choice of approximating a randomized experiment with observational data, a difference-in-differences design, untenable—requiring a staggered difference-in-differences design with variation in the timing of a continuous treatment and inarguable violations of the stable unit treatment value assumption (SUTVA). The presence of a continuous treatment alone makes for serious problems on top of the possibility of negative weights

in a staggered difference-in-differences design (Callaway, Goodman-Bacon, and Sant'Anna 2021; Goodman-Bacon 2021).

Previous work leveraging redistricting to measure responsiveness in roll-call voting behavior has relied on simple regression models regressing post-redistricting ideology scores or counts of legislative activities in an issue area on the change in corresponding district demographics (Bullock 1995; Glazer and Robbins 1985; M. Hayes, Hibbing, and Sulkin 2010; LeVeaux and Garand 2003). While these designs employ panel data with two observations for each legislator (the Congresses before and after redistricting), the greater frequency of the communications used to construct the dependent variable in this study allows the creation of a finer grained panel with observations at monthly or even weekly intervals. More importantly, while previous studies look at the change in behavior after the first congressional elections with redrawn districts take place, I examine whether legislators adapt their behavior after districts are redrawn in anticipation of the first election with redrawn districts.

5.1 Two-Way Fixed Effects Identification

To estimate the relationship between redistricting-induced demographic change and legislators' communications I first employ the following two-way fixed effects OLS regression model to test **H1a** and **H1b** (responsiveness to changes in electoral safety):

$$Y_{it} = \alpha_i + \lambda_t + \beta_1 D_{it} + \tau D_{it} \text{safety change}_i + \epsilon_{it} \tag{1}$$

where Y_{it} is the share of press releases about senior topics in week t for legislator i; α_i is the legislator fixed effect; λ_t is the time fixed effect; D_{it} is an indicator for whether legislator i has been "treated" with a new district in week t (accounting for differing dates of district finalization across states), when $D_{it} = 0$ this indicates the observation in week t for legislator i falls *before* the legislator has been "treated" with a new district and $D_{it} = 1$ indicates the observation is post-treatment; safety change$_i$ is the treatment "dose" for legislator i–the change in legislator i's electoral safety due to redistricting; τ is the effect of safety change on the share of press releases about senior topics–the coefficient for the interaction between the treatment indicator, D_{it}, and the treatment dose, demographic change$_i$; and ϵ_{it} is the error term. All standard errors are clustered at the state level.

For **H2**, **H3**, and **H4** (responsiveness to senior, Hispanic, and African American demographic change), I estimate the following model:

$$Y_{it} = \alpha_i + \lambda_t + \beta_1 D_{it} + \tau D_{it} \text{demographic change}_i + \epsilon_{it} \tag{2}$$

where each term is identical to Equation 1 but with demographic change$_i$, the change in the percentage of legislator i's constituents belonging to the demographic group of interest due to redistricting, in place of safety change$_i$.

For **H2**, **H3**, and **H4**, a legislator's electoral safety, or more precisely the change in their electoral safety due to redistricting, may also affect responsiveness. Legislators who face a less competitive race in a post-redistricting district may calculate that altering their communications in response to changing demographics is not necessary to win reelection. To determine whether electoral safety mediates responsiveness to demographic change, I also estimate the following model, interacting safety change$_i$ and demographic change$_i$:

$$\begin{aligned} Y_{it} = \alpha_i + \lambda_t + \beta_1 D_{it} + \beta_2 D_{it}\text{demographic change}_i + \tau D_{it}\text{safety change}_i \\ + \beta_3 D_{it}\text{demographic change}_i\text{safety change}_i + \epsilon_{it} \end{aligned} \tag{3}$$

Appendix 27 re-estimates the above models with the demographic and safety change variables recoded as binary where 0 indicates a district's safety/percent of constituents belonging to a demographic group did not change or decreased and 1 indicates it increased.

In order for $\hat{\tau}$ to be unbiased, in addition to the standard assumptions of linear regression, the treatment effect must be homogeneous across legislators and time periods. To ensure the former, other variables that could plausibly confound the relationship between demographic change and legislator communication need to be controlled for. A member's party identification is likely to be correlated both with the demographics of their constituency as well as the content of their communications–Republicans, for example, may be more likely to represent areas that are trending older regardless of changing district lines and may at the same communicate more about issues salient to seniors given their disproportionate support for the Republican Party. The type of redistricting process, political or non-political, a state uses may also influence both who is elected in that state and how lines are drawn.

There are two approaches to control for these confounds: the first is to interact each variable with the interaction term in Equations 2 and 3, creating triple and quadruple interaction terms. While this is the most concise approach, it makes interpretation of regression coefficients cumbersome. The second approach is to split the sample based on values of the controls and estimate separate models for each subsample, avoiding complicated interactions but at the cost of conciseness. For the main analyses I use the second for the binary controls (party and redistricting process type). To address concerns about heterogeneous treatment effects across time periods, the range of t (the window of weeks before and after the week redistricting is finalized for a member to include press release observations for) is varied for each model specification to include press releases from 6 months, 1 year and all weeks in the data

before and after redistricting. Additionally, coefficients are plotted as a function of window size to visualize the sensitivity of estimates.

6 Results

6.1 Pork

Table 2: Unsupervised Pork Weekly Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.010	0.008	0.018	0.009	0.005	0.010	0.002	0.006	0.033
	(0.014)	(0.010)	(0.011)	(0.018)	(0.011)	(0.010)	(0.024)	(0.021)	(0.031)
D×safety change	-0.347+	-0.302*	0.026	-0.349	-0.366*	-0.005	0.073	-0.062	0.162
	(0.177)	(0.123)	(0.105)	(0.242)	(0.136)	(0.102)	(0.349)	(0.270)	(0.186)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.16	0.16	0.16	0.16	0.16	0.16	0.14	0.14	0.15

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 3: Supervised Pork Weekly Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.059+	0.045+	0.030	0.029	0.011	-0.010	0.087+	0.101*	0.122*
	(0.033)	(0.024)	(0.029)	(0.043)	(0.027)	(0.031)	(0.046)	(0.040)	(0.052)
D×safety change	-0.793*	-0.670+	0.207	-0.934*	-0.823+	-0.347+	-0.447	-0.084	1.109*
	(0.331)	(0.387)	(0.251)	(0.382)	(0.412)	(0.184)	(0.643)	(0.705)	(0.504)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.32	0.33	0.34	0.31	0.32	0.33	0.30	0.30	0.32

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

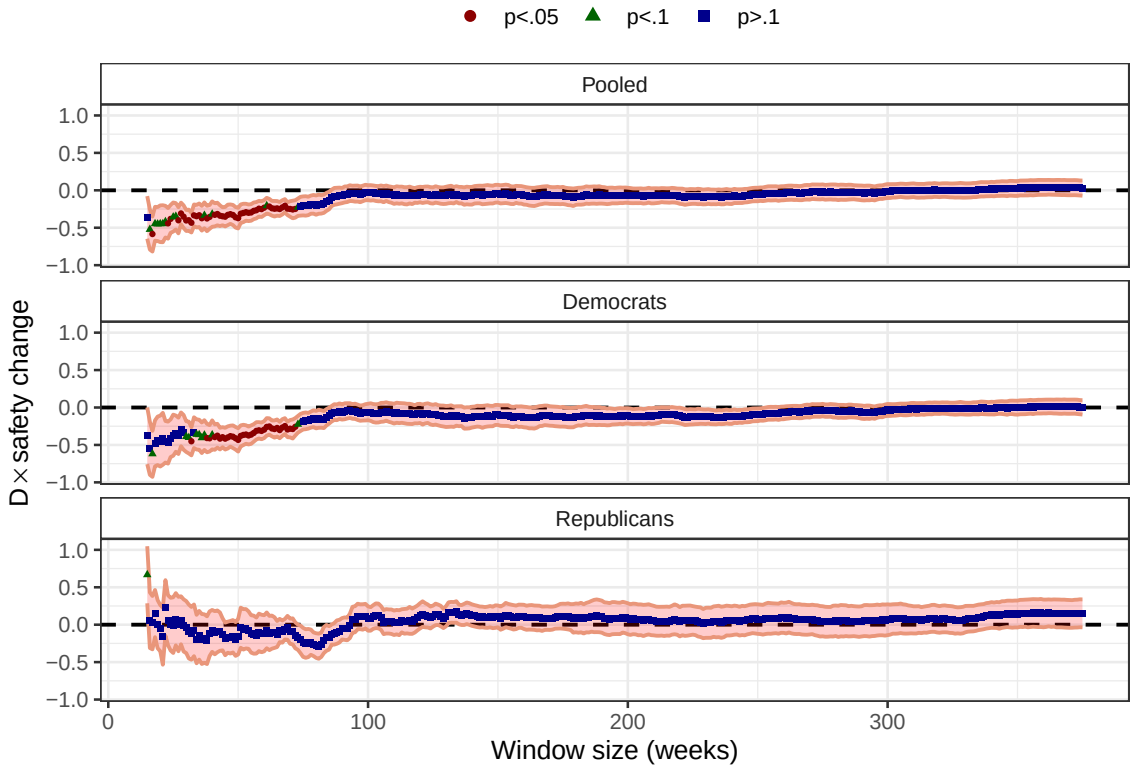

Figure 2: Unsupervised Pork Model Triple Interaction Coefficient Estimates by Window Size

Tables 2 and 3 present estimates of the effect of changes in electoral safety on the weekly share of press releases concerning pork topics with the dependent variable constructed using unsupervised and supervised learning, respectively. **H1a** predicts that legislators whose districts become safer will give *less* attention to appropriations and pork barreling. As such, the coefficient for D×safety change is expected to be negative. For the pooled models in columns 1-3 and Democrat-only models in columns 4-6 of Table 2, there is some evidence to support the hypothesis. For both 1 year window models the coefficient is negative and significant while in the 6 month pooled model it is negative and borderline significant ($p < .1$). For the Republican-only models in columns 7-9 only the 1 year window model's coefficient is negative (but near zero and insignificant).

Table 3 shows similar results for Democrats, with the 6 month model having a significant negative coefficient and the 1 year as well as all models having borderline significant negative coefficients. If there is an effect of electoral safety on communicating about pork, it appears to be driven by Democrats for both dependent variable constructions. Interestingly, in the Republican-only model using all observations, there is significant and positive coefficient indicating Republicans who became more electorally secure engaged in less credit-claiming in subsequent years.

Figure 2 plots the coefficient for D×safety change as a function of window size for the pooled model and

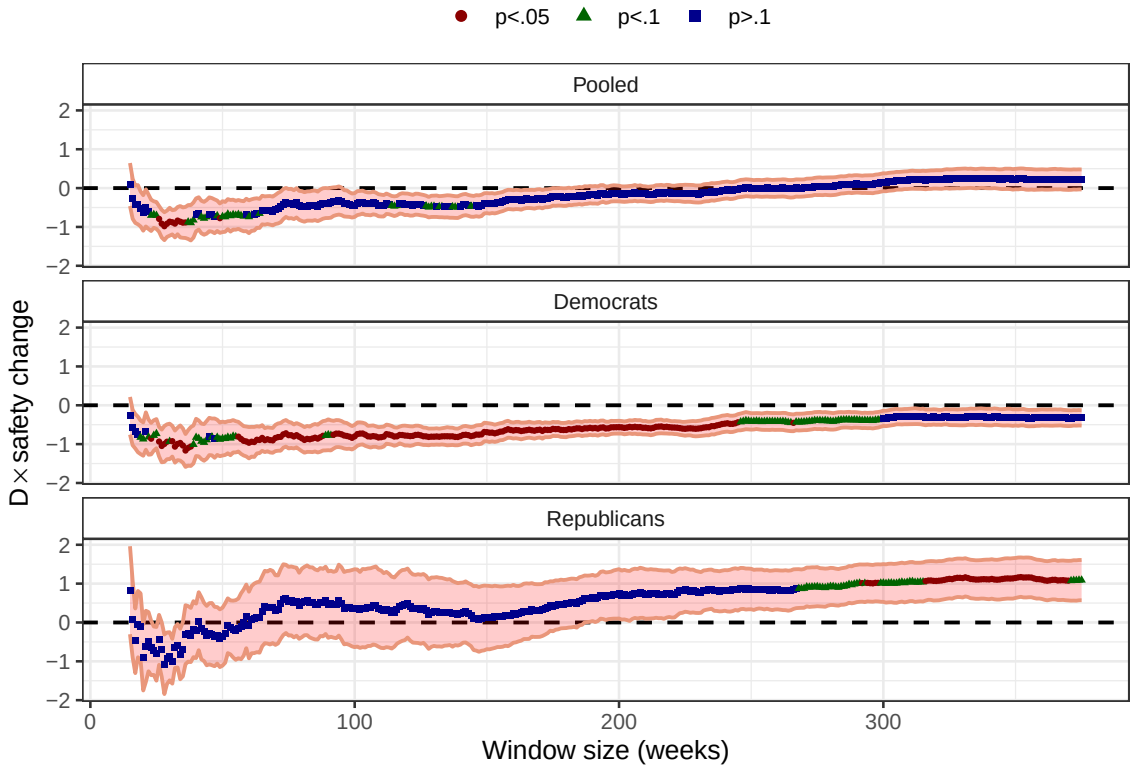

Figure 3: Supervised Pork Model Triple Interaction Coefficient Estimates by Window Size

by party using the unsupervised variable construction. Consistent with Table 2, the coefficient is only negative and significant for Democrats for window sizes from about 40 to 70 weeks. This indicates that the effect of redistricting on communications only appears when considering press releases within about a year of each legislator's new district being finalized. Given that most states finalized redistricting within one year before the 2012 congressional elections took place on November 6, these results are consistent with Democratic legislators adapting their behavior to their potential new district in the lead-up to the election but subsequently returning to their pre-redistricting behavior afterwards. However, Figure 3, plotting the same using the supervised variable construction, shows a more lasting effect of electoral safety change for Democrats with the effect remaining significant up to the inclusion of about 250 weeks, or almost 5 years, of press releases before and after redistricting. This would be consistent with legislators adapting their presentational style in a more permanent way, not just to survive their first election post-redistricting.

Figure 4 plots the predicted and actual changes in weekly press release shares as a function of safety change using a 2 year window supervised model restricted to Democrats.[5] Though significant, the substantive effect is small–a one standard deviation increase in electoral safety (0.04 in the original units of the safety change variable) is associated with an average decrease of about .03 in the weekly share of press releases about pork topics among Democratic

[5]I use a 2 year model that does not appear in Table 3 in order to visualize the long-term effect of electoral safety change. Figure 3 shows the coefficient estimate to be consistent in value and significance from about 60 weeks to 250.

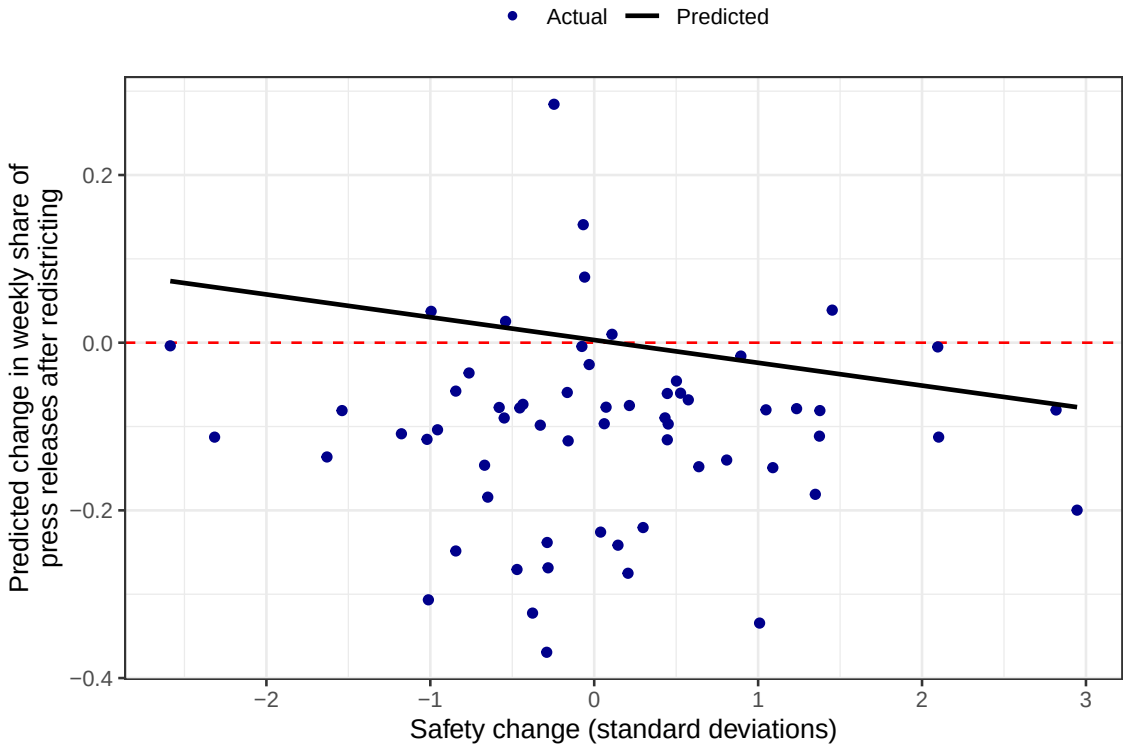

Figure 4: Predicted Change in Share of Press Releases about Pork for Democrats (2 year window, supervised)

legislators. For the average Democrat who sends out three press releases per week and whose electoral safety decreases by a standard deviation, this equates to only 4.7 fewer pork press releases over the course of a year. Appendix 28 provides models divided by redistricting process, however the estimates for D×safety change do not differ significantly across models and are not consistently significant for either subsample.

6.2 Policy

Table 4: Unsupervised Policy Weekly Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.009	0.000	-0.025	-0.020	0.010	-0.024	0.025	0.004	-0.003
	(0.031)	(0.019)	(0.020)	(0.037)	(0.020)	(0.021)	(0.049)	(0.032)	(0.054)
D×safety change	0.565+	0.344	0.135	0.387	0.122	0.087	0.793	1.115	0.292
	(0.326)	(0.343)	(0.169)	(0.377)	(0.371)	(0.210)	(1.027)	(0.671)	(0.172)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.27	0.27	0.28	0.27	0.27	0.28	0.24	0.25	0.26

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 5: Supervised Policy Weekly Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.050	-0.032	-0.022	-0.020	0.002	0.013	-0.090	-0.092*	-0.108+
	(0.035)	(0.026)	(0.034)	(0.049)	(0.032)	(0.039)	(0.062)	(0.040)	(0.054)
D×safety change	0.790+	0.657	0.016	1.012*	0.860+	0.509+	0.357	-0.050	-0.661
	(0.413)	(0.456)	(0.257)	(0.433)	(0.466)	(0.272)	(1.010)	(0.747)	(0.424)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.32	0.33	0.34	0.31	0.32	0.33	0.31	0.32	0.33

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

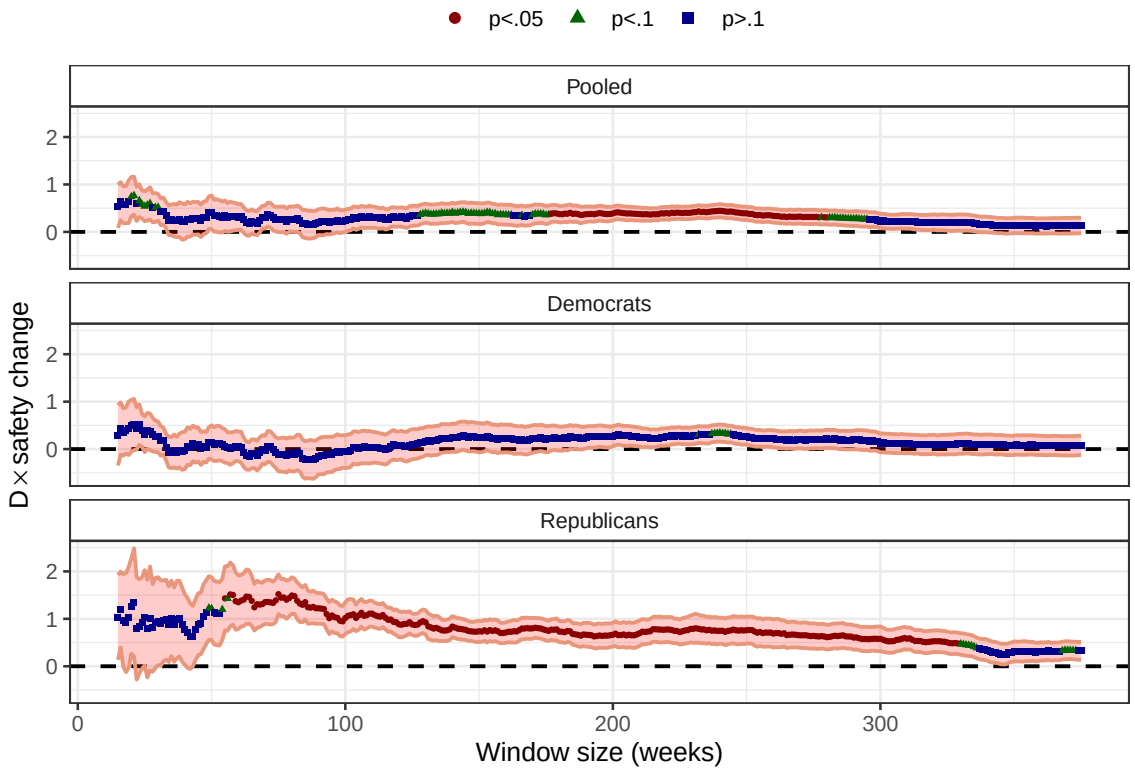

Figure 5: Unsupervised Policy Model Coefficient Estimates by Window Size

Tables 4 and 5 present estimates for the effect of electoral safety change on the weekly share of press releases concerning position-taking for the unsupervised and supervised variable constructions, respectively. **H1b** predicts that legislators whose districts become safer will give *more* attention to divisive policy issues. As such, the coefficient for D×safety change is expected to be positive. While Table 4 does not show any significant results, Table 5 shows a significant, positive coefficient for the Democrat-only 6 month model and borderline significant, positive coefficients for the 1 year and all models. While this is consistent with the hypothesis, the significant, negative coefficient for the Republican-only 1 year model is not. However, to properly understand how consistent these effects are I again plot coefficient estimates as a function of window size.

Figure 5 reveals a pattern for Republicans not reflected in Table 4–from a window size of roughly 60 to 325 weeks, Republicans are found to have increased the share of their press releases engaging in position-taking when their electoral safety increased using the unsupervised variable construction. This is consistent with Hypothesis 1b and as with the pork models shows a lasting effect of redistricting on presentational style. Figure 6, on the other hand, shows a similarly lasting effect for Democrats but no such effect for Republicans. Taken together, these figures lend support to the hypothesis but also indicate significant differences in the supervised and unsupervised classifications of press releases.

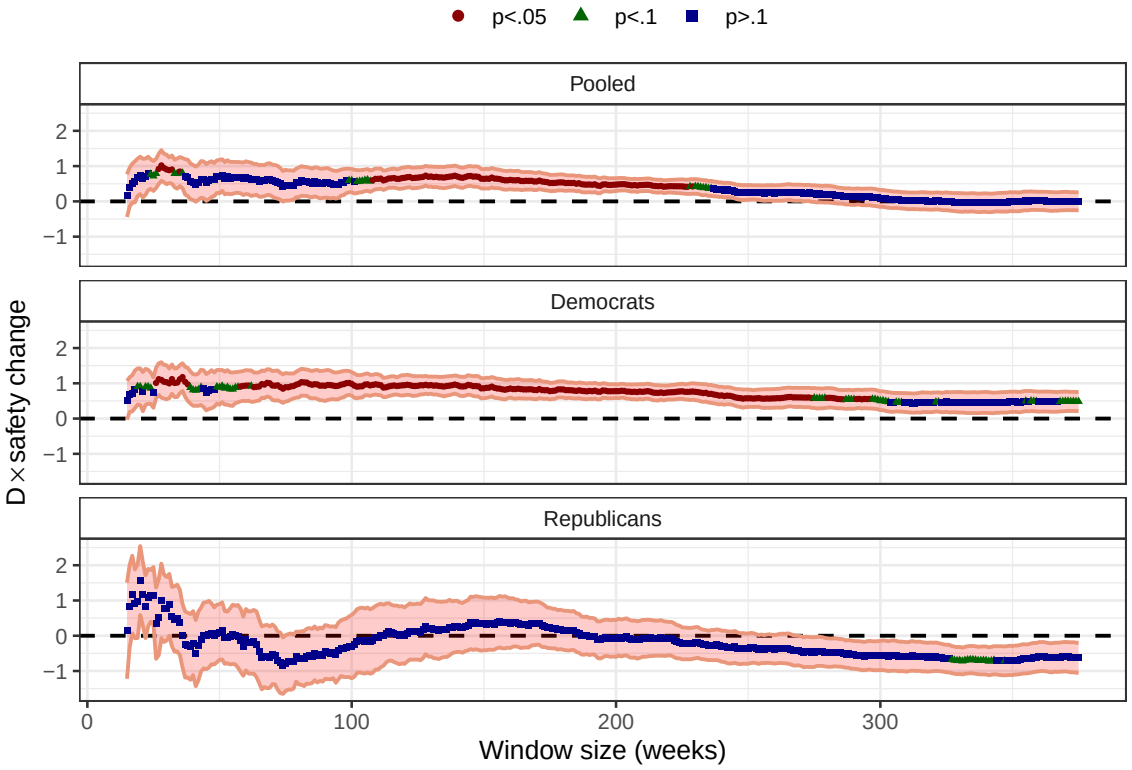

Figure 6: Supervised Policy Model Coefficient Estimates by Window Size

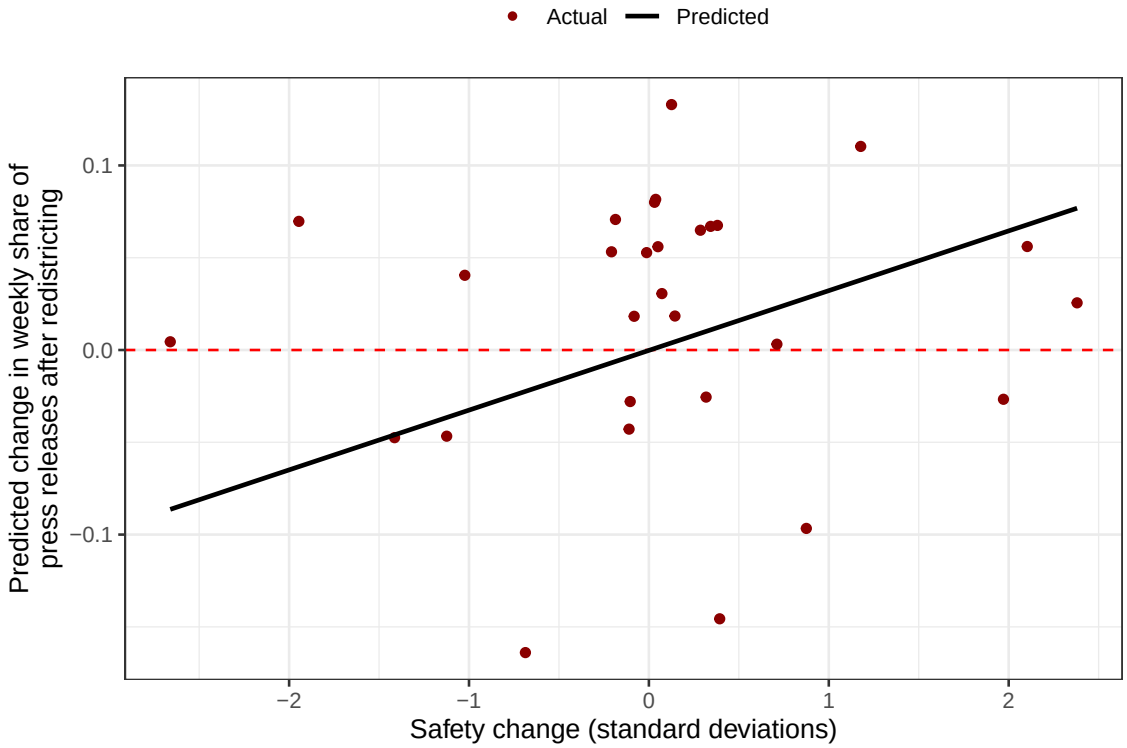

Figure 7: Predicted Change in Share of Policy Press Releases for Republicans (2 year window, unsupervised)

Figure 7 plots the predicted and actual changes in press release shares for Republicans as a function of safety change using the 2 year window model with the unsupervised variable construction. A one standard deviation increase in electoral safety (0.03 in the original units of the safety change variable) is associated with an average increase of about .03 in the weekly share of press releases about policy topics for a Republican legislator. In other words, the average Republican who sends out 3 press releases per week and whose electoral safety increased by a standard deviation is predicted to have 4.7 more policy press releases over the course of a year. Appendix 28 provides models restricted by each legislator's state's type of redistricting process–no significant difference was found between model estimates.

In sum, I find support for both Hypotheses 1a and 1b–legislators do appear to change the pork-policy focus of their communications when their electoral safety changes as a result of redistricting. Further, these changes appear to be persistent over time–legislators do not revert to their previous presentational style after winning reelection in their new district. There is, however, heterogeneity by party and differing results when using press releases classified using unsupervised versus supervised learning.

6.3 Seniors

Table 6: Senior Weekly Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.016	-0.013	-0.001	-0.005	-0.001	0.006	-0.073	-0.047	-0.023
	(0.026)	(0.016)	(0.013)	(0.030)	(0.018)	(0.014)	(0.052)	(0.039)	(0.030)
D×senior change	-0.002	-0.008	-0.008	0.001	-0.006	-0.001	-0.039	-0.023	-0.042*
	(0.013)	(0.008)	(0.008)	(0.014)	(0.008)	(0.006)	(0.025)	(0.013)	(0.018)
Num.Obs.	1632	3089	19448	1208	2265	14480	424	824	4968
RMSE	0.21	0.21	0.23	0.21	0.21	0.23	0.19	0.19	0.21

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 7: Senior Weekly Triple Interaction Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.014	-0.012	-0.001	0.003	0.001	0.002	-0.078	-0.051	-0.023
	(0.025)	(0.016)	(0.013)	(0.030)	(0.018)	(0.015)	(0.054)	(0.039)	(0.031)
D×safety change	-0.132	-0.154	-0.228	-0.529	-0.223	-0.001	1.757	0.439	-0.348
	(0.425)	(0.208)	(0.191)	(0.464)	(0.261)	(0.220)	(1.056)	(0.633)	(0.276)
D×senior change	-0.001	-0.009	-0.011	-0.005	-0.008	-0.001	-0.058	-0.017	-0.040+
	(0.017)	(0.009)	(0.008)	(0.015)	(0.009)	(0.005)	(0.039)	(0.018)	(0.020)
D×senior change×safety change	0.335	0.101	-0.322*	0.751	0.122	-0.618***	0.381	0.575	-0.100
	(0.365)	(0.164)	(0.122)	(0.496)	(0.249)	(0.110)	(1.010)	(0.520)	(0.353)
Num.Obs.	1632	3089	19448	1208	2265	14480	424	824	4968
RMSE	0.21	0.21	0.23	0.21	0.21	0.23	0.19	0.19	0.21

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

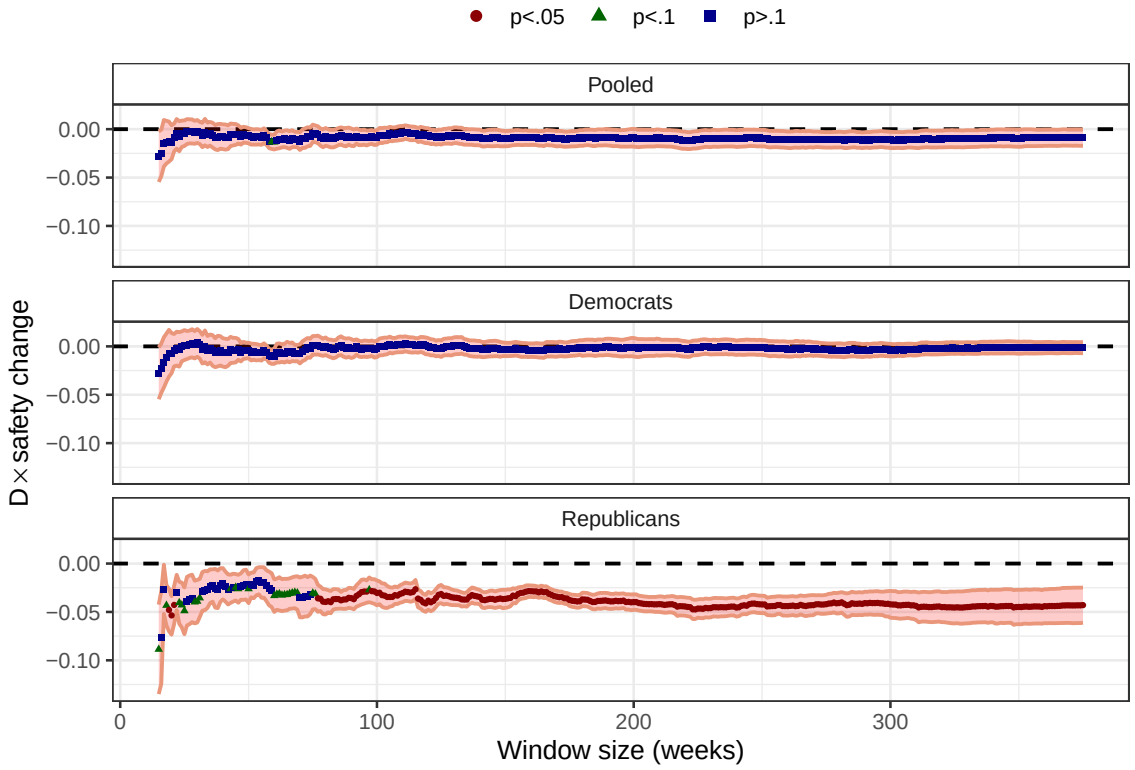

Figure 8: Senior Model Coefficient Estimate by Window Size

Table 6 presents the results of the model described in Equation 1. If legislators are responsive to demographic changes as predicted, an increase in the share of senior citizens should be associated with an increase in the share of press releases concerning senior topics–that is the coefficient for D×senior change should be positive. Across models, contrary to H2, the coefficient is consistently negative and only significant for the full window Republican model in column 9. Figure 8 plots the coefficient as a function of window size for the pooled and party-restricted models. For the Republican-only model the coefficient is consistently negative and is significant at the $p < .05$ level for window sizes from 77 to 375 weeks. The substantive effect of this is similar to that of safety change on Republican legislator's policy press releases found in the previous section–the average Republican who sends out 3 press releases per week and whose electoral safety increased by a standard deviation is predicted to have 6 more policy press releases over the course of a year.

Table 7 presents the models described in Equation 3, interacting the change in a legislator's electoral safety (a positive value indicates they faced a less competitive election post-redistricting) with the change in senior demographics. The coefficient for D×senior change across models remains similar in direction, magnitude, and significance to the results in Table 6. The coefficient for D×senior change × safety change is significant and negative only for the full window pooled and Democrat-only models in column 3 and 6. This provides some support for electoral safety mediating responsiveness to demographic change–a negative coefficient for the triple interaction

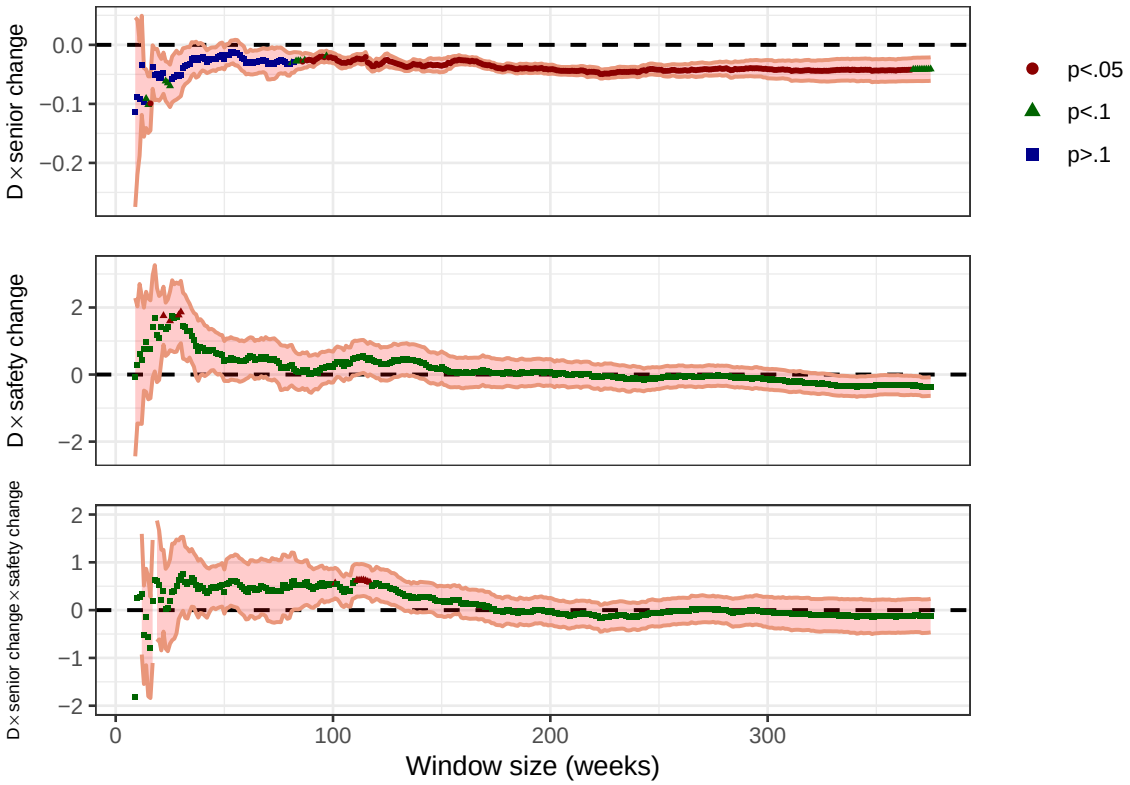

Figure 9: Senior Triple Interaction Model Coefficient Estimates by Window Size (Republicans only)

term indicates that legislators whose district became safer (safety change $>$ 0) demonstrated less responsiveness to the changes in the share of seniors than those whose districts grew more competitive. However, the negative (but insignificant) coefficient for D×senior change across the Republican models indicates that, overall, gaining seniors was associated with releasing fewer press releases about entitlements and defense, contrary to **H3**.

Figures 9 and 10 plot the coefficient estimates for the model described in Equation 3 restricted by party as a function of the number of weeks included before and after redistricting, ranging from 9 to 375 weeks. It should be noted that the exact dates each window corresponds to differ for each state based on the date district lines were finalized. For the Republican-only models in Figure 9, it is evident that the coefficient for D×senior change is consistently negative across model specifications and significant from a window size of about 80 weeks onward, again contrary to what **H3** predicts. When restricting to Democrats in Figure 10, the coefficient for D×senior change × safety change is consistently negative and significant for window sizes of 150 weeks and more, consistent with column 6 of Table 7.

Figure 11 visualizes the triple interaction term for the model in column 6 of Table 7. For Democrats whose district grew safer after redistricting, there is a negative relationship between demographic change and the share of press releases concerning senior topics–these legislators do not appear to be responsive to demographic change. However, Democrats whose district grew more competitive exhibit a positive relationship between demographic change and

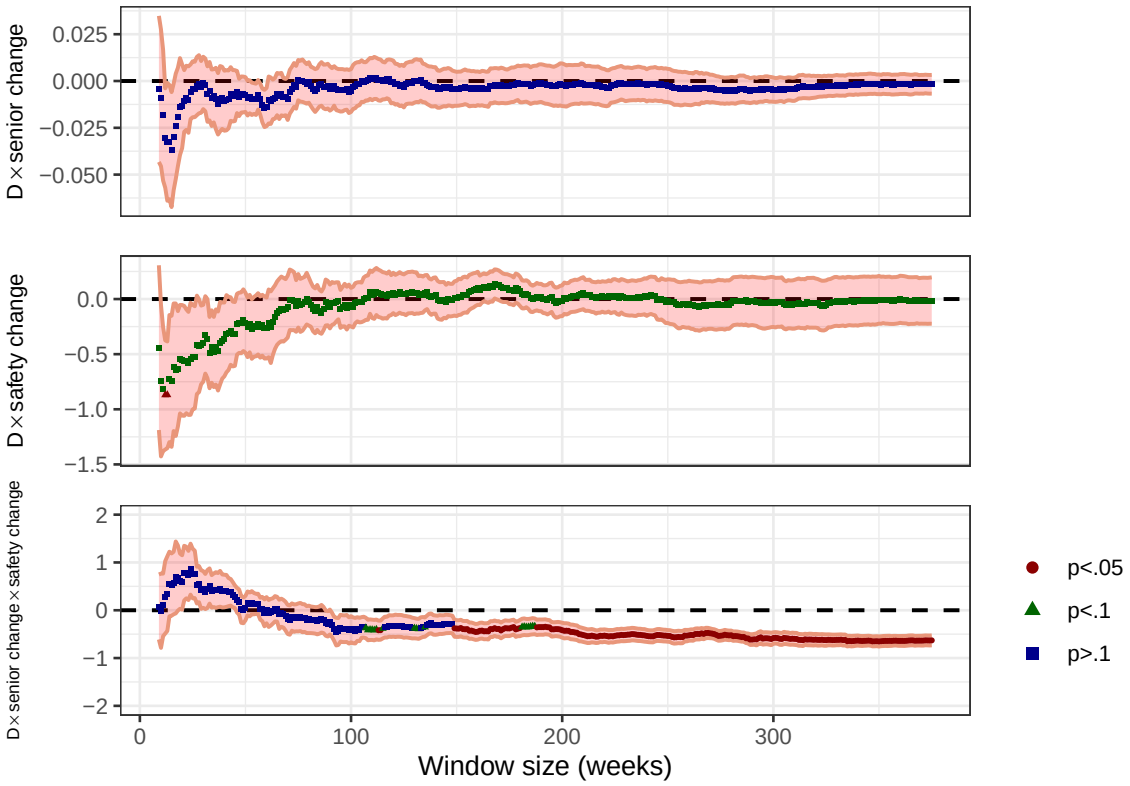

Figure 10: Senior Triple Interaction Model Coefficient Estimates by Window Size (Democrats only)

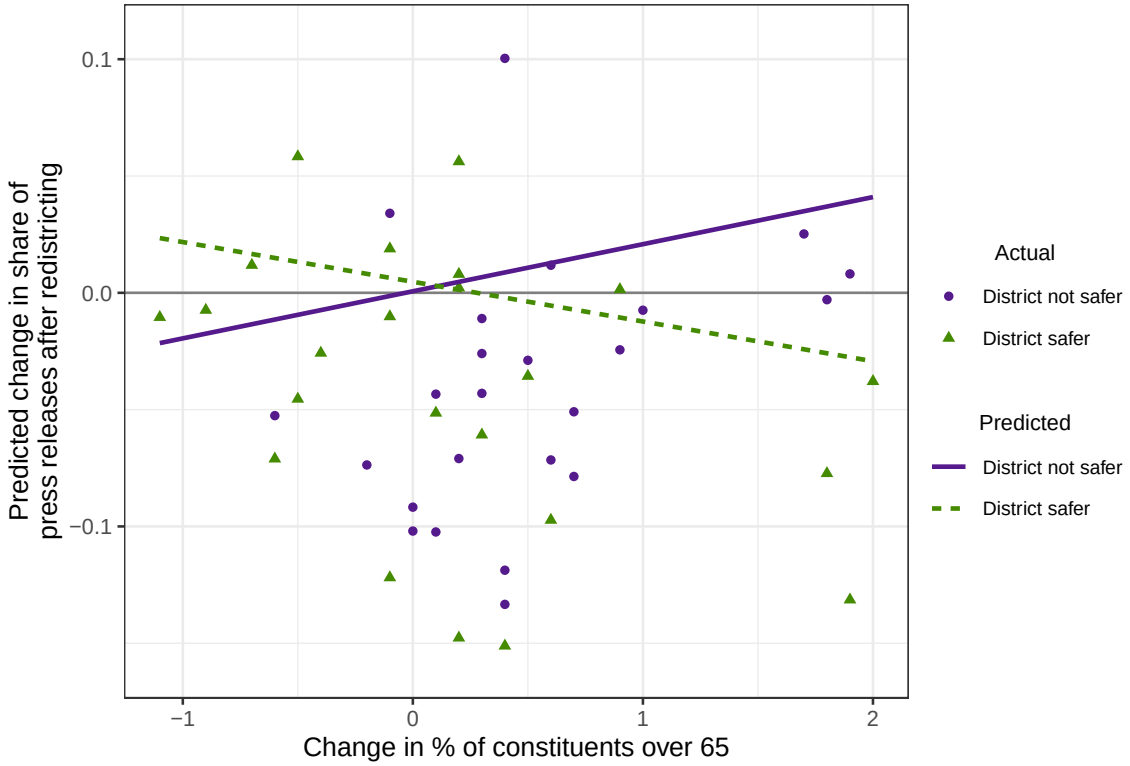

Figure 11: Predicted Change in Share of Press Releases about Senior Topics for Democrats (1 year window)

share of press releases, consistent with **H3**. These results indicate that responsiveness in communications may be mediated by electoral safety, with only those legislators who feel threatened electorally adjusting their behavior to cater to their new constituency. However, as with the effects observed for pork and policy the substantive effects are small–a Democratic legislator whose district's senior population increased by 1% and become safer is predicted to have their average weekly share of press releases about senior topics decrease by about 0.02–amounting to about 3 fewer press releases over the course of a year. Legislators whose district's senior population increased by 1% but did not become safer are predicted to increase their share of press release by about 0.02 or about 3 more press releases over the course of a year. Models restricted by redistricting process are provided in Appendix 28. The results do not demonstrate any clear difference between the subsamples.

6.4 Hispanics

Table 8: Hispanic Weekly Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.000	-0.001	0.005	-0.000	0.003	0.006	0.025	0.015	0.016
	(0.009)	(0.006)	(0.006)	(0.006)	(0.003)	(0.006)	(0.031)	(0.018)	(0.015)
D×Hispanic change	0.000	-0.001	0.000	0.000	-0.001	0.000	-0.001	-0.001	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.006)	(0.004)	(0.002)
Num.Obs.	1613	3052	19253	1208	2265	14480	405	787	4773
RMSE	0.09	0.09	0.12	0.07	0.07	0.11	0.09	0.11	0.13

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 9: Hispanic Weekly Triple Interaction Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.001	-0.002	0.004	-0.002	0.001	0.004	0.017	0.011	0.014
	(0.009)	(0.005)	(0.005)	(0.007)	(0.003)	(0.005)	(0.030)	(0.018)	(0.015)
D×safety change	0.180+	0.080	0.188	0.153	-0.042	0.150	-0.147	0.083	0.088
	(0.100)	(0.092)	(0.121)	(0.103)	(0.101)	(0.156)	(0.206)	(0.194)	(0.180)
D×Hispanic change	-0.000	-0.001*	-0.000	-0.000	-0.000*	0.000	0.002	0.001	-0.000
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.003)	(0.003)	(0.001)
D×Hispanic change×safety change	0.011	0.021+	0.021*	0.020+	0.020*	0.020+	-0.348+	-0.186+	-0.133
	(0.010)	(0.011)	(0.010)	(0.010)	(0.007)	(0.011)	(0.164)	(0.095)	(0.090)
Num.Obs.	1613	3052	19253	1208	2265	14480	405	787	4773
RMSE	0.09	0.09	0.12	0.07	0.07	0.11	0.09	0.11	0.13

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

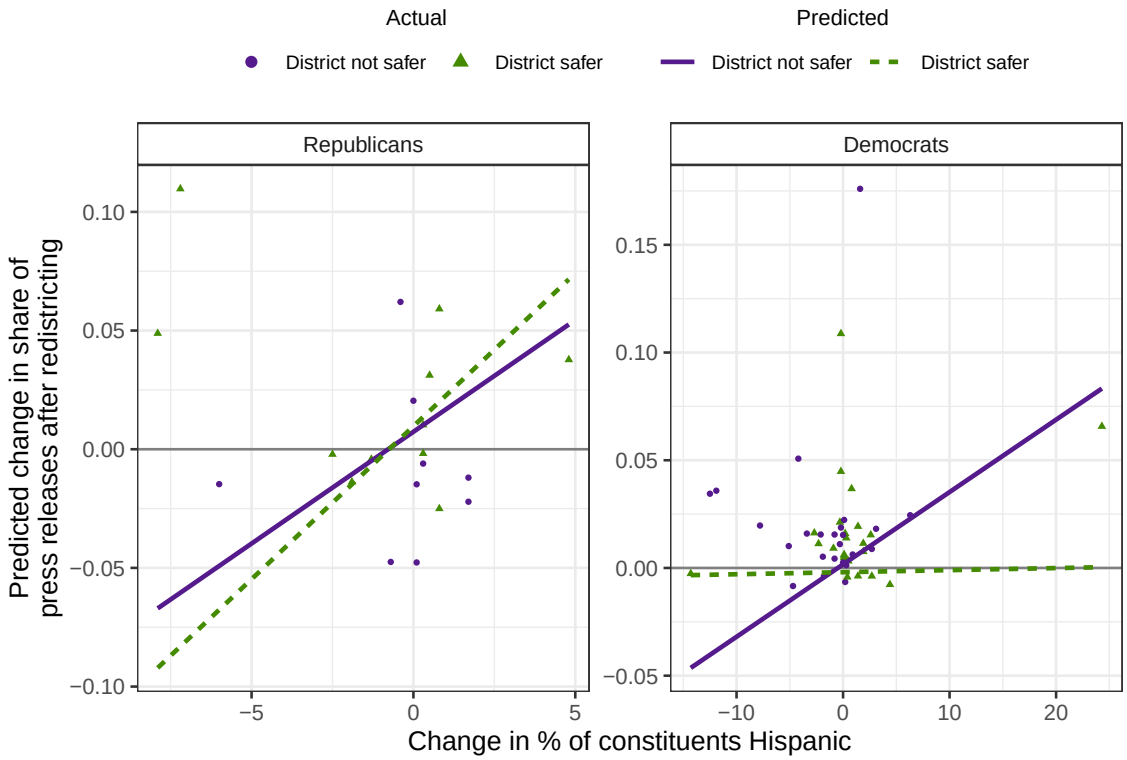

Figure 12: Interaction Between Hispanic Demographic Change and Change in Electoral Competitiveness by Party (1 year model)

Table 8 presents the results of the model specified in Equation 1 estimating the effect of the change in the percent of legislators' constituents identifying as Hispanic on the weekly share of press releases concerning immigration. Given the near zero, insignificant estimates there is no evidence to support **H3** which predicts legislators who gain Hispanic constituents will communicate more about immigration. Table 9 presents the model in Equation 3, interacting the treatment effect, D×Hispanic change, with the change in electoral safety. While the coefficient for D×Hispanic change remains near zero across models, the triple interaction term yields interesting results. For the Democrat-only models in columns 4-6 the coefficient is positive and significant at the $p < .05$ level for the 1 year window model and borderline significant at the $p < .1$ level for the 6 month and full window models. For Republicans, the coefficient is negative with a ten times larger magnitude, though only borderline significant for the 6 month and 1 year models.

Figure 12 visualizes the triple interaction term for party-restricted 1 year window models in Table 8. For Republicans, there is little difference in the effect of demographic change on share of press releases about immigration between legislators whose districts grew safer and those whose districts did not. For Democrats, however, there is evidence that change in district safety mediates responsiveness to demographic change–legislators whose districts did not grow safer demonstrated greater responsiveness to demographic change than those whose districts grew safer shown

by the more positive slope of the fit for the former group. This difference could be driven by the clear outlier among Democrats who grew safer–Rep. Lloyd Doggett's (D-TX) constituency's Hispanic population increased by nearly 25% due to redistricting.

Table 10: Hispanic Weekly Triple Interaction Model, Varied Window (outlier omitted)

	Pooled			Democrats		
	6 months	1 year	All	6 months	1 year	All
D	-0.001	-0.002	0.004	-0.001	0.001	0.004
	(0.009)	(0.005)	(0.005)	(0.007)	(0.003)	(0.004)
D×safety change	0.180+	0.080	0.188	0.145	-0.041	0.151
	(0.100)	(0.092)	(0.121)	(0.101)	(0.097)	(0.159)
D×Hispanic change	-0.000	-0.001*	-0.000	-0.000	-0.001	-0.001
	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
D×Hispanic change×safety change	0.011	0.021+	0.021*	0.012	0.008	0.003
	(0.010)	(0.011)	(0.010)	(0.012)	(0.017)	(0.018)
Num.Obs.	1613	3052	19253	1182	2219	14254
RMSE	0.09	0.09	0.12	0.07	0.07	0.11

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 10 re-estimates the models in columns 1-6 of Table 9 omitting Rep. Doggett (226 observations). While the coefficient estimates for the pooled models in columns 1-3 remain the same, the estimates for triple interaction in the Democrat-only models in columns 4-6 shrink considerably indicating the outlying legislator is driving much of the effect seen in Table 9. Figure 13 reproduces the right panel of Figure 12 with Rep. Doggett omitted–while a difference in slopes between the two groups remains it is significantly reduced.

Figure 14 plots the triple interaction coefficient as a function of window size for the pooled and party restricted models. The coefficient estimates for the pooled and Democrat-only models remain near zero and insignificant with the exception of the smallest window sizes (9 to 15 weeks) where the estimate is significant and negative. For the Republican-only models the estimate is consistently negative and frequently significant at the $p < .05$ level for window sizes smaller than 125 weeks. The large, negative magnitude of the estimates for all three panels for the smallest window

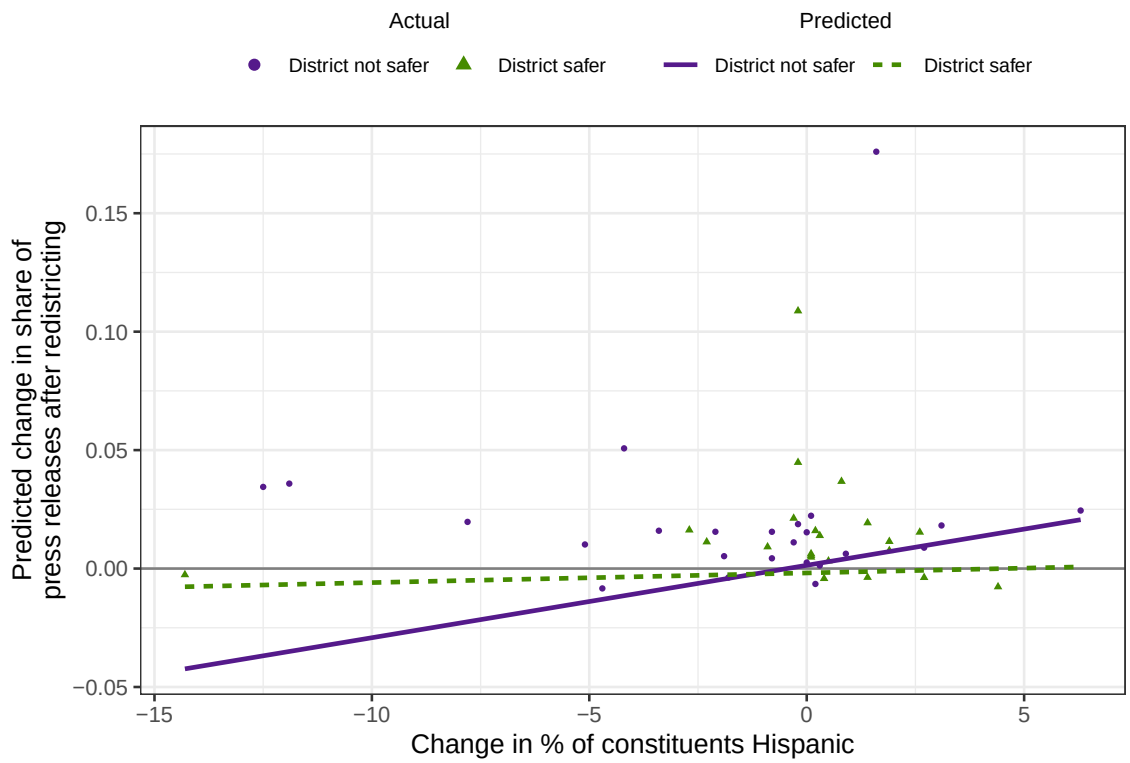

Figure 13: Interaction Between Hispanic Demographic Change and Change in Electoral Competitiveness for Democrats (outlier omitted)

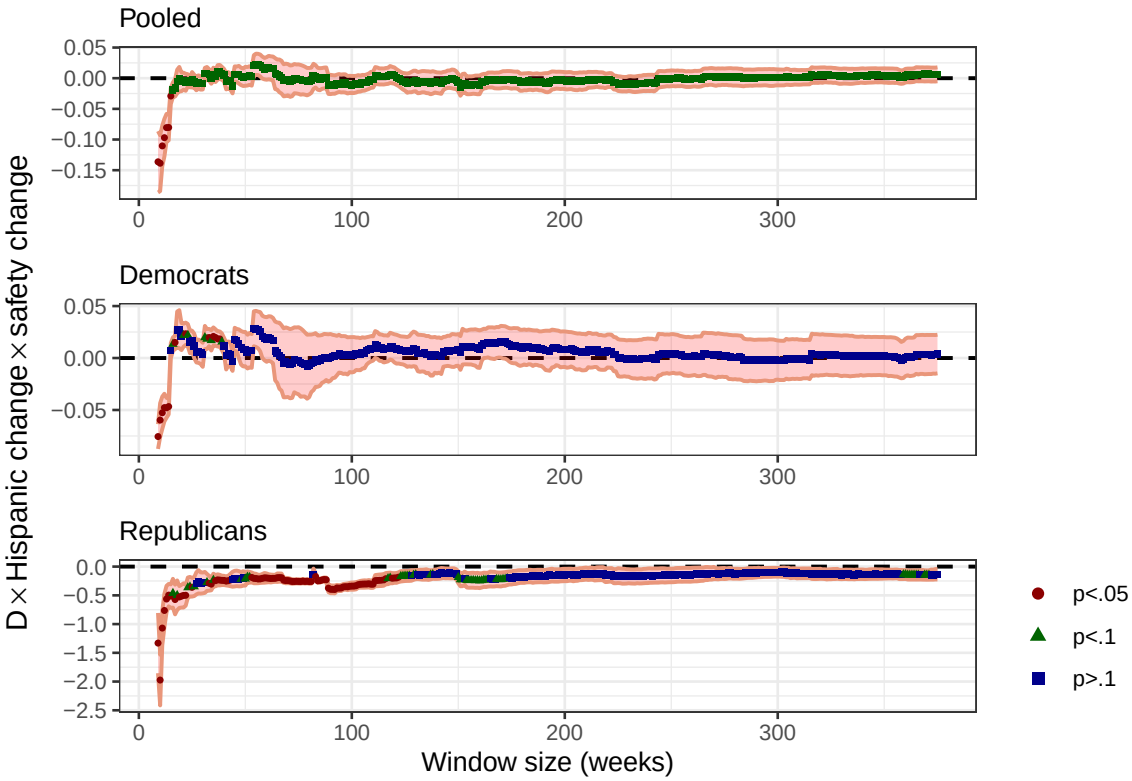

Figure 14: Hispanic Triple Interaction Model Coefficient Estimates by Window Size (outlier omitted)

sizes is consistent with electoral safety mediating a change in responsiveness to demographic change only between the period immediately before and after district lines were finalized. However, given that the triple interaction coefficient is not consistently significant for Democrats in Figure 13 and that there is little difference between Republicans whose districts grew safer and those whose did not as shown in Figure 12, there is little evidence of a robust effect of Hispanic demographic change on communications or of electoral safety mediating responsiveness for either party.

Table 11: Hispanic Weekly Triple Interaction Model by Redistricting Type, Varied Window

	Non-political			Political		
	6 months	1 year	All	6 months	1 year	All
D	0.026	-0.010	-0.000	0.004	-0.000	-0.002
	(0.017)	(0.008)	(0.016)	(0.012)	(0.008)	(0.003)
D×safety change	0.415	0.025	0.292	0.026	0.116	0.112
	(0.160)	(0.026)	(0.413)	(0.145)	(0.091)	(0.090)
D×Hispanic change	-0.003+	-0.002*	-0.000	0.001	-0.001	0.000
	(0.001)	(0.000)	(0.002)	(0.002)	(0.001)	(0.001)
D×Hispanic change×safety change	-0.002	0.001	0.017	-0.011	-0.107**	-0.027
	(0.011)	(0.003)	(0.034)	(0.057)	(0.038)	(0.027)
Num.Obs.	458	864	5261	1013	1905	12304
RMSE	0.08	0.08	0.12	0.06	0.07	0.10

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 11 estimates Equation 2 for varying window sizes binning the sample by the redistricting process of each legislator's state. While the coefficients for D×Hispanic change remain near zero, the triple interaction coefficient is negative and significant for the 1 year window model for states with political redistricting. Figure 15 plots the triple interaction coefficient as a function of window size for each subsample. For states with non-political processes, the coefficient is only distinguishable from zero and significant for the smallest window sizes. For states with political processes, however, the estimate is consistently negative and significant for windows from 34 to 210 weeks.

Figure 16 visualizes the interaction effect for each subsample. Among legislators from states with non-political processes there is little difference in responsiveness between safer and not safer legislators–in fact both groups show a relationship opposite what is predicted by **H3**. For legislators from states with political

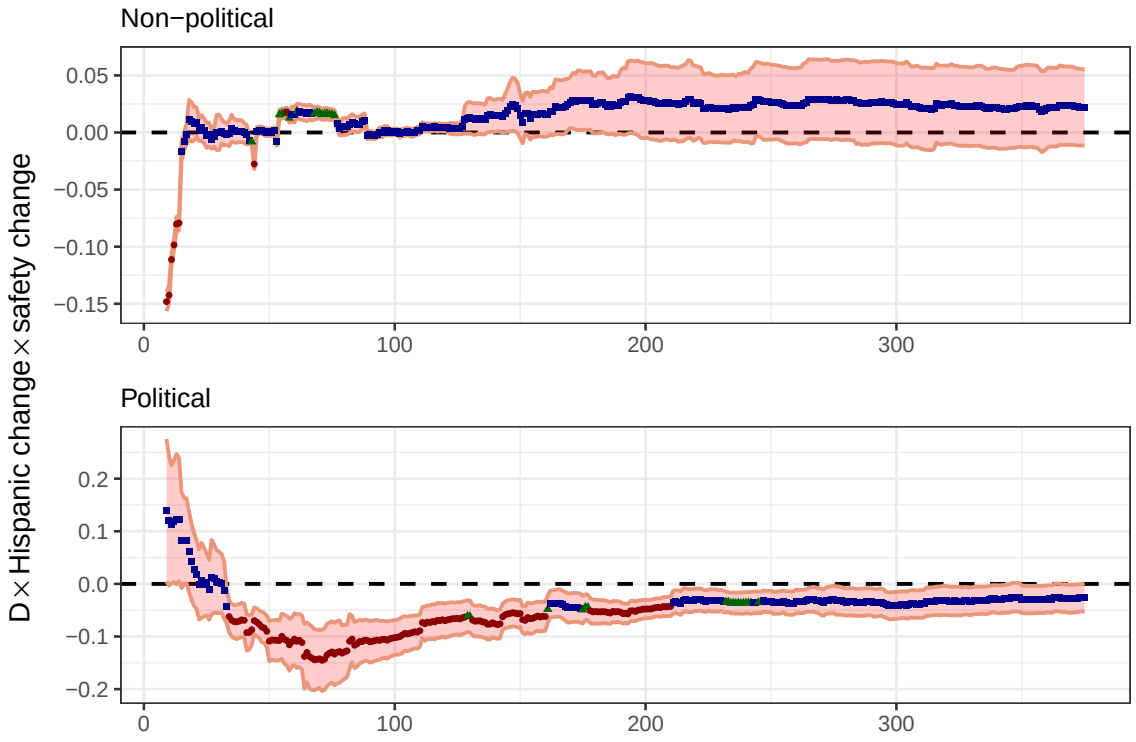

Figure 15: Hispanic Triple Interaction Model Coefficient Estimates by Window Size and Redistricting Type (outlier omitted)

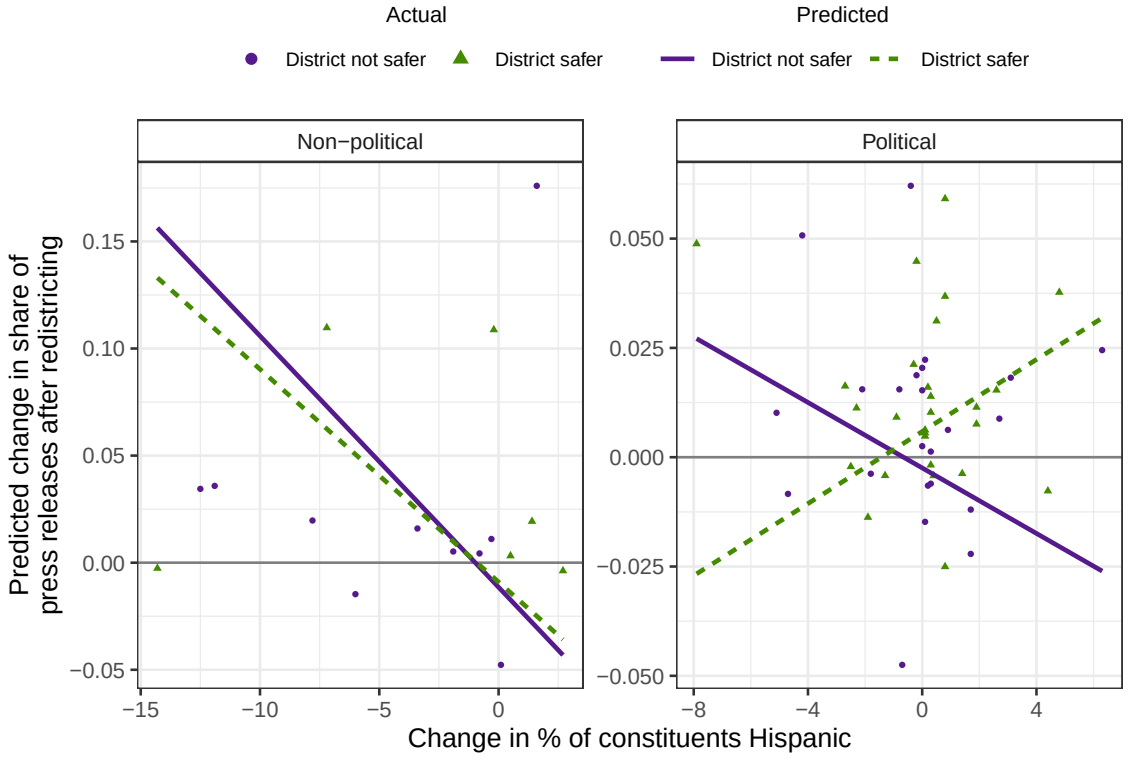

Figure 16: Interaction Between Hispanic Demographic Change and Change in Electoral Competitiveness by Redistricting Type (1 year window, outlier omitted)

processes, however, there is a clear difference between the groups. Legislators whose districts grew safer demonstrate responsiveness to demographic change consistent with **H3**–an increase in Hispanic constituents is associated with an increase in the share of press releases about immigration. Those whose districts did not grow safer show the opposite with an increase in Hispanic constituents being associated with a decrease in press releases about immigration. Similar to previous results these effects are substantively small–an increase of 1% in a district's Hispanic population is predicted to correspond to 0.6 more (fewer) press releases about immigration for the average legislator whose district grew safer (less safe) over the course of a year.

It is important to note the lack of geographic variation in the subsample of legislators from states with non-political processes–it includes 20 legislators from only four Western states, California, Washington, Idaho, and Alaska. The difference between subsamples could be due to regional effects rather than differing redistricting processes. It also could be that because the only border state in the sample, Texas, is categorized as having a political process. For this reason, Appendix 29 presents the analyses for this section with Texas omitted and finds no substantive difference in the results.

6.5 African Americans

Table 12: African American Weekly Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.002	-0.004	0.001	0.005	-0.005	0.003	-0.000	-0.001	-0.003
	(0.005)	(0.004)	(0.006)	(0.008)	(0.005)	(0.008)	(0.003)	(0.002)	(0.003)
D×AA change	0.001	0.000	0.001*	0.001	0.000	0.002*	-0.001**	-0.001*	0.000
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.000)	(0.000)	(0.000)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.09	0.10	0.12	0.10	0.11	0.13	0.02	0.03	0.04

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

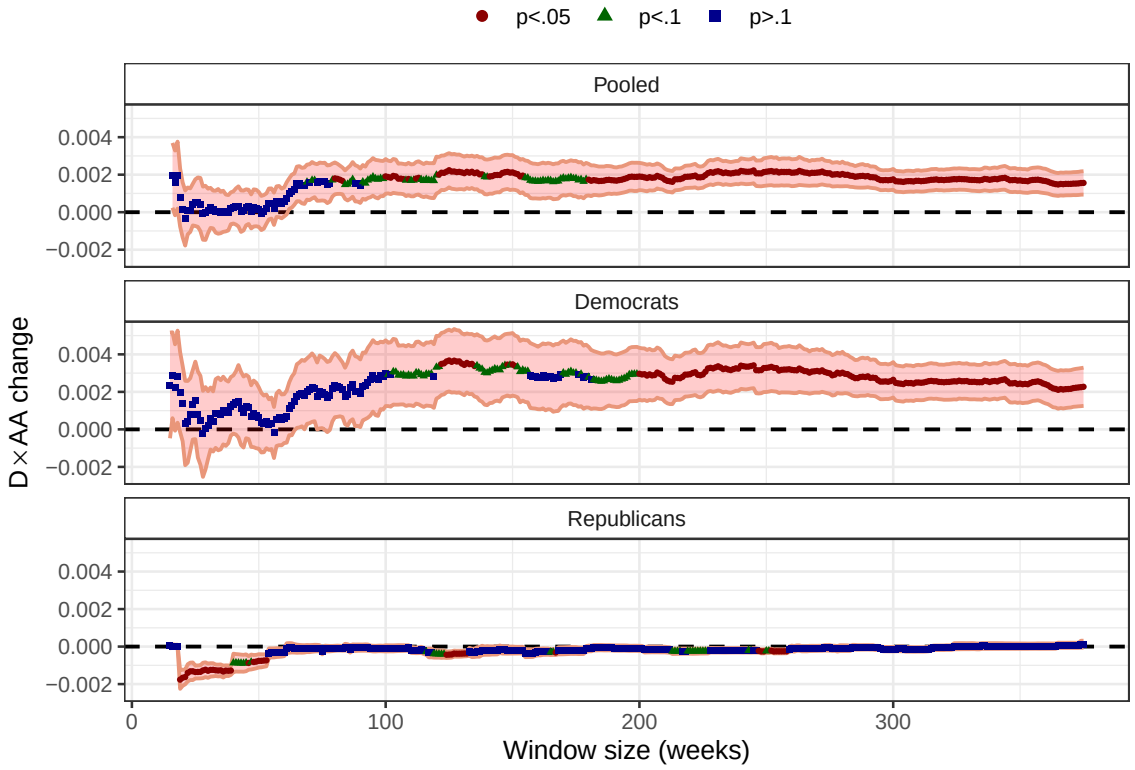

Figure 17: African American Model Coefficient Estimate by Window Size

Table 12 presents models estimating the effect of the change in the percent of legislators' constituents identifying as African American on the weekly share of press releases containing at least 3 keywords from the Black Centered Dictionary (see Appendix 24). When including all available weeks before and after redistricting, there is some support for **H4** among Democrats–legislators in districts that gained African-American constituents subsequently issued slightly more press releases salient to that group per week. For a legislator seeing a one standard deviation increase in their district's African American population (~3.2%), this amounts to 10 additional press releases per year for the average legislator issuing 156 press releases yearly. Interestingly, among Republican legislators there is a small but significant negative effect in the 6 month and 1 year window models consistent with legislators initially responding to an increase in African Americans by giving less attention to salient topics.

Figure 17 plots the coefficient on D×AA change as a function of window size for the pooled and party-restricted models. Consistent with Table 12, the positive effect observed for Democrats and predicted by **H4** is fairly robust, remaining consistently positive for windows sizes greater than 100 weeks and consistently significant for window sizes beyond 200 weeks. For Republicans, there is a negative effect only for window sizes under a year with coefficient consistently near zero for larger windows.

Table 13: African American Weekly Triple Interaction Model, Varied Window

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.003	-0.003	0.001	0.007	-0.003	0.003	-0.000	-0.000	-0.003
	(0.005)	(0.004)	(0.006)	(0.010)	(0.005)	(0.008)	(0.003)	(0.002)	(0.003)
D×safety change	0.005	0.004	0.193*	-0.112	-0.053	0.342*	-0.030	0.048	0.008
	(0.094)	(0.086)	(0.083)	(0.206)	(0.172)	(0.135)	(0.054)	(0.105)	(0.033)
D×AA change	0.001	0.000	0.001	0.002	0.001	0.000	-0.001*	-0.001	0.000
	(0.002)	(0.001)	(0.001)	(0.003)	(0.003)	(0.002)	(0.001)	(0.001)	(0.000)
D×AA change×safety change	-0.027	-0.011	-0.007	-0.017	-0.014	-0.018	-0.003	0.008	0.007
	(0.039)	(0.019)	(0.022)	(0.052)	(0.023)	(0.026)	(0.011)	(0.013)	(0.007)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.09	0.10	0.12	0.10	0.11	0.13	0.02	0.03	0.04

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 13 interacts the treatment effect, D×AA change, with the change in electoral safety yielding no evidence that responsiveness is mediated by changes in electoral safety. There is, however, evidence that Democrats whose districts gained copartisans subsequently gave more attention to issues salient to African Americans–a one standard deviation increase in electoral safety is associated with about 2 more press releases per year for the average legislator. While substantively small, this result is consistent with Democrats in safe seats being more willing to message about issues that appeal to the party base like racial justice without fear of repercussions in the general election.

While these results seem to support responsiveness among Democrats to this demographic group, it is possible for confounding events to create an illusion of responsiveness. On August 9, 2014, Michael Brown, an unarmed 18 year old African American man, was shot and killed by Officer Darren Wilson of the Ferguson Police Department. This incident set off widespread protest and a renewed focus on policing reform and racial justice more broadly (Burch 2024). If Democratic legislators increased attention to these issues as a result of this incident rather than redistricting-induced demographic change we would expect a positive and significant coefficient on D×AA change only in models including weekly observations after the shooting. Since district lines for the legislators in the sample were finalized on dates ranging from April 19, 2011 to March 19, 2012, this means restricting the window to include between 172 and 124 weeks after finalization. Appendix 30 re-estimates the models in Table 12 and Figure 17 restricted to observations before the killing of Michael Brown. While the coefficient remains positive, it is not significant when including all weeks before the killing and not consistently significant when varying the window size from 15 to 124 weeks. Further complicating matters, the earlier high profile killing of unarmed 17 year old African American Trayvon Martin on February 26, 2012 coincides with the finalization of district lines (Bates 2018). As a result, any responsiveness to redistricting can not be discerned from legislators responding to increased salience of racial issues after this incident.

7 Conclusion

Overall, the results provide mixed evidence that legislators respond to changes in the composition of their constituency by adapting their issue attention. The first hypotheses (**H1a** and **H1b**) predict that changes in the electoral safety of a legislator's district will affect how they allocate their attention to divisive policy topics and non-controversial pork barrel and appropriations topics. Previous work finds that legislators from marginal constituencies give greater attention to the latter while safe legislators have the leeway to tackle policy issues more readily and that when legislators are redistricted to represent a district with more copartisans they subsequently use more extreme rhetoric in social media posts (Grimmer 2010, 2013; Kaslovsky and Kistner 2024).

I find some evidence in support of **H1a** suggesting that Democratic legislators whose districts grew safer after redistricting subsequently gave less attention to pork topics in their communications while those whose districts

grew more competitive dedicated less attention to pork. The substantive effects, however, are small–for the average Democrat who sends out three press releases per week and whose electoral safety decreases by a standard deviation, this equates to only 4.7 fewer pork press releases over the course of a year. No such effect is found for Republicans within a reasonable window. I do, however, find support for **H1b** among both Republicans and Democrats: using unsupervised learning to classify press releases, the average Republican who sends out 3 press releases per week and whose electoral safety increased by a standard deviation is predicted to have 4.7 more policy press releases over the course of a year. A similar effect is found for Democrats when using supervised learning to classify press releases.

The second, third, and fourth hypotheses predict that, in line with previous work finding constituency demographic change is associated with changes in roll-call voting patterns (Glazer and Robbins 1985; LeVeaux and Garand 2003; Overby and Cosgrove 1996; Sharpe and Garand 2001; Stratmann 2000), legislators whose districts' senior citizen **(H2)**, Hispanic **(H3)**, and African American **(H4)** populations grow will give greater attention to areas salient to these groups in their communications. I find mixed evidence for **H2**–for Republican legislators, gaining seniors was associated with a slight but significant decrease in attention to salient issue areas (entitlements and defense). The average Republican who sends out 3 press releases per week and whose constituency's senior population grew by 1% was predicted to have 6 fewer press releases about senior issues over the course of a year. For Democrats, only legislators whose districts did not grow safer demonstrated the predicted responsiveness, though the effects were small–the average Democrat whose senior population grew by 1% was predicted to dedicate 3 more press releases per year to senior issues whereas a senior population shrinking by 1% was associated with 3 fewer senior issue press releases per year.

No robust support for **H3** was found, however there is some evidence changes in electoral safety mediate responsiveness among Democrats in states with political redistricting processes. For legislators whose districts did not grow safer, gaining Hispanic constituents was associated with a small increase in attention given to immigration and border security, consistent with **H3**, while those whose districts grew safer exhibit no relationship. While a statistically significant increase in press releases about criminal and racial justice was observed for Democratic legislators who gained African American constituents as predicted by **H4**, this apparent responsiveness may instead reflect increased salience for these issues nationwide in response to high profile killings of African American men.

These findings are in line with existing work finding legislators do exhibit responsiveness, but to varying degrees across issue areas and subconstituencies. They also offer some justification for normative concerns that redistricting impacts the kind of representation legislators provide their constituents. Though the effect sizes are small, on the order of 5 press releases per year, they indicate that the packing and cracking of districts can incentivize legislators to change their representational style in order to stay in office. Of particular importance is the tendency of legislators whose districts become less competitive to engage in more position-taking. Doing so can be viewed as one

avenue through which congressional rhetoric and politics more broadly polarizes and nationalizes. If legislators feel less of an incentive to engage in nonpartisan credit claiming and instead prefer to take positions on polarized issues, this may contribute to a shift toward more divisive and extreme rhetoric.

A number of studies have considered to what degree redistricting practices contribute to political polarization, with most finding only a modest impact (Carson et al. 2007; S. Masket, Winburn, and Wright 2006; S. E. Masket, Winburn, and Wright 2012; McCarty, Poole, and Rosenthal 2006). However, these studies have generally focused on estimating the impact of redistricting on spatial measures of ideology estimated with roll-call votes. This approach may not fully capture the polarization of legislators due to the agenda control of party leadership and the rise of omnibus legislation making roll-call votes difficult to categorize ideologically. The approach offered here instead relies on the communications of legislators which are not as subject to agenda control of leadership, are for more numerous, and can provide a more nuanced understanding of the quality of representation legislators offer. Future research can similar take advantage of these communications to revisit the mechanisms by which polarization and nationalization have changed how legislators represent their constituents. Indeed, recent work by Kaslovsky and Kistner (2024) demonstrates redistricting has influenced the extremity of legislators' rhetoric on social media.

While this study only considers how changes in a few key subconstituencies affect legislators presentational style, future work can characterize how communications from various venues are targeted at other subconstiuencies. Leveraging other redistricting cycles could also prove fruitful, helping to overcome confounders specific to the 2010 redistricting cycle. For instance the 2020 redistricting cycle could provide a hard test of whether legislators respond to gaining African American constituents given the police killing of George Floyd made racial and criminal justice issues highly salient *before* new districts were finalized. If legislators gave even more attention to these issues after redistricting, this would provide strong evidence of responsiveness to that particular subconstituency. In addition to leveraging other redistricting cycles and considering other subconstituencies, the frequency of legislators' communications also opens the door to designs better leveraging time series data so as to causally identify responsiveness in a way not allowed by this study's difference-in-differences approach. With responsiveness a complicated function of time, legislator preferences, constituent preferences, and contextual factors, such work offers to better characterize what conditions elicit responsiveness from legislators so as to live up to normative expectations of democracy.

Chapter 2

Nationalized Responsiveness: Legislator Communication During the COVID-19 Pandemic

Abstract

American politics has become increasingly nationalized and polarized, leading legislators to attend more to national than local concerns. I hypothesize that legislators will have been more responsive to national than local pandemic impacts, and that Democrats would emphasize mitigation in response to rising deaths while Republicans would stress economic recovery in response to economic downturn. To test this, I combine weekly district and national-level COVID death and economic data with nearly 500,000 Twitter and Facebook posts from House members in the 116th Congress, using a keyword-assisted topic model to identify mitigation and economic messaging about the pandemic before estimating first-difference panel VAR-GMM models on a balanced sample of legislators. I find that legislators reacted more to national shocks—national deaths and economic downturns drove significant increases in pandemic-related posts, whereas district-level changes had negligible effects; partisan differences were small. By leveraging high-frequency social media content and dynamic GMM estimation, this paper shows how nationalization can erode locally oriented representation and advances the legislator responsiveness and nationalization literatures.

8 Introduction

As America's politics and media environment have nationalized and polarized in recent decades, the public has come to prioritize national, partisan issues rather than local issues (Hopkins 2018). With constituents most informed about national issues and prioritizing ideological representation, I theorize that legislator responsiveness has nationalized as legislators have become more motivated to respond to changing national rather than local conditions, expecting the former will be most likely to change constituents' interests. Further, legislators should most readily exhibit responsiveness when they expect changing conditions will make issues owned by their party more salient for constituents, resulting in differential responsiveness across the parties. This nationalized and polarized responsiveness is in contrast to the traditional characterization of congressional politics as candidate-centric and locally-oriented, with legislators needing to demonstrate attention to local concerns to remain in office (Fenno 1978; David R. Mayhew 1974b). While still aiming to represent constituents' interests in the current environment, the move toward representing national, partisan concerns has the potential to harm representation of local issues at the federal level and further center political discourse on divisive topics that reinforce polarization. Studies of responsiveness have most often evaluated responsiveness via legislative activities, but legislators can also respond by strategically changing the

content of their messaging to reflect the priorities of constituents as they evolve over time. Because issuing public communications is less costly and subject to the agenda-setting power of leadership, it enables legislators to more freely, easily, and frequently respond than in their legislative activities and do so in ways constituents most often utilize to evaluate and hold them accountable (Ansolabehere and Jones 2010; Canes-Wrone, Brady, and Cogan 2002; Grimmer, Messing, and Westwood 2012; Grimmer, Westwood, and Messing 2015; P. E. Jones 2011; Lipinski 2001).

The COVID-19 pandemic offers a unique context: constituencies experienced different local trajectories in terms of public health and economic impacts, but were largely exposed to the same national-level coverage of the crisis, which—along with public and elite behavior—quickly polarized. If legislators do indeed more readily respond to changing national rather than local conditions they expect to change issue salience among constituents, then legislators are expected to have been more responsive to national than to local pandemic impacts—responding to national economic decline and rising deaths by messaging more about pandemic-related issues as they became more salient nationally. However, which impacts and how legislators responded is also expected to have differed between the parties. Democratic legislators, whose base prioritized public health, had reason to emphasize mitigation efforts as death counts rose. Republicans, whose base focused more on the economy, had reason to stress economic recovery when unemployment spiked or small business revenue fell. Thus, when local or national deaths climbed, Democrats should have increased mitigation-related posts; when local or national economic indicators deteriorated, Republicans should have increased economic-related posts.

To test this, I assemble weekly data on district and national incremental COVID-19 deaths from January to November 2020 alongside real-time economic measures at the district and national levels—consumer spending, small-business revenue, and unemployment claims. I pair these data with nearly half a million posts by House members from the 116th Congress on Twitter and Facebook over the same period, identifying posts concerning mitigation efforts and economic aspects of the pandemic using a keyword-assisted topic model. From this I construct a week-by-week measures of how much each member's messaging focused on pandemic health and/or economic issues. I then use a first-difference panel vector autoregression generalized method of moments (VAR-GMM) design on a balanced set of legislators observed for roughly forty weeks. In each specification, three outcomes, the weekly share of a member's posts on mitigation, economic, or both topics, are regressed on one-and two-week lags of deaths and economic indicators at the national and district level.

Consistent with theoretical expectations, I find that during the pandemic, legislators were more responsive to shifts in national-level COVID-19 conditions than to changes in their own districts. Lagged national incremental deaths and national economic indicators were associated with significant increases in the weekly share of legislators' Facebook posts and tweets about mitigation and economic aspects of the pandemic, while comparable district-level shocks had negligible effects. Although Democratic members did respond slightly more to increases in national consumer spending

by emphasizing economic aspects of the crisis—contrary to the expectations that Republicans would lead on economic messaging and that worsening, not improving economic conditions would increase attention to economic issues—this partisan differential is small relative to the overwhelming influence of national trends. These results demonstrate that, despite local public health impacts and economic disruptions varying widely, legislators' public communications were anchored to a common national narrative. By exploiting a novel dataset of high-frequency social media data and dynamic GMM estimation, this paper shows how growing nationalization can diminish local accountability—even as constituents continue to care about issues in their own districts. By leveraging a longitudinal design and constructing an original observational dataset to compare responsiveness to national and local events, I contribute to the responsiveness and nationalization literatures and open the door for future work to measure dynamic responsiveness in legislators' public communications.

9 Background: Responsive Representation

"What makes men feel represented—identification? marching bands? voting?"

(Pitkin 1967, 9)

There is a normative expectation in a democracy that legislators effectively representing their constituents exhibit responsiveness by "acting in the interest of the represented, in a manner responsive to them" (Pitkin 1967, 209). This is the case whether legislators act as delegates by mirroring the expressed interests (i.e. positions and priorities) of constituents or trustees by doing what they determine to be in the interest of constituents. Whether trustees or delegates, responsive representation is key for democratic functioning given members of Congress provide the most direct link between the public and their federal government.

When legislators represent the interests of constituents at a given moment in time this is termed *static responsiveness* (also known as issue congruence). Some of the earliest empirical evidence of such responsiveness comes from Miller and Stokes (1963) who find support among constituents for civil rights legislation to be strongly correlated with legislators' roll-call votes. Subsequent work finds substantial evidence of static responsiveness, though to varying degrees across policy domains, constituencies, and legislators (Bartels 1991; Bishin 2000; Cayton 2017; Clinton 2006; Curry and Haydon 2018; Griffin 2006; Jackson and King 1989; B. D. Jones and Baumgartner 2004; Kuklinski 1977).

It follows from Pitkin's description of representation that when the interests of constituents change legislators should respond to remain in-step with them if they are first and foremost motivated to win reelection (David R. Mayhew 1974b). To do so, they need to exhibit what Stimson, Mackuen, and Erikson (1995) termed *dynamic responsiveness*:

responding to changing interests to maintain *static responsiveness*–be it delegates responding to changes in expressed interests or trustees to perceived interests of constituents resulting from changing conditions or salient events. As with static responsiveness, there is substantial evidence for dynamic responsiveness, particularly when redistricting changes the demographic composition of a legislator's constituency (Adler, Cayton, and Griffin 2018; Barberá et al. 2019; Bertelli and Carson 2011; Cayton 2017; Fowler 2005; Glazer and Robbins 1985; M. Hayes, Hibbing, and Sulkin 2010; Kaslovsky and Kistner 2024; Leveaux-Sharpe 2001; Page and Shapiro 1983; Vickrey 2016). A related literature supports responsiveness as being electorally motivated: legislators who fail to be responsive are held electorally accountable, though this may not always lead to a more congruent challenger taking office when an unresponsive incumbent is voted out (Ansolabehere and Jones 2010; Bafumi and Herron 2010; Canes-Wrone, Brady, and Cogan 2002; Canes-Wrone and Kistner 2022; P. E. Jones 2011)

This empirical support for responsiveness and accountability is consistent with canonical theories of Congress where reelection-minded legislators are strategic in how they present themselves to and represent constituents' interests in order to win their approval (Fenno 1978; David R. Mayhew 1974b). However, such these theories understand these interests to be primarily locally oriented yielding legislators who emphasize an understanding of and attention to the unique local context of their constituency with their home style–presentation of self, allocation of time and resources, and explanation of activities in Washington–largely reflecting this local context and representation of local interests (Fenno 1978; Wahlke et al. 1962).

It is well-established that a constituent's surroundings influence their behavior in a myriad of ways, including their political participation, positions, and priorities (Levine et al. 2018; Sampson, Morenoff, and Gannon-Rowley 2002). When constituents' locally oriented interests changed, reelection-minded legislators then dynamically responded to them to remain in step with constituents (Adler, Cayton, and Griffin 2018; Cayton 2017). This locally oriented responsiveness manifested not only in substantive policy actions like bringing home pork, but also in legislators presenting themselves as attuned to local interests so as to provide symbolic or descriptive representation (Pitkin 1967). Historically, congressional politics was understood to be candidate-centric where the personal brand of a legislator was key to their electoral success (David R. Mayhew 1974b).

However, over recent decades changes in both constituent and legislator behavior have coincided with mutually reinforcing trends of polarization and nationalization. Nationalization describes the increased focus on politics at the national level focusing political discourse around the platforms of the national parties and presidential elections. Inextricably linked to this is the polarization of the parties with the mass parties becoming ideologically well-sorted and political elites sharply divided over ideological, national issues (Brunell and Buchler 2009; Davis and Dunaway 2016; Erikson and Wright 2000; S. J. Hill and Tausanovitch 2018; Theriault 2008). In this setting, voters now evaluate candidates and issues based on their alignment with their own party identity [Hopkins (2018);

lapinski_what_2016]. This is perhaps clearest in voting patterns–in contrast to work in the 1980s finding little evidence of electoral nationalization (Claggett, Flanigan, and Zingale 1984; Vertz, Frendreis, and Gibson 1987), there has subsequently been a dramatic decline in split-ticket voting consistent with a growing linkage between presidential and subpresidential elections (Hopkins 2018; Sievert and McKee 2019). While local interests of constituents do play some role in their congressional vote choice, party label is clearly the predominant heuristic relied on. This signals constituents prioritizing representation from copartisan, ideologically congruent legislators, not necessarily those representing local interests as in the past (Lapinski et al. 2016).

Facilitating the interwoven nationalization and polarization of politics is declining local media and corresponding rise of national media. Declining local media has limited access to local coverage of legislators constituents rely on to evaluate whether their local interests are being represented. Even where local outlets remain, consolidation and reduced resources necessitate reliance on wire services rather than local political reporters or Washington bureaus for political coverage (Abernathy 2018; Arnold 2006; D. Hayes and Lawless 2015, 2018; Hopkins 2018). The American media diet is now dominated by news from national outlets and most recently social media–venues that favor conflict-driven, emotionally appealing content salient to national audiences. This translates to constituents consuming political coverage increasingly focused on party conflict around national issues yielding both a nationalized and polarized information environment (Maier and Nai 2020; Scott 2022).

While constituents consumed political information in such a setting and their voting behavior nationalized, legislator behavior also evolved. Incumbents either adapted their style to stay in-step with their party base or were replaced by challengers campaigning and fundraising on the national, ideological issues salient to voters (Anderson, Butler, and Harbridge-Yong n.d.; Ansolabehere and Jones 2010; Bafumi and Herron 2010; Canes-Wrone, Brady, and Cogan 2002; Canes-Wrone and Kistner 2022; P. E. Jones 2011). Institutional forces also contributed to elite polarization–the centralization of party leadership, beginning under the Speakership of Newt Gingrich, reinforced party polarization by enabling greater enforcement of party unity and the rise of unorthodox lawmaking (Sinclair 2017). This further motivated legislators to toe the party line even when it meant going against their constituents' preferences or only being responsive to their party base (Cayton 2017; Vickrey 2016).

Party centralization not only altered legislators' behavior on the floor but also how they presented themselves to constituents. Though legislators still have more leeway in their messaging than their legislative activities, there are strong incentivizes to keep in line with the party's messaging strategy with leadership coordinating messaging efforts to focus on national issues salient in the moment or which the party owns and so can use to mobilize voters (Brazeal and Benoit 2008; Egan 2013; Fagan 2021; Hughes and Koger 2022; Pietryka 2012). Along with institutional and electoral incentives, the media nationalization that changed how constituents learn about politics also changed what kinds of messages from legislators most effectively reach constituents. With less local media to cover locally oriented

messaging, legislators depend more on dissemination by national outlets and social media. This motivates messaging about topics national media consider newsworthy or which drive more engagement on social media, e.g. polarized, nationally salient topics rich with partisan conflict (Maier and Nai 2020; Scott 2022; Wagner and Gruszczynski 2018).

In the following section I theorize that in this nationalized and polarized environment, because constituents primarily seek ideological representation on national issues, legislators are most responsive to national events and conditions in order represent them. As both a local and national crisis with impacts that varied over time and influenced constituents' interests, I leverage the COVID-19 pandemic to test the degree to which legislators are responsive to national versus local conditions and how this responsiveness differs between the parties.

10 Theory

In previous candidate-centric era, legislators demonstrated their effective representation of constituents with locally oriented responsiveness–responding when local events or conditions changed constituents' interests. I theorize that in an environment where constituents prioritize ideological representation of their partisan views on national issues, legislators will be responsive to changing national conditions salient to constituents' views, potentially to the detriment of locally oriented responsiveness. Yet, legislators will not be equally responsive to all national changes just as they were never universally responsive to all local changes. It will be most advantageous to respond to changes raising the salience of their party's owned issues or which predictably influence the representation sought by their base (Egan 2008, 2013; Leeper and Slothuus 2014; Stanley et al. 2020; Vickrey 2016). In such cases, legislators will most readily exhibit responsiveness, adapting their issue attention to better align with electorally valuable copartisan constituents.

While existing work shows that what legislators respond to is influenced by partisan considerations (Anderson, Butler, and Harbridge-Yong n.d.; Egan 2008, 2013; Vickrey 2016), an empirical comparison of responsiveness to local versus national conditions informing constituents' interests has proven more difficult. Until recently, nearly all studies of dynamic responsiveness assessed whether changes in legislative activities, namely roll-call voting, followed changes in constituents' expressed interests on corresponding issues. This approach is limited to considering only the national issues addressed with legislation and so is subject to the agenda-setting of leadership and for which constituency-level public opinion data is available. Some work uses economic conditions, political participation, or demographics to proxy for constituent interests in lieu of public opinion data though generally still relying on roll-call votes (Cayton 2017; Glazer and Robbins 1985; M. Hayes, Hibbing, and Sulkin 2010; Kaslovsky and Kistner 2024; Leveaux-Sharpe 2001; Martin and Claibourn 2013; Miler 2016). Despite the normative expectation that locally oriented responsiveness is a bedrock of congressional representation, few studies to date consider whether legislators are more responsive to national rather than local conditions that inform constituents' interests or how legislators respond beyond their

legislative activities.

Though what legislators do on the floor has perhaps the most direct impact on policy outcomes, what they do outside the chamber is also consequential not only for policymaking but how they present themselves to and represent constituents. Most constituents do not learn about and evaluate representatives by browsing their sponsorship activity or floor voting record–they form their impressions from legislators' messaging and the media coverage it influences (Grimmer, Messing, and Westwood 2012; Grimmer, Westwood, and Messing 2015; Lipinski 2001). It is from these impressions that they evaluate their performance and hold them electorally accountable (Ansolabehere and Jones 2010; Canes-Wrone, Brady, and Cogan 2002; P. E. Jones 2011). While much of legislators' communications are about their substantive policy actions, they also provide a venue to demonstrate descriptive and symbolic representation that is also meaningful to constituents (Anastasopoulos et al. 2016; K. Q. Hill and Hurley 2002; Vishwanath 2025)

Importantly, the content of these communications is less constrained by agenda-setting of leadership than their legislative activities. This flexibility enables legislators to, if they choose, present themselves as attentive to locally salient concerns with their messaging, even when not part of their party's agenda. The low cost and greater frequency of issuing public communications also enables greater responsiveness than legislative activities can. This was the case even in the era when newsletters reached constituents via snail mail and press releases by local newspaper coverage but is even more the case in the era of e-newsletters and online media. For these reasons, considering how legislators change the content of their public communications to exhibit responsiveness can improve understanding of the degree to which and under what conditions legislators are responsive to their constituents' concerns.

10.1 Responding to the COVID-19 Pandemic

The COVID-19 pandemic offers an opportunity to not only leverage legislators' communications, but also compare the degree to which legislators responded to changing local and national conditions and constituents' interests as thousands became ill, lost loved ones, and lost jobs. The pandemic was a national crisis but its impacts were not uniform at any given moment, varying across constituencies. Through much of 2020, densely populated urban areas saw outbreaks before more sparsely populated regions and areas with higher rates of poverty, less access to health care, and more residents with comorbidities saw higher infection and death rates, contributing to racial and class disparities in the pandemic's impacts (Bollyky et al. 2023; Carozzi, Provenzano, and Roth 2024; Millett et al. 2020).

Socioeconomic factors were not the only source of variation–state and local governments' responses also varied significantly. States with stricter mitigation tactics like mask and vaccine mandates suffered significantly fewer excess deaths than states prohibiting such policies, while other tactics like school and business closures proved less effective (Ruhm 2024). The economic impacts of the virus also varied over time, with climbing infections and deaths

inducing economic contraction as consumer behavior changed and restrictions such as stay at home orders had a tangible, though often short-lived, effect on economic conditions (Bollyky et al. 2023; Dunphy, Miller, Sunshine, et al. 2022; Dunphy, Miller, Rice, et al. 2022).

Constituents undoubtedly formed and updated their views about the pandemic in part from directly experiencing impacts to local conditions. However, their views were also informed by media coverage of national conditions–especially with the emergence of a novel set of issues most did not have a strong prior belief. The nationalized and polarized media environment played a major role in linking constituents' views to national conditions and polarizing them with coverage presented through a partisan lens. Left-leaning outlets emphasized the public health threat of the virus and policies meant to mitigate it while right-leaning outlets downplayed health threats and focused on the economic impacts of mitigation (Hart, Chinn, and Soroka 2020; Mach et al. 2021). Symptomatic of the broader nationalization of media, even coverage from local outlets tended to focus on national events–national death counts were more strongly correlated with the volume of pandemic coverage than local deaths and coverage was framed to cater to the partisan demographics of the media market (Joseph et al. 2022). Due to this, even when consuming local media, constituents were exposed to information about national conditions with a partisan angle. Such coverage had measurable impacts on behavior, for example with consumption of Fox News causing viewers to engage in less social distancing and purchase less personal protective equipment (Ash et al. 2024).

After a brief period of unity in the face of a national crisis in the early months of 2020, public opinion quickly began polarizing. Democrats increasingly saw the pandemic as a major public health threat and supported mitigation efforts despite their economic impacts. On the other side of the aisle, Republicans came to favor reopening the economy and viewed mitigation efforts like mask mandates as violations of personal liberties pushed by untrustworthy public health officials. By April 2020, 94% of Democrats favored prioritizing mitigation over economic growth compared to just 68% of Republicans (Kirzinger et al. 2020). By May, Democrats were nearly 40% more likely than Republicans to consider the pandemic a major threat to public health, up from 26% in late March (Funk and Tyson 2020b). However, it should be noted that while public opinion polarized quickly for issues that slotted into the pre-existing ideological divide, in other areas the the public remained fairly united across party lines or even converged over time. For instance, though mask mandates remained a polarized issue, the partisan gap in self-reported mask usage shrank from upwards of 47% in May 2020 to just 10% by November as Republicans increasingly adopted masking (Funk and Tyson 2020a; Sourcheray 2020).

Consistent with legislators responsive to their party base, the polarization among the public was reflected in Congress: in early March 2020, Congress passed with near unanimous support H.R. 6074, the Coronavirus Preparedness and Response Supplemental Appropriations Act, allocating over $8 billion for pandemic response. However, unity on the floor did not necessarily translate to unity out of the chamber–Democratic and Republican

legislators were already beginning to emphasize different aspects of the legislation in their press releases as the parties developed ownership of issues prioritized by their base (Bianco and Schmidt 2020). As Americans looked to elected officials to guide the country through a global pandemic, Democratic and Republican legislators' messaging diverged in tandem with public opinion (Bianco and Schmidt 2020; Bickham and Francis 2021; Green et al. 2020).

Congressional Democrats focused their messaging on the public health threat posed by the virus and addressing the threat with mitigation efforts recommended by public health officials. Aware of the economic toll of many of these policies and in line with the party's existing issue ownership of welfare programs and health care, their messaging also focused on economic stimulus and protections for essential workers (Green et al. 2020; Guntuku et al. 2021). Demonstrating this was not all cheap talk, this messaging came with legislative action: in mid-March House Democrats introduced H.R. 6201, the Families First Coronavirus Response Act, providing funding for paid sick leave and boosts to SNAP and Medicaid. The bill passed both chambers but not with the same degree of bipartisanship as the first pandemic relief bill. While pre-existing issue ownership motivated their messaging strategy, Democrats also had an electoral incentive to emphasize the negative impacts of the virus. With the incumbent Republican President Trump running for reelection and Republicans facing an uphill battle to keep the Senate and win back the House, Democrats saw and seized on an opportunity to blame the impacts on the Trump administration's failure to handle the crisis.

Like the Democrats, Congressional Republicans mirrored their base's priorities as well, focusing on economic concerns, particularly the impacts of mitigation efforts on small businesses and need to reopen the economy to save them, and opposition to mitigation tactics on the basis of them being government overreach (Green et al. 2020; Guntuku et al. 2021). Though unable to address the latter legislatively while only controlling the Senate, the bipartisan relief package H.R. 266, the Paycheck Protection Program and Health Care Enhancement Act, passed in late March providing loans for impacted businesses to address Republicans' economic concerns as well as providing stimulus checks for individuals. As Democrats blamed the Trump administration's handling of the crisis for its public health and economic impacts, Republicans, whose electoral fortunes were inextricably linked to the presidential election, echoed the President's rhetoric. They placed blame on China and the World Health Organization for the pandemic while emphasizing the economic recovery they would oversee and downplaying public health concerns (Cormack and Meidlinger 2022; Guntuku et al. 2021; Neuman 2020).

The pandemic is in a sense a microcosm of a longer trend of the public's and elites' behavior nationalizing and polarizing. Public perception of the pandemic's impacts came to be shaped by the polarized coverage of national events in a media ecosystem with little capacity for local coverage. To represent the evolving priorities of constituents, legislators are thus expected to have been more responsive to the pandemic's impacts at the national rather than local level **(H1)**. When conditions deteriorated, such as cases and deaths rising or the economy contracting, and made

the pandemic more salient to constituents, legislators are expected to have responded by giving more attention to the pandemic in their communications.

It is also expected that which impacts elicited a response from legislators and the nature of their response will have depended on their party affiliation. Responsiveness is most advantageous when changing conditions increase the salience of issues owned by the legislator's party or prioritized by their electoral base. As such, Democratic legislators will have been more responsive than Republicans to public health impacts **(H2)** prioritized by the base, linked to owned issues, and which could be blamed on the Trump administration. In contrast, Republican legislators are expected to have been more responsive to the economic impacts their base prioritized and which could be blamed on Democrat-backed mitigation efforts **(H3)**.

11 Data and Measurement

Responsiveness has most often been measured by comparing public opinion polling to roll-call votes (or ideology scores constructed from them). While this approach can give an estimate of the congruence between legislators and constituents, it faces numerous limitations. For one, congruence can only be measured for issues with corresponding polling data and legislative action, restricting analysis to issues on the legislative agenda and prompting construct validity concerns when comparing the two (S. J. Hill and Huber 2019). The scarcity of constituency-level polling data and relative infrequency of roll-call voting limits this approach's utility for measuring dynamic responsiveness. Further, roll-call votes collapse complex issues that legislators may take nuanced positions on down to a binary yea or nay, exacerbated in an era dominated by omnibus legislation bundling countless issues together (Highton and Rocca 2005; Sinclair 2017).

To overcome these limitations, recent work offers a new approach by leveraging legislators' communications instead of roll call votes allowing a more comprehensive understanding of how legislators represent constituents (Cormack 2016a; Grimmer 2013; e.g., Grimmer, Westwood, and Messing 2015; Hassell and Monson 2016; Taylor 2017). The rich content of these communications makes them potentially more suitable for measuring responsiveness, evident from the growing body of work considering the degree to which legislators exhibit static responsiveness in their messaging (Ballard et al. 2023; Cormack 2021; Garcia and Stout 2020; Hemphill, Russell, and Schöpke-Gonzalez 2021; Milita, Ryan, and Simas 2014). Their frequency also opens the door to measuring dynamic responsiveness, though work in this vein has proved fruitful, likely due to a lack of similarly fine-grained data for constituents.

The COVID-19 pandemic, however, offers a scenario where such data is available with several studies testing for dynamic responsiveness to COVID-19 cases and deaths. Bianco and Schmidt (2020) test whether senators

engaged in more credit-claiming for COVID assistance in press releases when the cases and deaths rose in their state from March to June 2020. While senators from more conservative states engaged in less credit-claiming, cases and deaths were not found to predict increased credit-claiming leading them to conclude that "legislators might have based their presentational behavior on non-medical (but equally contextual) indicators — such as economic disruption and societal lockdowns" (Bianco and Schmidt 2020, 640). Yet, Cormack and Meidlinger (2022) find legislators whose constituencies suffered more monthly deaths responded by issuing more newsletters mentioning "COVID-19" or "coronavirus" between January to July 2020. Similarly, Kim et al. (2022) find among state legislators that weekly deaths and cases at the state and national level predicted tweets about the pandemic.

The analysis here seeks to build on this existing work in several ways: First, in addition to testing for responsiveness to cases and deaths, economic conditions at the constituency and national levels are used to test responsiveness to a similarly salient impact of the pandemic. Second, while Bianco and Schmidt (2020) and Cormack and Meidlinger (2022) utilize press releases and newsletters from only the first half of 2020, for this analysis a novel dataset is constructed consisting of nearly half a million Twitter and Facebook posts by members of the 116th Congress from January 20 to November 28, 2020.[6] In a quickly evolving crisis like the pandemic, social media is an especially effective way for elected officials to disseminate information rapidly in response to changing conditions (Mohamed Nour and Kisa 2024; A. Powell 2021). The greater frequency with which legislators post to social media compared to newsletters and press releases allows a finer-grained analysis with potential to capture responsiveness not detectable in other modes of communication. Finally, a more sophisticated classification approach using a keyword-assisted topic model enables communications about the pandemic to be identified and further classified based on whether they are framed around the mitigation or economic aspects of the pandemic.

These methodological improvements allow three hypotheses about legislator responsiveness to be tested: Legislators are expected to have more readily responded to worsening public health and economic impacts nationally rather than locally, doing so by dedicating a greater share of their communications to the pandemic **(H1)**. Democratic legislators are expected to have been more responsive than Republicans to public health impacts, responding to increased cases and deaths with increased messaging about mitigation efforts **(H2)**. Republican legislators are expected to have been more responsive than Democrats to economic impacts, responding to economic contraction with increased messaging about economic aspects of the pandemic **(H3)**.

[6] While the dataset includes tweets from legislators in both chambers, Facebook posts were only able to be collected for House members.

11.1 Independent Variables

11.1.1 Public health impact

To measure the pandemic's public health impact over time, weekly incremental COVID-19 deaths were drawn from the (n.d.) COVID-19 database which provides daily observations at the congressional district, state, and national level. Ten congressional districts[7] in the New York City area are not present in this data, presumably because health statistics were collected at the borough-level and so could not be crosswalked to the district level. Data for the missing districts were imputed from the (n.d.) COVID-19 database by dividing the daily incremental deaths equally among the ten districts. This yields a reasonable approximation of district-level deaths given constituents regularly cross district boundaries for healthcare and when hospitals are overwhelmed, as in 2020, incoming patients are directed to wherever beds are available. Deaths, as opposed to cases, are used as a proxy for severity of the pandemic for two reasons: First, while only an estimated 13% of actual COVID-19 cases in the United States were reported, an estimated 76% of actual COVID-19 deaths were reported in the first months of the pandemic (Lau (2021); Iuliano et al. (2021)). Second, time series of cases failed stationarity testing even after differencing, making the data unreliable for estimating the vector autoregression models used in the design.

11.1.2 Economic impact

Table 14: Economic Impact Variables

Variable	Description	Coverage	Source
UI claims	Number of unemployment claims per 100 people in the 2019 labor force	1,438 counties 244 districts	Department of Labor and numerous state agencies
Consumer spending	Total credit and debit card spending measured relative to January 6 to February 2, 2020, seasonally adjusted, and calculated as a 7 day moving average	1,628 counties 435 districts	Affinity Solutions
Small biz. revenue	Percent change in net revenue for small businesses, calculated as a seven-day moving average, seasonally adjusted, and indexed to January 4 to 31, 2020	752 counties 435 districts	Womply

[7] NY-6 to NY-15

Three measures of the pandemic's economic impacts are drawn from the Opportunity Insights Economic Tracker's daily and weekly county-level observations of economic data collected from a variety of sources (Chetty, Friedman, and Stepner 2023). To crosswalk these to the congressional district level, the county-level value was weighted by the share of the county's population residing in the district according to Missouri Census Data Center (2018). These weighted values were then summed across all counties intersecting a given district to yield district-level estimates. Table 14 provides descriptions from the Opportunity Insights Data Dictionary and geographic coverage for each variable.

11.2 Dependent Variables

To classify legislators' communications and construct a measure of their attention to the pandemic of time, keyword-assisted topic models were estimated using the keyATM package (Eshima, Imai, and Sasaki 2024). Three sets of keywords were constructed by building on the dictionary of pandemic-related terms provided by Green et al. (2020) (see Appendix 31 Table 49). The first set of keywords includes terms related to mitigation efforts (e.g. "social_distance", "stay_home") and the second includes terms related to economic impacts and recovery (e.g. "economic_injury", "laid_off").

These keyword sets were then used to estimate a model with two keyword-assisted topic clusters, one to include pandemic-related texts concerning mitigation and the other pandemic-related texts concerning the economy. In addition to the keyword-assisted topic clusters, the model was allowed to estimate ten topic clusters without associated keywords in order to improve interpretability and topic coherence (Eshima, Imai, and Sasaki 2024). Three models were then estimated using only Facebook posts, only tweets, and the full set of texts with the social media platform included as a covariate. These models were then re-estimated with a set of keywords to identify direct mentions of the virus (e.g. "coronavirus", "wuhan_flu") appended to the mitigation and economic keyword sets in an attempt to prevent texts not about the pandemic but which contained mitigation or economic keywords from being classified within the keyword-assisted topic clusters. In total, six topic models were estimated and compared to determine which offered the most coherent classifications (see Appendix 32). Ultimately, the model combining texts from both models and including direct mention keywords was selected to construct the dependent variables.

For each legislator-week-platform three dependent variables were calculated: The first is the percentage of posts classified as *either* concerning mitigation or economic aspects of the pandemic as an overall measure of a legislator's attention to the pandemic in a given week. The second is the percentage of posts classified as concerning only mitigation and the third the percentage classified as concerning only economic aspects of the pandemic. Figure 18 plots the time series of the weekly average of each and Table 15 provides the share of posts classified by party and

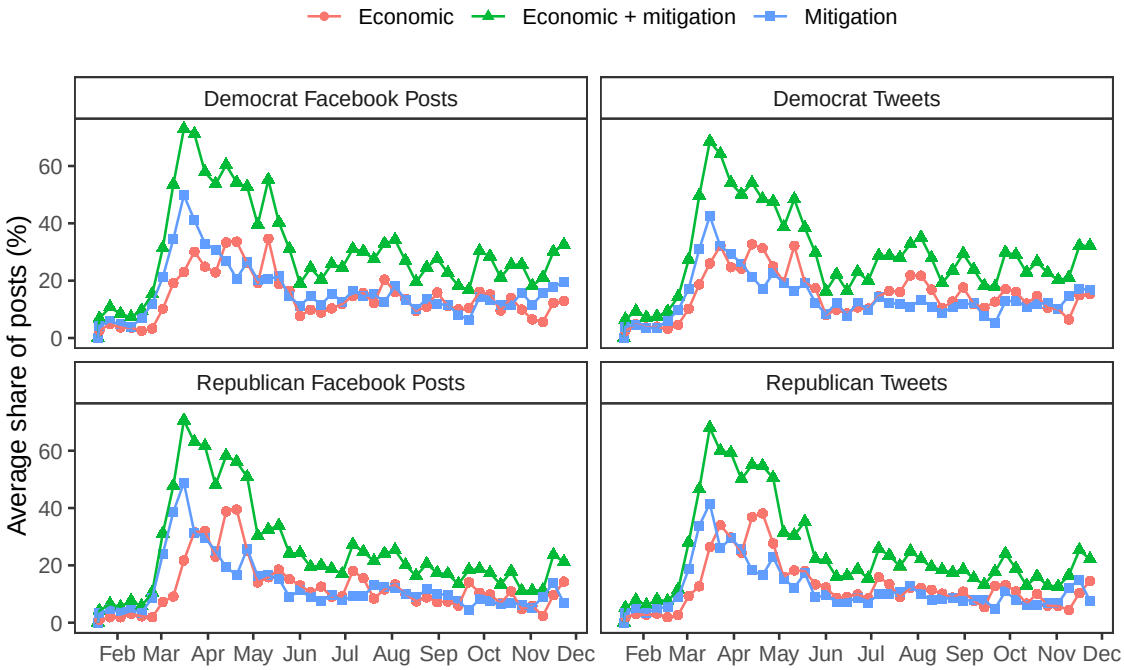

Figure 18: Social Media Topic Shares Over Time

Table 15: Social Media Post Classifications

party	platform	% economic + mitigation	% economic	% mitigation	total posts
Democrats	Facebook	30.2	14.0	16.2	98697
Democrats	Twitter	28.7	14.9	13.8	169717
Republicans	Facebook	24.8	12.2	12.6	54987
Republicans	Twitter	24.4	12.6	11.8	92055

platform.

12 Research Design

To estimate legislators' dynamic responsiveness to the impact of the pandemic at the legislator-week level, a series of differenced vector autoregression generalized method of moments (VAR-GMM) models were estimated using the `pgmm` package in `R` (Arellano and Bond 1991; Croissant and Millo 2008). The quickly changing pandemic impacts and high frequency of social media posts enables observations to be made weekly, enabling a fine-grained test of dynamic responsiveness. Because the VAR-GMM estimator is only reliable on a balanced panel where each legislator is observed for the same set of weeks, the largest possible balanced subset of legislators with temporal variation across the dependent and independent variables was used for each of the below model specifications. This yielded four subsets of data : a panel of Twitter and incremental death data with 38 weekly observations from March 9 to November 23, 2020 for 166 legislators, a panel of Twitter and economic indicator data with the 44 weekly observations from January 27 to November 23, 2020 for 178 legislators, a panel of Facebook and incremental death data with 38 weekly observations from March 9 to November 23, 2020 for 130 legislators, and a panel of Facebook and economic indicator data with 44 weekly observations from January 27 to November 23, 2020 for 147 legislators. Once the subsets were created, each time series variable was subjected to two unit-root tests, Levin-Lin-Chu (LLC) and Im-Pesaran-Shin (IPS), to ensure stationarity (Im, Pesaran, and Shin 2003; Levin, Lin, and James Chu 2002) (see Appendix 33.

Two classes of models were then specified, the first estimates how well district and national incremental COVID-19 deaths predict the content of legislators' communications:

$$\Delta y_{i,t} = \sum_{p=1}^{2} \beta_p^{district} \Delta x_{i,t-p}^{district} + \sum_{p=1}^{2} \beta_p^{national} \Delta x_{t-p}^{national} + \varepsilon_{i,t}$$

where Δ indicates the first difference (as this is a differenced VAR-GMM model), $y_{i,t}$ is one of three measures of communications for legislator i in week t (separate models are estimated for outcomes constructed from tweets and Facebook posts), $x^{district}$ and $x^{national}$ are district and national incremental deaths for with lags of 1 and 2 included explicitly and lags 2 and 3 included as internal instruments, and $\varepsilon_{i,t}$ is the error term assumed to satisfy the standard Arellano–Bond moment conditions.

The second class of models estimated how well district and national economic indicators predict communication content are similarly specified as:

$$\Delta y_{i,t} = \sum_{p=1}^{2} \hat{\beta}_p^{district} \Delta \hat{Z}_{i,t-p}^{district} + \sum_{p=1}^{2} \hat{\beta}_p^{national} \Delta \hat{Z}_{t-p}^{national} + \varepsilon_{i,t}$$

where $\hat{Z}^{district}$ and $\hat{Z}^{national}$ are vectors of economic indicators at the district and national levels as

described in Table 14 with the same lag structure as in the first set of models' independent variables. All models were estimated with two-step robust weighting with Windmeijer-corrected standard errors.

13 Results

The results of the VAR-GMM models estimated over the three measures of legislators' weekly attention to the pandemic on Twitter and Facebook are presented below. If **H1** is correct, legislators will have been more responsive to measures of the pandemic's impacts at the national rather than constituency levels, indicative of legislators anticipating national conditions to be most influential for what is salient to constituents. To test the differential responsiveness by party predicted by **H2** and **H3**, models are estimated restricted to legislators of each party in addition to a pooled model with all legislators in the panel. If **H2** is correct, Democratic legislators will have been more likely to respond to the public health impacts of the pandemic with messaging about mitigation efforts than Republicans. If **H3** is correct, Republican legislators will have been more likely to respond to economic impacts with messaging about the economic aspects of the pandemic than Democrats.

13.1 Responsiveness to incremental deaths

Table 16: Mitigation + Economic Tweet Percentage and Incremental Deaths

	All	Democrats	Republicans
Estimates			
District deaths (lag 1)	0.443 (0.222)*	0.487 (0.243)*	-0.118 (0.468)
District deaths (lag 2)	0.138 (0.207)	-0.092 (0.294)	-0.199 (0.345)
Nat'l deaths (lag 1)	0.033 (0.002)***	0.037 (0.002)***	0.033 (0.002)***
Nat'l deaths (lag 2)	0.005 (0.001)***	0.007 (0.002)***	0.004 (0.002)*
Statistics			
Legislators	166	69	97
Sargan stat	156.7	68.3	93.2
Sargan p	0.997	1.000	1.000

Table 17: Mitigation + Economic Facebook Post Percentage and Incremental Deaths

	All	Democrats	Republicans
Estimates			
District deaths (lag 1)	0.721 (0.233)**	0.662 (0.348)+	0.382 (0.445)
District deaths (lag 2)	0.298 (0.243)	-0.071 (0.377)	0.265 (0.434)
Nat'l deaths (lag 1)	0.034 (0.002)***	0.037 (0.002)***	0.033 (0.002)***
Nat'l deaths (lag 2)	0.004 (0.001)**	0.009 (0.002)***	0.001 (0.001)
Statistics			
Legislators	130	56	74
Sargan stat	127.1	55.8	73.2
Sargan p	1.000	1.000	1.000

Table 16 presents results for models using the weekly percent of a legislator's tweets about economic or mitigation aspects of the pandemic as the outcome regressed on district and national incremental deaths. Consistent with **H1**, national deaths are the clearest predictor of attention to the pandemic with rising deaths predicting a larger share of tweets about the pandemic. There is, however, also evidence of responsiveness to district conditions with district deaths predicting more attention the pandemic in the pooled and Republican-only models–however, the lack of significance in the Democrat-only model may be a reflection of its smaller sample of legislators limiting statistical power. Table 17 presents the same models using Facebook posts for the outcome–yielding results similar to Table 16.

Coefficients alone are insufficient to assess whether national or district deaths predicted a greater response because of national deaths always being greater than district deaths. To more directly test **H1**, Figure 19 plots the impulse response function (IRF) for a one standard deviation shock in district and national deaths on each platform. On both platforms, the national shock is predicted to correspond to about a 12% increase in the number of a legislator's posts about the pandemic while the district shock corresponds to around a 2.5% increase. This is consistent with legislators being more responsive to national than local deaths as predicted by **H1**.

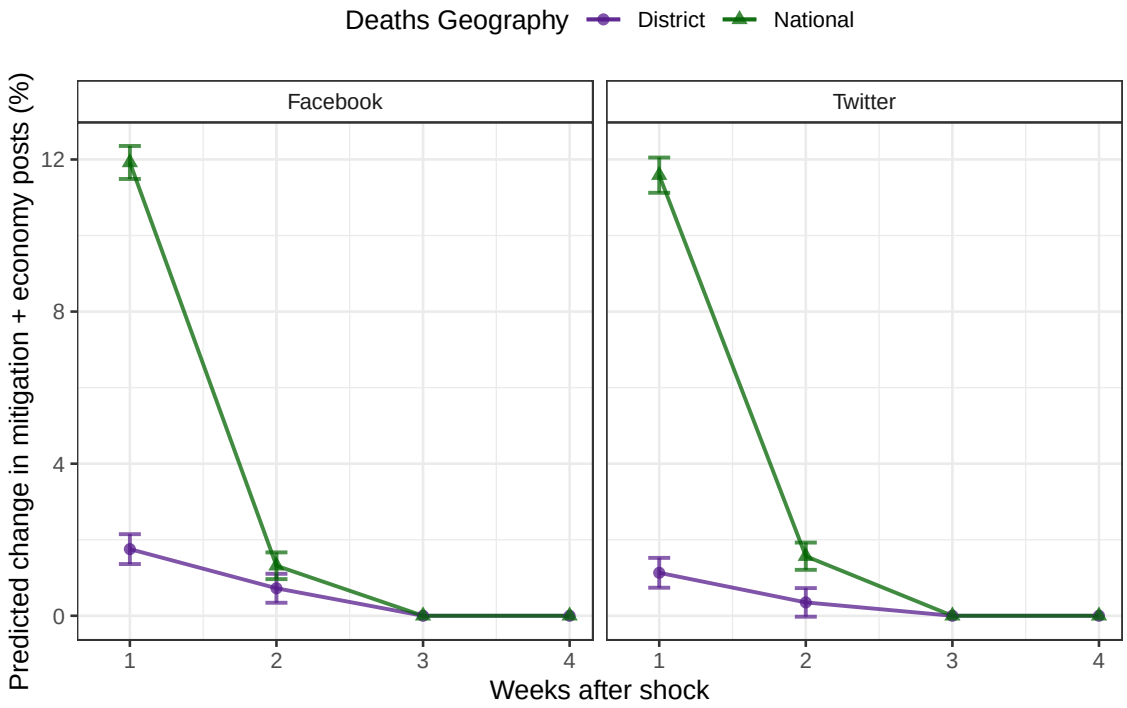

Figure 19: Impulse Response to 1 Std. Dev. Death Shock (95% CI)

Table 18: Mitigation Tweet Percentage and Incremental Deaths

	All	Democrats	Republicans
Estimates			
District deaths (lag 1)	0.171 (0.130)	0.150 (0.141)	0.140 (0.279)
District deaths (lag 2)	0.254 (0.119)*	0.231 (0.137)+	0.093 (0.242)
Nat'l deaths (lag 1)	0.014 (0.001)***	0.015 (0.002)***	0.013 (0.001)***
Nat'l deaths (lag 2)	0.002 (0.001)+	0.002 (0.001)*	0.002 (0.001)
Statistics			
Legislators	166	69	97
Sargan stat	151.7	67.8	91.9
Sargan p	0.999	1.000	1.000

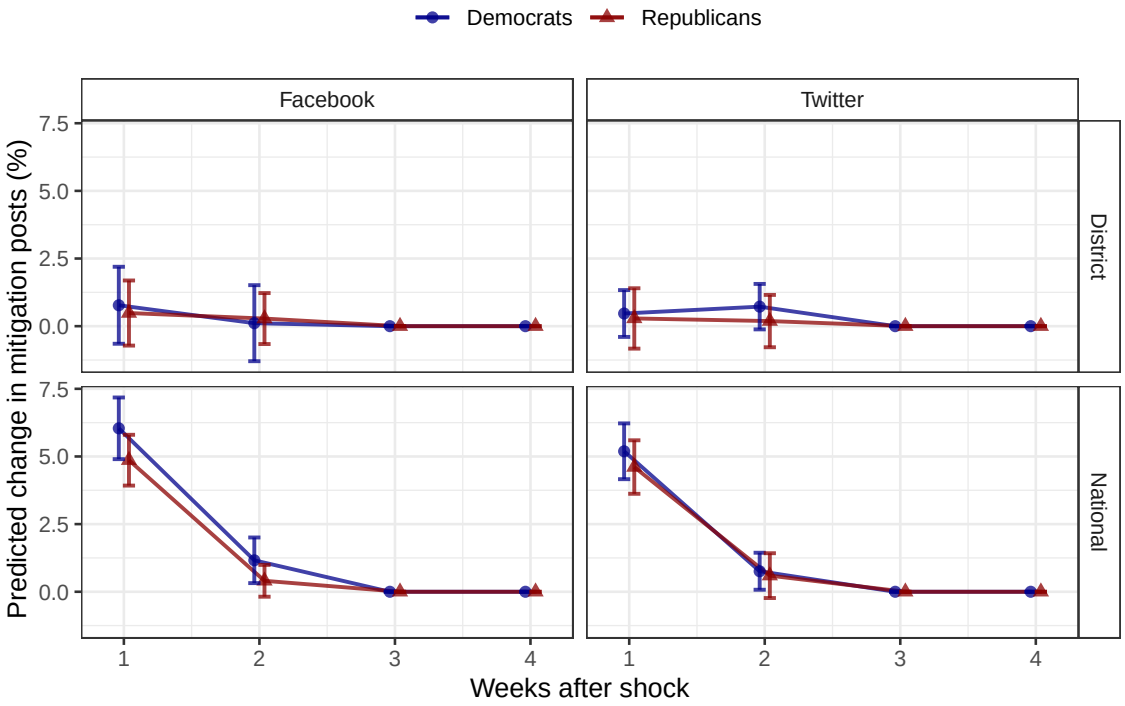

Figure 20: Impulse Response in Mitigation Posts to 1 Std. Dev. Death Shock by Party (95% CI)

Table 19: Mitigation Tweet Percentage and Incremental Deaths

	All	Democrats	Republicans
Estimates			
District deaths (lag 1)	0.361 (0.181)*	0.271 (0.255)	0.237 (0.299)
District deaths (lag 2)	0.108 (0.177)	0.039 (0.252)	0.137 (0.234)
Nat'l deaths (lag 1)	0.018 (0.001)***	0.017 (0.002)***	0.014 (0.001)***
Nat'l deaths (lag 2)	0.002 (0.001)*	0.003 (0.001)**	0.001 (0.001)
Statistics			
Legislators	130	56	74
Sargan stat	124.5	55.5	72.0
Sargan p	1.000	1.000	1.000

To test whether Democrats were more likely than Republicans to respond to deaths with messaging about mitigation efforts as predicted by **H2**, Tables 18 and 19 show models regressing the weekly percent of posts on Twitter and Facebook, respectively, about mitigation on district and national incremental deaths. The results in Table 18 are consistent with the hypothesis but only for district deaths–both parties were responsive to national deaths while district

deaths were a significant predictor of posts about mitigation for Democrats. Table 19, on the other hand, does not offer clear support for the hypothesis with both parties exhibiting responsiveness to district and national deaths. Figure 20 plots the IRF for each platform and death geography by party with 95% confidence intervals, revealing little substantive difference in responsiveness by party for both platforms contrary to **H2**. Also worth noting is greater responsiveness to national deaths than district deaths for both parties, once again consistent with **H1**.

13.2 Responsiveness to economic indicators

Table 20: Mitigation + Economic Tweet Percentage and Economic Indicators

	Twitter	Facebook
Estimates		
District small biz rev. (lag 1)	1.005 (1.929)	1.413 (1.882)
District small biz rev. (lag 2)	1.597 (1.919)	-0.073 (1.597)
Nat'l small biz rev. (lag 1)	-180.613 (6.653)***	-182.948 (7.135)***
Nat'l small biz rev. (lag 2)	-72.025 (6.172)***	-59.373 (7.972)***
District spending (lag 1)	-0.353 (0.272)	-0.114 (0.262)
District spending (lag 2)	0.071 (0.227)	0.157 (0.280)
Nat'l spending (lag 1)	54.605 (2.930)***	50.495 (3.302)***
Nat'l spending (lag 2)	-21.495 (2.031)***	-24.101 (2.508)***
District UI claims (lag 1)	-0.091 (0.066)	-0.122 (0.061)*
District UI claims (lag 2)	0.013 (0.072)	0.040 (0.082)
Nat'l UI claims (lag 1)	17.633 (1.177)***	17.759 (1.702)***
Nat'l UI claims (lag 2)	-12.960 (1.321)***	-14.229 (1.530)***
Statistics		
Legislators	178	147
Sargan stat	177.3	146.5
Sargan p	1.000	1.000

Table 20 shows models with the weekly percent of tweets and Facebook posts about economic or mitigation aspects of the pandemic regressed on economic indicators at the district and national level for all legislators in the panel. Similar to Tables 16 and 17 and again consistent with **H1**, national impacts are the best predictors of legislators' messaging with falling small business revenue and rising unemployment claims nationally predicting more messaging about the pandemic in the following week. Interestingly, rising consumer spending nationally predicts *more* attention to the pandemic among legislators. Also, a notable difference from legislators' responsiveness to deaths is the rebound effect for the second lag of UI claims and consumer spending which indicate that messaging returned to baseline relatively quickly. This rebound is reflected in Figure 21.

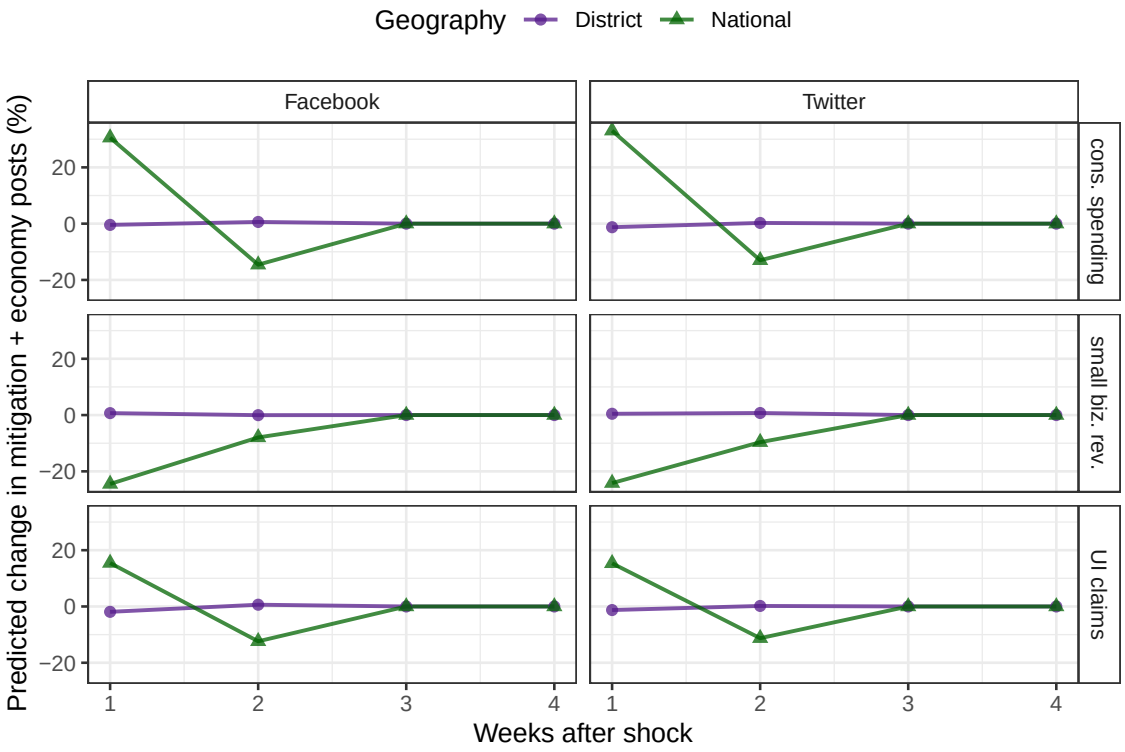

Figure 21: Impulse Response to 1 Std. Dev. Economic Shocks

Table 21: Economic Tweet Percentage and Economic Indicators

	All	Democrats	Republicans
Estimates			
District small biz rev. (lag 1)	0.355 (1.027)	0.314 (1.758)	0.991 (3.370)
District small biz rev. (lag 2)	1.515 (1.210)	2.486 (1.961)	-0.619 (4.415)
Nat'l small biz rev. (lag 1)	-80.884 (4.675)***	-87.980 (5.931)***	-62.112 (13.419)***
Nat'l small biz rev. (lag 2)	-47.053 (4.699)***	-59.639 (5.490)***	-18.377 (17.726)
District spending (lag 1)	-0.258 (0.200)	-0.614 (0.294)*	-0.026 (0.400)
District spending (lag 2)	-0.029 (0.174)	-0.518 (0.404)	0.085 (0.377)
Nat'l spending (lag 1)	26.006 (2.066)***	29.664 (2.410)***	16.092 (4.594)***
Nat'l spending (lag 2)	-10.886 (1.550)***	-10.940 (2.019)***	-9.148 (3.761)*
District UI claims (lag 1)	-0.003 (0.055)	-0.205 (0.131)	0.047 (0.059)
District UI claims (lag 2)	-0.006 (0.053)	0.244 (0.131)+	-0.055 (0.054)
Nat'l UI claims (lag 1)	7.269 (0.947)***	6.745 (1.240)***	7.283 (1.848)***
Nat'l UI claims (lag 2)	-5.597 (1.071)***	-6.475 (1.215)***	-4.315 (2.469)+
Statistics			
Legislators	178	111	67
Sargan stat	175.9	109.2	57.5
Sargan p	1.000	1.000	1.000

Table 22: Economic Facebook Post Percentage and Economic Indicators

	All	Democrats	Republicans
Estimates			
District small biz rev. (lag 1)	0.974 (1.137)	0.585 (2.465)	5.536 (6.353)
District small biz rev. (lag 2)	0.278 (1.179)	2.539 (2.580)	0.169 (5.534)
Nat'l small biz rev. (lag 1)	-68.830 (4.946)***	-75.721 (6.818)***	-65.423 (21.004)**
Nat'l small biz rev. (lag 2)	-29.828 (5.467)***	-40.239 (6.857)***	-14.063 (23.112)
District spending (lag 1)	-0.089 (0.163)	-0.798 (0.342)*	0.343 (0.496)
District spending (lag 2)	0.065 (0.188)	0.167 (0.318)	-0.517 (0.643)
Nat'l spending (lag 1)	19.326 (2.407)***	25.098 (2.896)***	6.682 (6.134)
Nat'l spending (lag 2)	-11.914 (1.908)***	-14.076 (2.457)***	-2.114 (7.065)
District UI claims (lag 1)	-0.005 (0.058)	-0.207 (0.229)	0.003 (0.071)
District UI claims (lag 2)	0.023 (0.061)	0.245 (0.242)	0.001 (0.084)
Nat'l UI claims (lag 1)	7.082 (1.320)***	7.093 (1.714)***	5.550 (3.669)
Nat'l UI claims (lag 2)	-5.696 (1.276)***	-6.517 (1.677)***	-3.097 (4.241)
Statistics			
Legislators	147	92	55
Sargan stat	144.4	87.5	48.7
Sargan p	1.000	1.000	1.000

To test whether Republicans were more likely than Democrats to respond to economic impacts with messaging about economic aspects of the pandemic as predicted by **H3**, Tables 21 and 22 show models with the weekly percent of posts on Twitter and Facebook about the economy regressed on district and national economic indicators. While Table 21 shows little evidence of differential responsiveness by party on Twitter, Table 22 finds consumer spending and UI claims at the national level to only be significant predictors of economic messaging in Democrats' Facebook

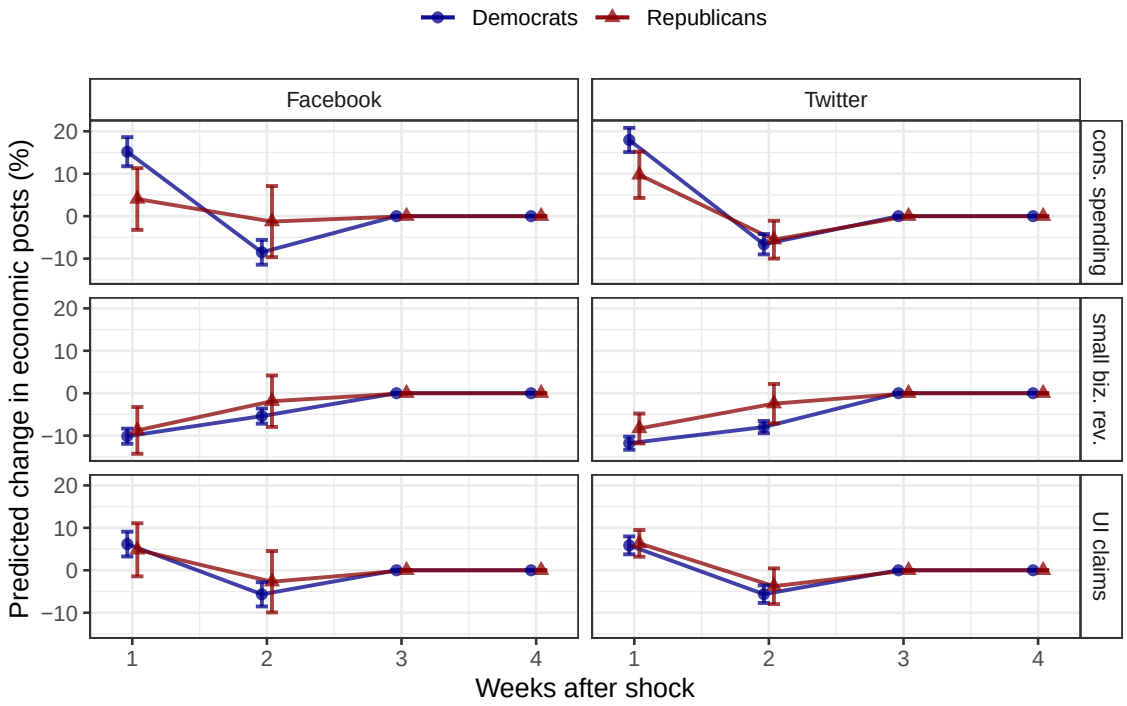

Figure 22: Impulse Response to 1 Std. Dev. National Economic Shocks by Party (95% CI)

posts, contrary to **H3**. Figure 22 plots the predicted effect of one standard deviation shocks for each variable by party and platform. Unlike in previous IRF plots where standard errors were substantively small, 95% confidence intervals are included due to more substantial standard errors in these models. From the plot it is evident that while Democrats were more responsive to consumer spending on both platforms–*increasing* attention to the economy in response–there is no substantive difference for UI claims when accounting for standard errors–the lack of significance for Republicans in Table 22 may simply reflect more variability in the data.

14 Discussion and Conclusion

Overall, the results support the prediction that legislators were more responsive to changing national rather than local conditions during the pandemic—this is evident when considering both public health impacts (incremental deaths) and economic impacts (small-business revenue, consumer spending, and unemployment claims). Legislators do appear to have responded more readily to worsening conditions nationally rather than locally by messaging more about the pandemic on Twitter and Facebook. While there is some evidence of differential responsiveness by party in terms of which impacts legislators were responsive to, responsiveness was substantively similar across parties. Democrats were slightly more responsive to changes in national consumer spending, giving more attention to economic aspects of the pandemic when consumer spending *increased*, contrary to the prediction that it would be Republicans who would

most readily respond to economic impacts with economic messaging and the expectation that worsening economic conditions, i.e. declining consumer spending, would predict pandemic attention.

The finding that Democrats, more so than Republicans, were responsive to national economic impacts, while contrary to expectations, is not entirely surprising. Both parties focused on economic aspects of the pandemic, however they framed their messaging around different issues. While Republican constituents tended to prioritize the economy over public health, Democrats also expressed concern about the economy and experienced the pandemic's economic impacts. Highlighting economic impacts also offered Democrats an opportunity emphasize economic downturn in the run-up to an election with an incumbent Republican president. However, this story is complicated by the finding that an increase in national consumer spending predicted more attention to the economy by Democratic legislators in the following week. This could indicate that while seizing on economic downturn reflected in small business revenue and unemployment claims to blame Republican handling of the crisis, rising consumer spending offered an opportunity to credit-claim for economic assistance supported by Democrats. Consumer spending may also be an unreliable proxy for overall economic conditions during the pandemic–stimulus payments, extended unemployment benefits, as well as Americans spending more time and money at home created a scenario where consumer spending was inflated even when the economy was contracting overall.

Despite some difference in how each party responded to the pandemic, the observed degree of responsiveness was overall similar across parties. Previous work, however, shows that how each party framed discussions of the pandemic was polarized (Green et al. 2020; Guntuku et al. 2021). This illustrates a nuance of measuring responsiveness: both what legislators respond to and how they do so should be considered. Future studies of responsiveness should seek to measure both aspects to give a more nuanced understanding of how the representation legislators offer changes over time. While the degree of legislators' responsiveness was not highly polarized, it is clear that responsiveness was nationalized, reflecting an information environment dominated by national media outlets and social media catering to national audiences. This warrants concerns that nationalization has resulted in worse representation of local concerns as legislators prioritize representing national concerns. In doing so, political discourse grows even more focused on divisive, party line issues, further polarizing elected officials and the public who uses their public statements to inform their views. While constituents do seek ideological representation from their legislators, this is not to say they do not care about local issues or conditions. As the most direct linkage between the public and the federal government, if members of Congress do not sufficiently represent local concerns in national policymaking then who can?

Future work should leverage the rich content and frequency of legislators' communications to further characterize the conditions under which legislators are motivated to be responsive. The time series nature of communications, particularly social media posts, opens the door to novel approaches to measure dynamic

responsiveness as is done here. Moving beyond the responsiveness literature's reliance on roll-call votes in combination with public opinion polling or redistricting-induced demographic change offers an opportunity to study the nuanced nature of representation in more detail than past work. While this study is limited to testing responsiveness during the COVID-19 pandemic, to what degree legislators respond to national versus local conditions more generally merits further study given the implications for the quality of representation constituents receive and the effects of the broader nationalization and polarization of American politics.

Chapter 3

Media and Message: The Influence of Local Media Decline on Legislators' Local Orientation

Abstract

Does the decline of local media change how legislators communicate with constituents? Previous work links district media environment and legislative activities but little is known about how legislators present themselves in their communications. I construct a novel dataset of House member press releases and e-newsletters from the 109th to 116th Congresses, identifying locally oriented communications with a set of over 700,000 geographic and governmental unit keywords corresponding to a legislator's state. Pairing these data with measures of local media capacity, including newspaper closures and changes in circulation, I test whether declines in local news capacity prompt legislators to present themselves as less locally oriented, contributing to the nationalization of congressional politics. Contrary to expectations, I find no robust evidence that declining local media leads legislators to present themselves as less locally oriented but do find factors like ideological extremity, being in a leadership position, the party of the president, and whether it is an election year better explain the degree of local orientation legislators exhibit. This suggests that, despite an increasingly nationalized political environment, members of Congress continue to pay attention to local matters—even as local news outlets disappear and with them their coverage of legislators' locally oriented activities.

15 Introduction

A focus of congressional studies in recent decades has been unraveling how Congress ended up in its current polarized, nationalized state and what this means for the legislator-constituent linkage fundamental to American democracy. While a number of studies consider the historical, electoral, and institutional contributors to nationalization, less attention has been paid to how changes in the media environment alter how legislators are incentivized to present themselves and thus the information they provide to constituents. Concurrent with electoral and rhetorical nationalization, the media too have nationalized as many local outlets have shut down or been acquired by media conglomerates.

As a result, fewer resources are devoted to local political coverage, biasing reporting toward national events and decreasing local news capacity. While there is clear evidence media environment has implications for voters' behavior at the ballot box and legislators' behavior on the floor (Canes-Wrone and Miller 2022; Darr, Hitt, and Dunaway 2018; Davis and Dunaway 2016; Jacobson 2003; Lelkes, Sood, and Iyengar 2017; Moskowitz 2021; Noble 2024; Trussler 2022), less is understood about the relationship between legislators' communications and media coverage of

them as well as whether the relationship differs across different modes of communication. Legislators consider a variety of factors when crafting their message such as their party's agenda, their electoral prospects, and their legislative goals when crafting their messagebut a key consideration is how it will play in the media. This relationship runs both ways: legislators' activities and statements provide content for journalists to report on and legislators rely on journalists' coverage of them to get their message out, providing voters a means to learn about their representative and hold them accountable come election day (Ansolabehere and Jones 2010; Canes-Wrone, Brady, and Cogan 2002; Cook 1989; Grimmer, Westwood, and Messing 2015; P. E. Jones 2011).

While previous work demonstrates a link between media environment and legislative behavior, I argue that, because legislators rely on media coverage of their communications, decline in the ability of local media to provide this coverage leads legislators to attempt to garner this coverage from national outlets. To do so they become less locally oriented, framing their messaging around national concerns deemed newsworthy by the national media. The result is a centering of political discourse around polarized issues to the detriment of less ideological local issues and an electorate more reliant on party labels to evaluate incumbents. I expect this effect to only be pronounced in communications primarily intended to garner media coverage, i.e. press releases. Legislators' newsletters, while they are covered by the media, are generally intended to reach constituents directly, bypassing the newsworthiness filter of the media and offering an avenue for legislators to continue to address local concerns even when they pivot their other communications to tackle national issues.

However, legislators may not alter their communications in the same way they tailor their legislative activities when the media environment changes. For one, the observed relationship between media environment and legislator behavior could be a result of replacement rather than adaptation, with incumbents not savvy to local media decline or unwilling to change their presentational style losing or not seeking reelection–a story consistent with findings that much of congressional polarization is a result replacement (Bonica 2014; Theriault 2006, 2008). Examining within-legislator changes in communications offers a means to test for the adaptation mechanism explicitly. Legislators may also be able to adapt their communications to a changing media environment more subtly than their legislative activities, reframing messaging in way that still signals local orientation and can garner local media coverage but also engages in national policy debates. In this way legislators may be able to simultaneously pander to the local and national concerns of their constituents without losing their reach. Finally, if legislators are not adapting their communications in response to local media decline, it may indicate their ability to reach the public regardless of local news capacity through online venues.

To test the relationship between local news capacity and legislators' local orientation, I construct a novel dataset of press releases and e-newsletters from House members in the 109th to 116th Congresses. To determine which of these communications are locally oriented, I create a set of over 700,000 keywords across all 50 states containing a generic set of terms and phrases related to describing local topics lifted from Ban and Kaslovsky (2024), geographic

locations (e.g. cities, towns, landmarks) from the Census Bureau, geographic features and governmental units from the US Geological Survey, and college and university names from within a legislator's state. With this, I construct measures of the percent of a legislator's communications containing mentions of these in-state keywords as a proxy for their local orientation. I pair this with data on local news capacity from the US News Deserts (USND) Database, the State of Local News Project, and the Paper Cuts replication data from Peterson (2020). I then estimate a series of two-way fixed effects models to determine whether changes in local news capacity predict changes in legislators' local orientation.

I find no evidence that legislators change their local orientation in response to changes in local news capacity. Contrary to existing work finding changes in the media environment contribute to electoral nationalization and polarization, I demonstrate that legislators do not strategically nationalize their rhetoric in press releases or newsletters in order to garner coverage from national media when local media in their district declines. While nationalization of the media environment has deleterious effects on democratic functioning, it does not dissuade legislators from giving attention to local issues in their messaging. I do, however, find that other factors influence how much legislators message about local topics: More ideologically extreme legislators and those holding leadership positions exhibit lower levels of local orientation while when the president is in the out-party legislators issue more locally oriented press releases. Descriptively, I also find that legislators exhibit greater local orientation in their newsletters than press releases but do increase the local orientation of their press releases in election years. These findings indicate that legislators' local orientation is not merely an outgrowth of the media environment they exist within or even their representational style, but rather a product of both personal characteristics and contextual factors.

This study contributes to the congressional and representational literatures in several ways. First, it introduces a novel measure of legislators' local orientation over time by flagging the names of geographical and governmental units in a legislators' state in their communications. While previous work focuses on estimating legislators' local orientation and nationalized rhetoric in congressional proceedings (e.g. Ban and Kaslovsky 2024; Noble 2024), I do so for communications primarily intended to reach media and constituents–communications which the public uses to evaluate and hold accountable their legislators. This allows for a better understanding of how changes in media environment and the broader nationalization of politics affect what information about voters have available to them about their representatives. I also contribute to the growing body of work that goes beyond relying on a single mode of congressional communication and instead compares findings across different platforms. Recent work finds subtle differences in how legislators' present themselves across platforms, indicating that to fully understand how legislators represent their constituents a more holistic approach is needed (Blum, Cormack, and Shoub 2023; Casas and Morar n.d.; Gaynor et al. 2022; Green et al. 2024).

This work also points to differences in what motivates legislators' behavior in different domains–while

previous work finds a connection between media environment and congressional and mass behavior, pointing to local media decline as one contributor to nationalization and polarization, I find that legislators are not changing how they are presenting themselves in response to local media decline. While this decline does appear to negatively impact democrat functioning, it does not seem to hamper legislators' advocacy of local issues. Finally, while early qualitative work considered the relationship between Congress and media (Clarke and Evans 1983; e.g., Cook 1989), relatively little work has sought to quantitatively understand how congressional coverage affects legislators' behavior and the information available to constituents. By combining text as data methods with longitudinal data on media capacity, I introduce a quantitative approach for characterizing legislators' relationship with the media and by extension those they represent.

16 Background

The current political climate is characterized by an increasingly nationalized and ideologically well-sorted electorate represented by a polarized Congress, creating a feedback loop mutually reinforcing polarization and nationalization. The decline of split-ticket voting and increase in voters' and legislators' loyalty to national party organizations with ideologically distinct platforms has pushed congressional politics away from its candidate-centric past into an era of partisan animosity and gridlock (Abramowitz and Webster 2016; Hopkins 2018; Sievert and McKee 2019). The personal vote legislators once cultivated around distributive benefits, attentiveness to local issues, and other perks of their office rather than partisan identity and ideological alignment has declined substantially in recent decades and along with it the incumbency advantage (Abramowitz and Webster 2016; Fenno 1978; Jacobson and Carson 2016).

Legislators now face strong incentives to toe the party line, whether out of the fear of alienating their electoral base, institutional levers party leadership can pull to reign them in, or the need to raise funds from the party base (Cox and McCubbins 1993; Gimpel, Lee, and Pearson-Merkowitz 2008). Though candidates still develop a unique representational or home style suited to their constituency, party loyalty constrains their legislative behavior and public statements even when it may be an electoral liability (Carson et al. 2010; Hughes and Koger 2022; Jacobson 2003; Kaslovsky 2022, 2022; R. T. Wang and Tucker 2021).

At the same time, voters increasingly view politics and conditions in the country more broadly through a partisan lens. This perceptual screen colors candidate evaluations, perceptions of the economy, and even voters' social circles (Huber and Malhotra 2017; P. E. Jones 2020; Mason and Wronski 2018). For those unwilling to spend time assessing candidates on an issue-by-issue basis, party labels provide a convenient and reliable heuristic for a candidate's priorities and positions (Schaffner and Streb 2002). This is evident in election returns, where

straight-ticket voting is increasingly the norm and evaluations of the President and his or her party trickle down the ballot to influence sub-presidential contests. This prompts concerns about democratic accountability in a political climate where legislators are evaluated based on national political forces they have little control over (Sievert and McKee 2019). If legislators are incentivized to engage with the national political debates voters evaluate them with rather than seeking to represent more localized interests and issues, this may threaten the quality of representation constituents receive–decoupling legislators' actions from local interests in favor of those of the national party and interests (Trussler 2021, 2022). This in turn reinforces polarization, refocusing political discourse and legislative activities around contentious issues with little room for common ground (Canes-Wrone and Miller 2022; Pietryka 2012).

Local orientation, or a legislator signaling an understanding of their constituency by addressing local topics, has long been considered a central part of representation–whether concerning how legislators align their actions with local interests (Miller and Stokes 1963) or develop their presentation of self based on the composition and culture of their district (Fenno 1978). This dimension of representation can take different forms, sometimes manifesting as descriptive representation wherein legislators signal a common geographic identity with constituents, sometimes as substantive representation by making policy that addresses local issues or claiming credit for distributive benefits. Communications establishing local orientation come in many forms–they may be policy related, e.g. Rep. Carlos Gimenez (FL-26) issuing a press release tying a vote in the House to his community's safety, claiming credit for grant money, e.g. Rep. Tony Gonzales (TX-23) announcing federal monies for a head start program, or announcing community events or meetings with community leaders, e.g. Rep. Gimenez listing the mayors he recently met with.[8]

The degree to which a legislator is locally oriented is both a product of their own identity and district characteristics. Legislators born in or near their district demonstrate a greater emphasis on constituency work than their carpetbagger peers and female legislators are more likely to make locally oriented statements in floor speeches (Ban and Kaslovsky 2024; Crosson and Kaslovsky 2025). Ideologically extreme and less senior legislators prioritize position-taking on national issues over locally oriented credit-claiming (Yiannakis 1982). The partisan composition of a district is also a key factor–legislators in less electorally secure districts tend to focus more on particularized credit-claiming while those in safe districts favor position-taking on national issues (Grimmer 2013).

16.1 Media Environment and Nationalization

While the electoral, behavioral, and institutional pressures prominent in the literature are key in understanding how legislators orient themselves as well as the broader trend of nationalization, recent work points to changes in the

[8] See Appendix 34 for the example press releases described.

media environment as also significant. Legislators rely on the media to reach and explain their activities to constituents (Cook 1989; Fenno 1978). Constituents rely on this coverage to learn about, evaluate, and hold their elected officials electorally accountable (Ansolabehere and Jones 2010; Canes-Wrone, Brady, and Cogan 2002; P. E. Jones 2011). As a result, what the media covers and how they cover it has implications for the contours of political discourse and the efficacy of democratic accountability–when the media environment changes the political environment follows suit.

Today, local news continues a long decline–local news channels have been consolidated into a handful of conglomerates that distribute prepackaged news segments for broadcasting across media markets. Local newspapers are seeing a similar consolidation paired with a decline in original reporting on politics in those that remain, relying on wire services rather than staffing political reporters (D. Hayes and Lawless 2018; Klinenberg 2013; Schaffner and Sellers 2003). This decline in local journalism is concurrent with the rise of cable news and the expansion of broadband access, ushering in an era of media fragmentation in which the public has more choices than ever before in terms of news content. Though at first glance this fragmentation may seem not all that bad, allowing the public more control over what information they take in, the result is large numbers of Americans opting for partisan news outlets serving a national audience even when they have access to local news (Hopkins 2018; Lelkes, Sood, and Iyengar 2017).

Despite earlier skepticism, there is now strong evidence that the changing media environment has changed voter behavior in ways that significantly contribute to nationalization and polarization (D. Hayes and Lawless 2021; Hopkins 2018; Prior 2013). Americans in areas with less access to local news and greater access to broadband and cable news exhibit lower levels of split-ticket voting, more partisan ideological sorting, greater affective polarization, and greater concern with national policy debates (Darr, Hitt, and Dunaway 2018; Davis and Dunaway 2016; Lelkes, Sood, and Iyengar 2017; Moskowitz 2021; Trussler 2021). Further, citizens exposed to less local political coverage demonstrate less knowledge about and ability to evaluate their member of Congress as well as lower levels of political participation (D. Hayes and Lawless 2015, 2018, 2021).

Voters are not the only ones whose behavior has changed with the media environment–there is growing evidence that legislators have also changed and with them the substantive representation they provide constituents. This is not just a recent phenomena–the rise of television news and advances in video and audio recording technology fundamentally altered legislators' relationship with the media in the 20th century. Though at first members were vehemently opposed to bringing video cameras into the chamber, the televising of the House Judiciary Committee's deliberation on impeaching President Nixon in 1974 proved a turning point by providing positive coverage of Congress in the national media. Through the rest of the decade legislators increasingly sought and received coverage on television news (Cook 1989). The introduction of video cameras in the chambers of Congress not only changed legislators' attitudes toward television news but also their behavior on the floor–Mixon, Gibson, and Upadhyaya (2003) find that the introduction of C-SPAN2's coverage of the Senate was associated with a rise in filibusters as legislators saw an

opportunity to garner coverage in a way their challengers could not. More recent work links the rise of cable news and broadband access to more nationalized and polarized legislator behavior. Clinton and Enamorado (2014) find that in districts where Fox News became available in the late 1990s, House members grew more critical of President Clinton. Trussler (2022) finds that broadband rollout is associated with legislators voting more in-line with their party, the president, and national interest groups while Noble (2024) finds broadband rollout is associated with more nationalized rhetoric in floor speeches among House members.

Despite evidence of changes in legislator behavior on the floor when the media environment in their constituency changes, no study to date investigates changes in legislator behavior in other venues. Though floor activities are central to policymaking and representation, they are not how constituents primarily learn about and evaluate their elected officials. For that, constituents rely mostly on legislators' public statements and media coverage of them (Grimmer, Westwood, and Messing 2015; Lipinski 2001). Aware of this, legislators devote considerable time and resources to crafting and disseminating their messages in order to facilitate their linkage with the constituency. They attempt to present themselves as understanding and giving attention to issues important to their constituents, giving an impression of being locally oriented and developing a unique presentational style (Fenno 1978; Grimmer 2013; David R. Mayhew 1974b).

Though press releases do often discuss floor activities, they are also an opportunity to express positions and priorities free of the agenda-setting power of leadership. Of particular interest for understanding nationalization are locally oriented messages–whether it be explaining the local benefits of a policy, advertising constituency service, or demonstrating an awareness of what is going on at home, political or otherwise. Before its decline, these kinds of messages were a key part of how legislators cultivated a personal vote (Dancey, Henderson, and Sheagley 2024; Fenno 1978). In the following section I theorize that the nationalization of the media environment incentivizes legislators to increasingly nationalize their rhetoric, communicating less about local topics and more about national issues polarized along party lines. As a result, constituents are less able to evaluate and hold accountable their representatives beyond their party labels, contributing to the nationalization of congressional politics.

17 Theory

Previous work establishes that changes in the media environment are linked to changes in both legislator and voter behavior and contribute to broader trends of nationalization and polarization. Despite evidence of the media environment's effect on legislators' floor activities, the effect on the content of their communications remains understudied. I theorize that because the aim of legislators' press releases in particular is to garner media coverage, when local news capacity declines in their constituency they are incentivized to nationalize their rhetoric and

thus decrease their local orientation, biasing political discourse toward national, polarizing issues. This alters the information available for voters to evaluate their representatives and hampers legislators' ability to effectively represent local concerns, contributing to polarization and threatening normative expectations of representation.

Legislators devote considerable time and resources to crafting their communications. While the advent of the Internet has granted them the ability to reach constituents directly via social media posts and email newsletters, traditional media coverage is still vital for reaching less tuned-in and older constituents. For this reason press releases still make up a significant part of legislators' communication strategy and feature prominently on every congressional website. Since their inception as "self-interviews" given to newspaper outlets in the second half of the 19th century, press releases have allowed legislators to guide media coverage of themselves. Often quoted and sometimes even reprinted verbatim by newspapers outlets, press releases help determine what is discussed and when by the media (Cook 1989; Grimmer 2013). By shaping media coverage, the content of congressional press releases ultimately influences the broader political discourse and voters' knowledge about their representative and representation. In this way, what legislators say in their press releases and how the media covers it has downstream consequences for voters' perceptions of and ability to hold accountable elected officials.

The relationship between legislators and the media covering them is symbiotic: media outlets need stories relevant to their audience, legislators provide stories about themselves that media can report on. However, legislators must compete with other political actors wanting to make the news. Historically, this made seeking local rather than national coverage more appealing for legislators–instead of vying for the attention of a national outlet against 434 other representatives, a legislator can compete against one or two neighboring representatives for coverage in regional outlets that tend to provide more favorable coverage than national news (Arnold 2006; Cook 1989). While the national media reaches a larger audience and so may be useful for raising one's national profile in anticipation of seeking higher office or getting out-of-district campaign contributions, local media reaches the audience most important to reelection-seeking legislators–their geographic constituency.

The appeal of courting local rather than national outlets has consequences for what legislators focus their messaging on. Legislators closely monitor coverage of themselves (as any congressional intern tasked with clipping news articles will tell you) and so are well aware of what is newsworthy and who an outlet reaches. They strategically craft their messages to be covered by certain outlets in particular, i.e. positive, ways and reach their desired audience (Gershon 2012; Green et al. 2024; Schaffner and Sellers 2003). Locally oriented messaging about in-district activities is intended to be covered by local news–their geographic scope inherently makes them salient to the outlet's audience, incentivizing representation of the geographic constituency's interests (Fogarty 2008, 2011). *The Buffalo News* is unlikely to report on a visit by Sen. Chuck Schumer to a Brooklyn pizzeria promoting legislation to deter spam phone calls but will happily cover such a visit to a Buffalo pizzeria (Goshgarian 2019). Beyond in-district events, a common

way for legislators to signal their representation of local interests is to claim credit for distributive benefits, i.e. grant money, tax credits, or jobs coming to the district thanks to their efforts. These appeals garner the coverage of local media while appealing not just to the legislator's party base but also swing voters and even out-partisans (Grimmer, Messing, and Westwood 2012).

In contrast, newsworthiness for a national outlet relies on salience to the audience for reasons other than geographical proximity, instead looking for conflict-driven, emotionally appealing stories. In political coverage this often means negative stories that strike an ideological nerve, creating demand for stories about partisan attacks on issues, legislation, and opposing politicians (Maier and Nai 2020; Scott 2022). A press release claiming credit for a $10 million earmark for a solar energy farm in Legislator A's district will not be newsworthy outside of the constituency until an out-partisan Legislator B uses it as a reason to attack Legislator A and take a position against the legislation it is attached to. Partisan news outlets, a growing part of the national media, similarly favor covering partisan attacks as well as issue areas salient to the national party base, e.g. Fox News extensively covers immigration, a highly salient issue for the Republican base (Gil De Zúñiga, Correa, and Valenzuela 2012). This preference for covering conflict and polarized issues means that for legislators to be newsworthy they need to take a position on nationalized issues polarized along party lines.

Because standards of newsworthiness for local versus national media differ, the content of legislators' press releases reflects who they seek coverage from. When legislators focus press releases on local issues or events, they do so to garner coverage from local media. When they focus instead on national policy debates or the goings-on of Washington, while they may still get local coverage (particularly for legislators out of step with their district or in outlets with a Washington bureau), their primary intention is to get covered by national media (Fogarty 2008, 2011). Given that legislators generally develop and stick to their unique presentational style, of which media strategy is a key part, we might expect that the amount of locally-oriented messaging they engage in would be generally stable over time with some seasonal variation related to election cycles and the congressional calendar.

Contrary to this expectation, there is growing evidence of congressional rhetoric nationalizing–legislators are focusing more of their communications on divisive partisan issues that are national in scope. This trend appears tied to changes in the information available to constituents–when a constituency gains access to broadband, voters rely more on online, national news sources for information about elected officials. This in turn contributes to nationalized voting behavior, leading to declines in split-ticket voting and increased affective polarization. Of particular interest here is that changes in the information available to constituents also affects legislators' behavior, nationalizing their roll call votes and rhetoric (Lelkes, Sood, and Iyengar 2017; Noble 2024; Trussler 2021, 2022). These patterns do not come about just as a result of voters having access to *more* information, rather they reflect that voters are accessing *different* information. The voter who previously read their local news to learn what was happening politically, when

given access to broadband, can now read *The New York Times* or rely on non-traditional media like Facebook groups to get their fill of political news.

The turn away from local news is not just a choice made by consumers–local media's decline has made accessing local political information difficult for many, namely those living in so-called "news deserts". As many outlets have shuttered, those that remain struggle to effectively cover politics. This is partly due to staffing cuts and the elimination of Washington bureaus, but also a result of the surviving outlets being those that were consolidated. Such outlets have fewer resources post-consolidation but the same or a larger geographic area to report on. A regional newspaper that used to cover only the northern half of a metropolitan area may find itself responsible for covering the whole area when its competitors shut down. More often than not remaining outlets do not fill these gaps, especially in rural areas where a majority of residents say the local media does not cover their area at all (Grieco 2019). All this contributes to the steady decline in substantive political news in local papers over the past decade and Americans' declining consumption of local news (D. Hayes and Lawless 2018; Shearer et al. 2024).

From the legislator's perspective this presents a problem–fewer local outlets means fewer opportunities for stories about them to get covered and more competition for coverage. A legislator who used to have three newspapers covering their district may now only have one and that one paper may also cover parts of neighboring districts. Legislators who previously had to compete only with state and local politicians for coverage now find themselves fighting for coverage against other members of Congress as well. This, along with the knowledge that Americans increasingly turn to other sources for their political news, fundamentally changes the calculus for where to seek coverage. The decline of local news, and more specifically of local newspaper's capacity to cover politics, incentivizes legislators to seek more coverage in the national news.

I argue that because they seek to garner media coverage with their press releases, legislators will strategically change the content of their press releases to attract coverage from national outlets when local news capacity declines. They will focus less on their in-district activities and local issues that cater to local news and instead focus more of their press releases on national events and policy debates deemed newsworthy by the national media. I expect that when local news capacity declines in a legislator's constituency, they will subsequently present themselves as less locally oriented by dedicating fewer press releases to local issues and events, preferring to engage with nationalized topics that the national media will cover **(H1)**. As a consequence, the decline of local media contributes to broader trends of nationalization and polarization by changing what legislators are incentivized to communicate about.

Despite clear incentives to nationalize rhetoric when the media environment changes, there are reasons to expect heterogeneity among legislators. Previous research indicates that the content of legislators' communications and their responsiveness to their constituency is mediated by electoral safety. Legislators recently facing, or anticipating a close election are more responsive to constituents' preferences, bring home more pork, and focus their communications

more on local-benefit seeking (Griffin 2006; Grimmer 2013; Kuklinski 1977; Lazarus 2009). Legislators who do not face a competitive election may feel no need to adapt to a changing media environment if their office is not threatened. A major incentive for legislators to garner coverage in local media is its ability to reach less tuned-in constituents, but safe legislators need not reach these voters to secure reelection when their party base is sufficient. Further, even if safe legislators nationalize their rhetoric when local news capacity declines this may not be enough to get coverage by national outlets given the media's preference for covering competitive races (Arnold 2006; Clarke and Evans 1983; Gershon 2012; Goldenberg and Traugott 1984; Kahn and Kenney 1999; Vinson 2003). For these reasons I expect that legislators in more competitive districts will be more willing to present themselves as less locally oriented in their communications in response to declining local news capacity **(H2)**.

It is also possible that legislators, namely long-serving incumbents, are simply not willing to nationalize their rhetoric because they are convinced of the effectiveness of their presentational style. Though there is little doubt that congressional politics has nationalized, this trend may largely be due to replacement, i.e. legislators unwilling to nationalize losing reelection to challengers who win running a campaign on the national issues. Indeed, the incumbency advantage has historically declined when electoral nationalization (i.e. straight-ticket voting) is on the rise and recent experimental work suggests challengers can effectively use nationalized appeals to counter locally oriented appeals by incumbents (Carson, Sievert, and Williamson 2020; Dancey, Henderson, and Sheagley 2024). This is consistent with findings that much of the ideological polarization in Congress has not been due to incumbents adapting but rather being replaced with the more extreme members who prioritize position-taking on national issues over locally oriented credit-claiming. However, there is evidence that polarization is increasingly due to ideological adaptation rather than this sort of replacement (Bonica 2014; Theriault 2006, 2008; Yiannakis 1982). Still, it may be that individual legislators are not changing how nationalized their rhetoric is, but rather that local media decline contributes to an electoral environment favoring challengers with a nationalized message.

Legislators may also reframe their messaging in subtle ways to cater to national media. This could entail still engaging with a local topic but linking it to a national policy debate. For example, legislators regularly claim credit for local infrastructure funding. In July 2024, Congress passed H.R. 8812, the Water Resources Development Act which included earmarks for water infrastructure in a number of districts. Some legislators framed their press releases about this only in local terms, like Rep. Mike Collins (R-GA) who stated: "Our state's water infrastructure is vital to ensuring Georgia remains the top place to do business in America, stays competitive in the global supply chain, and retains access to clean water for consumption and recreation." (Collins 2024). Others, like Rep. John Garamendi (D-CA), while still focusing much of their statement on local benefits, frame their message around the national issue of climate change: "The biennial Water Resources Development Act will upgrade our water infrastructure, harden our communities to climate change, and restore aquatic ecosystems across the Bay Area and California Delta." (Garamendi 2024). In this

way, legislators can subtly nationalize their rhetoric without overtly changing the content of their communications.

Thus far the effects of declining local news capacity are considered only for one mode of legislator communication due to press releases explicitly targeting the media. Though legislators present themselves similarly across different modes of communication, recent work finds that to what degree and how they use each platform is influenced by contextual factors and the audience it reaches (Blum, Cormack, and Shoub 2023; Casas and Morar n.d.; Green et al. 2024). Like press releases, newsletters (now e-newsletters) have long been a staple of congressional communication, intended to reach constituents directly and fill them in on the legislator's latest activities at regular intervals. If legislators are primarily motivated to nationalize their rhetoric in order to garner media coverage, they may continue signaling their attention to local issues in communications that do not rely as heavily on the media to reach constituents. For this reason, I expect that when local news capacity declines in a constituency legislators will continue to present themselves as locally oriented in their newsletters despite focusing press releases less on local topics **(H3)**.

18 Data

To test the theory that local media decline leads to less locally oriented communications, I construct measures of district-level local news capacity from three sources: the US News Deserts (USND) Database, the State of Local News Project (SOLN), and the Paper Cuts replication data from Peterson (2020) which combines data from the American Society of News Editors, Bacon's Newspaper Directory, and ProQuest. I pair these with three datasets of congressional communications: 180,000 press releases from members serving continuously from the 109th to the 115th Congress collected by R. Wang (2022), 200,000 press releases from all House members in the 114th to 116th Congresses generously provided by Chris Stout, and 200,000 e-newsletters from the DCinbox dataset for the 109th to 116th Congresses (Cormack 2024). For member and district-level variables I use the CongressData (Grossmann et al. 2022) and the Center for Effective Lawmaking (Volden and Wiseman 2023) datasets. Nielsen Designated Marketing Areas are drawn from Zou et al. (2018).

19 Research Design

19.1 Dependent Variable

To determine whether legislators are demonstrating less local orientation, the degree to which legislators give attention to constituency-specific topics (see Appendix 34 for examples), I operationalize local orientation as the

percent of a legislator's press releases and newsletters containing in-state keywords. Locally oriented communications typically feature explicit mention of local geographic features, institutions, or governmental units. To detect these mentions, a dictionary of keywords is constructed for each state (on average 14,000 keywords per state, 720,000 keywords total) to identify locally oriented communications in a manner similar to Ban and Kaslovsky (2024).[9]

Members demonstrate their local orientation in various ways: They often advertise their visit to a specific location within the constituency or reference local, apolitical staples like a sports team or food dish. Attending events with local elected officials such as mayors or state legislators is also common as is credit-claiming for particularist benefits. Lastly, they advertise their constituent service and awards given to constituents. With these categories in mind, I construct a dictionary with the following for each state: geographic locations (e.g. cities, towns, states, landmarks) from the Census Bureau, geographic features and governmental units from the US Geological Survey, college and university names, and a generic set of terms and phrases indicating locally oriented messaging from Ban and Kaslovsky (2024) (see Appendix 35). To mitigate false positives I remove the following from the dictionary: legislators' first and last names, terms appearing in the English dictionary, abbreviations or names of other states, terms shorter than three characters, the 100 most common American first and last names from the last 100 years provided by the Social Security Administration, the top 100 last names from the 2010 Census, and other false positives found through manual validation. Before the dictionary search is performed, each communication is cleaned to remove punctuation, hyperlinks, and leftover formatting before being checked against that legislator's state's keywords.[10]

The number of keywords contained within each communication is then tallied. From Figure 23 we see that newsletters, on average, tend to contain more in-state keywords than press releases. While this is consistent with the expectation that newsletters tend to be more locally oriented overall, this does not account for the fact that newsletters tend to be longer–the average newsletter in the data contains about 1.5 times as many characters as the average press release. When accounting for this, newsletters and press releases have roughly the same keyword detection rate.

With the count of keywords detected for each communication, the percent of communications containing keywords is calculated. The simplest approach to do so is to consider any communication with at least one keyword to be locally oriented, however this raises concerns for measurement validity as it likely introduces more false positives and overestimates legislators' local orientation–if a legislator makes a single in-state mention in passing while their message is more so focused on a national topic it may not be valid to consider that communication to be locally oriented. To address this I construct two versions of the dependent variable: the percent at least two keywords ($k \geq 2$) and the percent with at least five keywords ($k \geq 5$). I do so both biennially, corresponding to biennial closure data from the

[9]The dictionary is constructed at the state rather than district level due to the practical difficulty of geo-locating features and geographies to districts, especially when accounting for redistricting. Because this approach has the potential to overestimate the number of local communications, manual validation of flagged communications was performed until few or no false positives were found.

[10]Many legislators include a footer in their communications listing their district office addresses and contact information, these are also removed to avoid false positives.

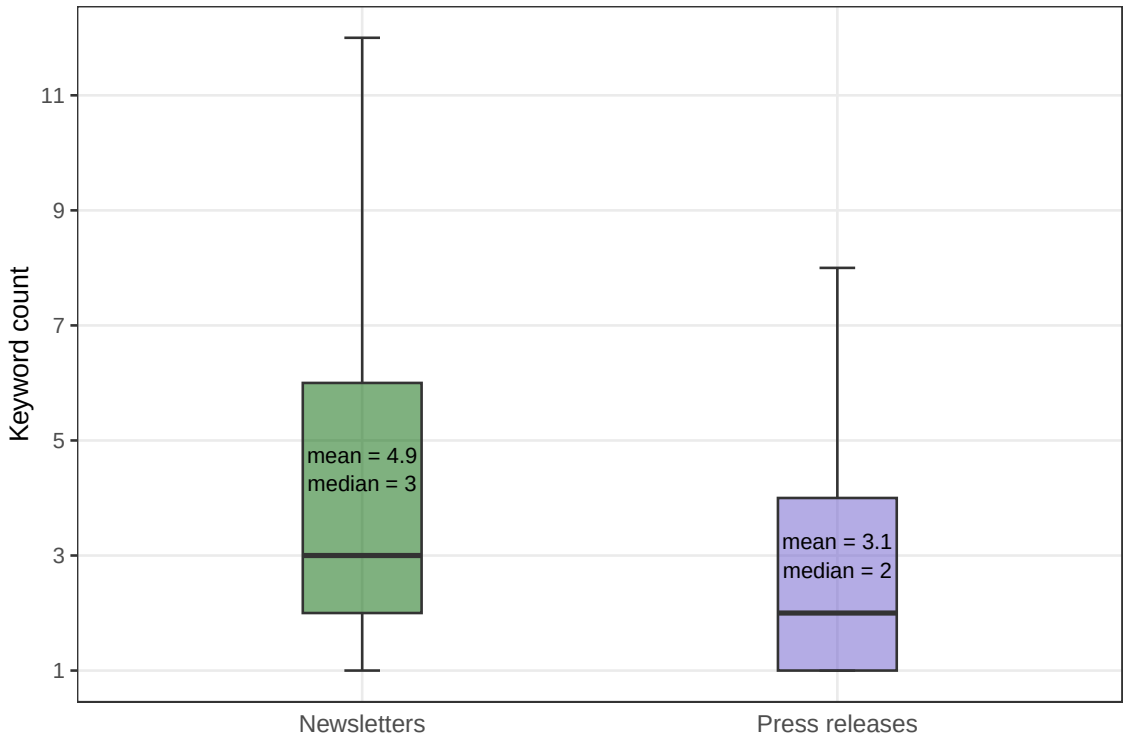

Figure 23: Distribution of Keyword Detections per Communiciation (zeroes excluded)

USND for 2016, 2018, and 2020, as well as yearly, corresponding to the yearly Paper Cuts data from 2010 to 2018. Under the $k \geq 2$ specification 33% of all press releases and 52% of newsletters are identified as locally oriented, while $k \geq 5$ yields 10% of press releases and 26% of newsletters being locally oriented (see Appendix 37 for manual validation of keyword detection). This is consistent with newsletters generally being intended for a more local audience while press releases are more likely to engage with national topics in order to garner media coverage.

Figure 24 shows the yearly and biennial percent of communications with in-state mentions across all years of available data for both keyword thresholds. While press releases are relatively constant over time, there does appear to be an increase over time for newsletters, with 20% more newsletters containing in-state mentions in 2024 than 2010. This provides some descriptive evidence that, even if in other mediums legislators are demonstrating less local orientation as political discourse nationalizes, they appear to be at least maintaining, if not increasing, local orientation in newsletters.

While the percent of communications with in-state mentions during a given period is useful for understanding the degree of legislators' local orientation for a given period, to estimate whether local orientation changes when local news capacity changes I calculate the first difference of the percent for each legislator biennially, corresponding to biennial USND data, and yearly, corresponding to the yearly Paper Cuts data. Figure 25 plots the mean change across legislators over time. For both keyword thresholds and communication types the average yearly change falls roughly

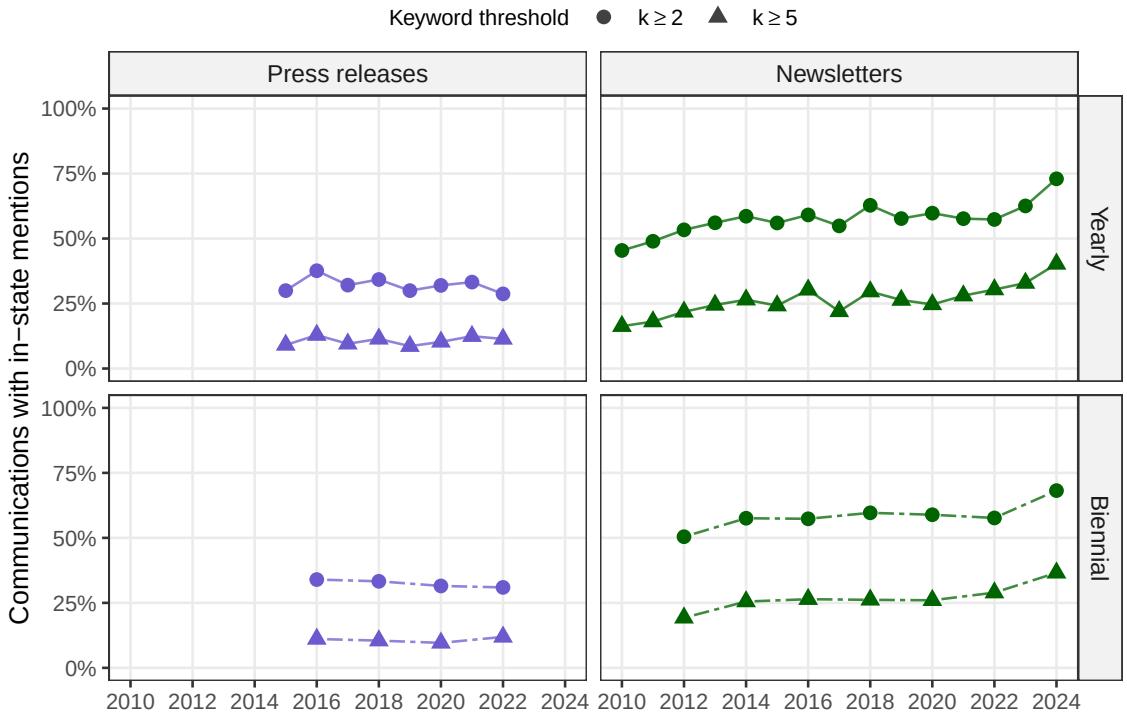

Figure 24: Percent of Communications with In-State Mentions Over Time

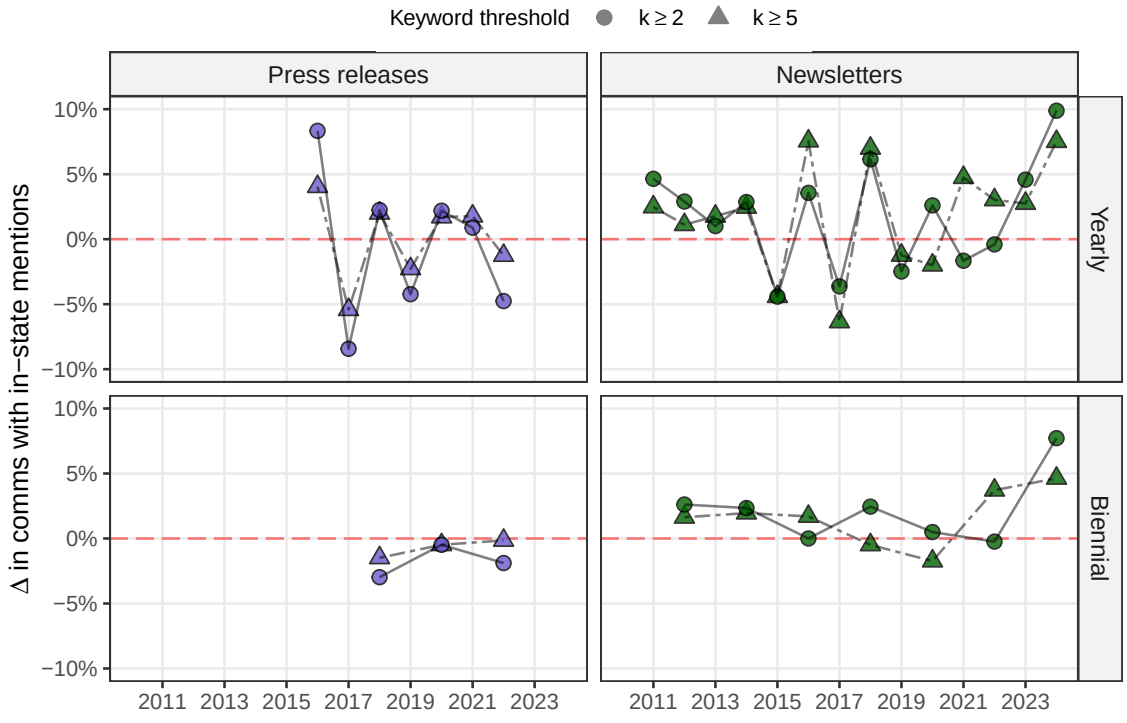

Figure 25: Change in Percent of Communications with In-State Mentions Over Time

within ±10%.

Of note is the pattern of legislators increasing their local orientation in election years, evident for newsletters in 2014, 2016, 2018, and 2024 and press releases in 2018, 2020, and to a lesser extent 2022. Appendix 38 Tables 55 and 56 regress the yearly percent of communications with in-state mentions and its first difference (under both the $k \geq 2$ and $k \geq 5$ specifications) on an indicator for whether it is an election year. The results indicate that in election years legislators issue between 2.8% and 4.3% more press releases with in-state mentions ($p < .05$) and going from non-election to election year is associated with a 7% to 10% increase in such press releases ($p < .001$). For newsletters, there is only a significant effect on the change in yearly percent under the $k \geq 5$ specification of around 4% and no significant effect on the undifferenced yearly percent.

This is consistent with legislators responding to their political environment by strategically adapting the content of their communications to differing degrees across different modes of communication. Even if legislators are not adapting their local orientation specifically in response to local media decline, this descriptive finding indicates further research into how the electoral context legislators communicate with in may influence the degree to which they nationalize their rhetoric.

19.2 Independent Variables

The primary measure of the change in local news capacity is local newspaper closures. USND provides the most extensive public dataset of local newspaper outlets reported biennially from 2014 to 2020 with 29,492 observations across all 50 states. Closures are calculated as the difference in number of outlets at the county level and are then assigned to the congressional district with the plurality of the county's population. Closures in each district-year are then summed to create a district-level estimate of closures for 2016, 2018, and 2020. Though the USND coverage ends in 2020, SOLN provides closure data for 42 states in 2021 and 2022. Closures calculated from SOLN are merged with USND as a supplemental analysis in Appendix 41. It should be noted that closures include both newspapers shutting down and being merged as USND and SOLN do not provide details about each outlet's particular fate. It may be more precise to term this measure "net closures" since new outlets opening would lead to closures being underestimated. Because of this, net closures can be thought of as a more conservative proxy for local news capacity than just a count of closures.

Figure 26 below plots total closures calculated from USND and SOLN data as well as the total number of outlets reported each year by USND (SOLN only provides data on closed outlets). While the consistent decline in outlets is consistent with the trend of local media decline, there is an inconsistency in the number of closures estimated from USND and SOLN for their only year of overlap, 2020. While USND data estimates 354 closures, SOLN reports

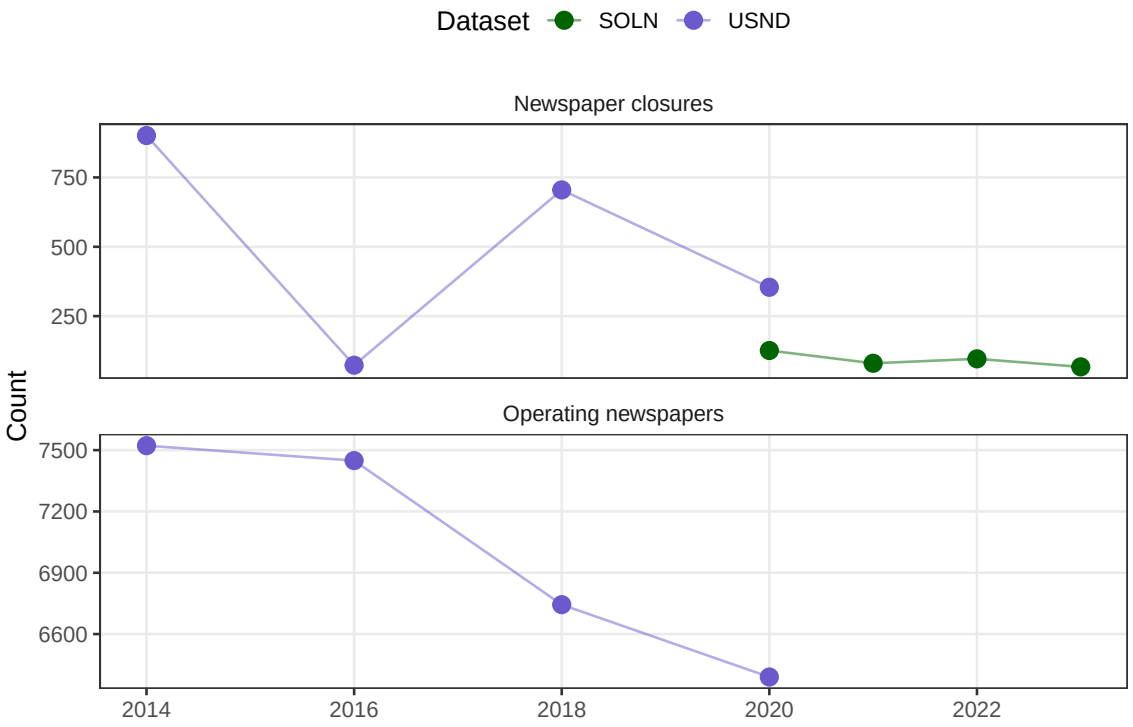

Figure 26: Newspaper Counts and Closures Over Time

just 126 closures–this is likely a result of SOLN providing coverage for only 42 states as opposed to USND covering all 50 along with differences in data collection methodology.

I also construct two alternative measures of change in local news capacity using the Paper Cuts data from Peterson (2020). The first is the yearly change in the percent of reporters on staff covering politics, a proxy for outlets' capacity to engage in original political reporting rather than rely on a wire service. This is first calculated at the Designated Market Area (DMA) level as the mean percent covering politics across outlets. This average is then assigned to the congressional district which the plurality of the DMA's geographic area covers. Once each DMA is assigned to a district the mean percent of reporters covering politics is calculated and then differenced to yield the yearly change in percent of reporters covering politics at the district level from 2010 to 2018.

The second alternative measure is the change in newspaper circulation per capita which provides a proxy for outlets' capacity to reach constituents. As with the previous measure, circulation data is crosswalked from DMA to district based on geographic overlap. The circulation estimates for each district are then summed and divided by the district population reported by the 2010 Census before being differenced to yield the yearly change in circulation per capita. Figure 27 plots these measures over time, showing that in most years the average legislator's district saw declines in the share of reporters covering politics and in newspaper circulation, though there is considerable variation indicated by the one standard deviation error bars. While staffing changes are relatively constant year to year, there is a

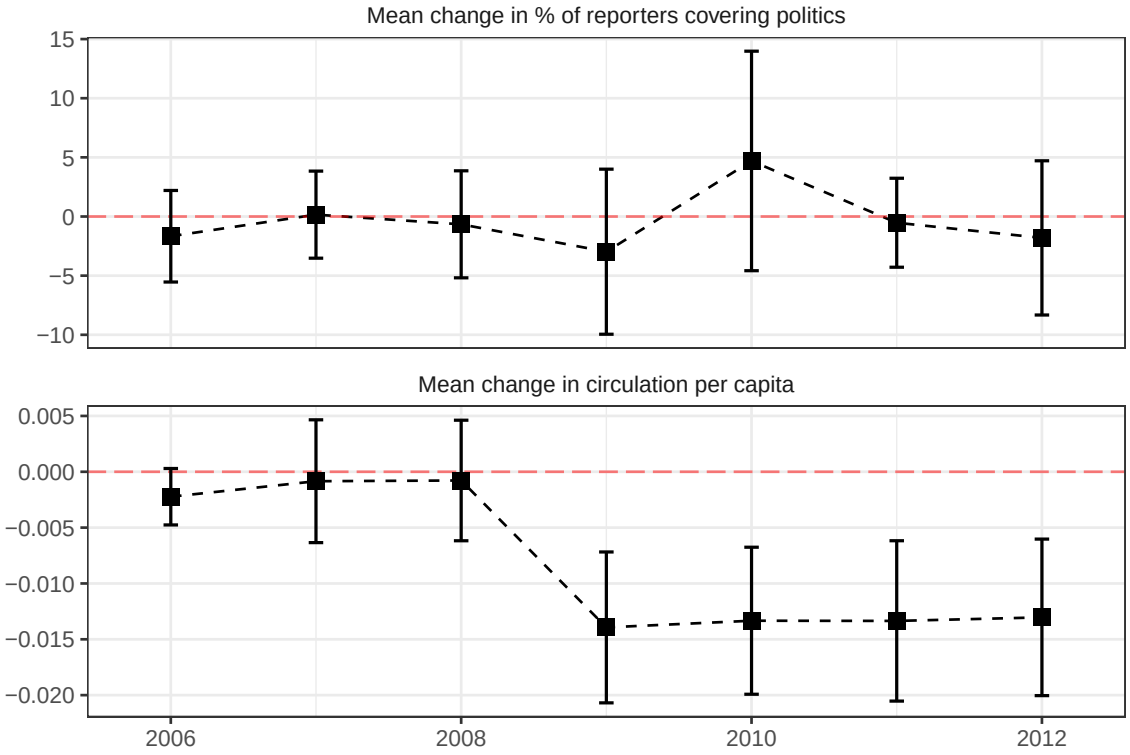

Figure 27: Change in Circulation and Politics Reporters Over Time

clear discontinuity in the circulation data–after 2008 the average decline in circulation grew considerably. This is likely a reflection of the 2008 financial crisis accelerating local news decline and indicates the measure is capturing overall trends in local news capacity (Ardia et al. 2020). Additionally, a scaled composite measure of local media capacity combining individual measures from all three datasets was estimated using a one-factor Bayesian confirmatory factor model (see Appendix 43).

19.3 Controls

To test the hypothesis that legislators in more competitive districts are more willing to exhibit less local orientation in response to declining local news capacity measure electoral safety and test **H2**, I use legislators' vote percentages in their last election for a given year and interact it with the independent variable (Equation 2). I also include a measure of ideological extremity in all models, the absolute value of legislators' first dimension DW-NOMINATE scores, and its interaction with the independent variable in the interaction models. This controls for more extreme legislators tending to prioritize position-taking on national issues over locally oriented credit-claiming (Yiannakis 1982). If their rhetoric is already highly nationalized to the detriment of local orientation it leaves little room for them to present themselves as less locally oriented in response to local media decline. Figure 28 shows that the legislator-years in the sample contain considerable variation for both measures.

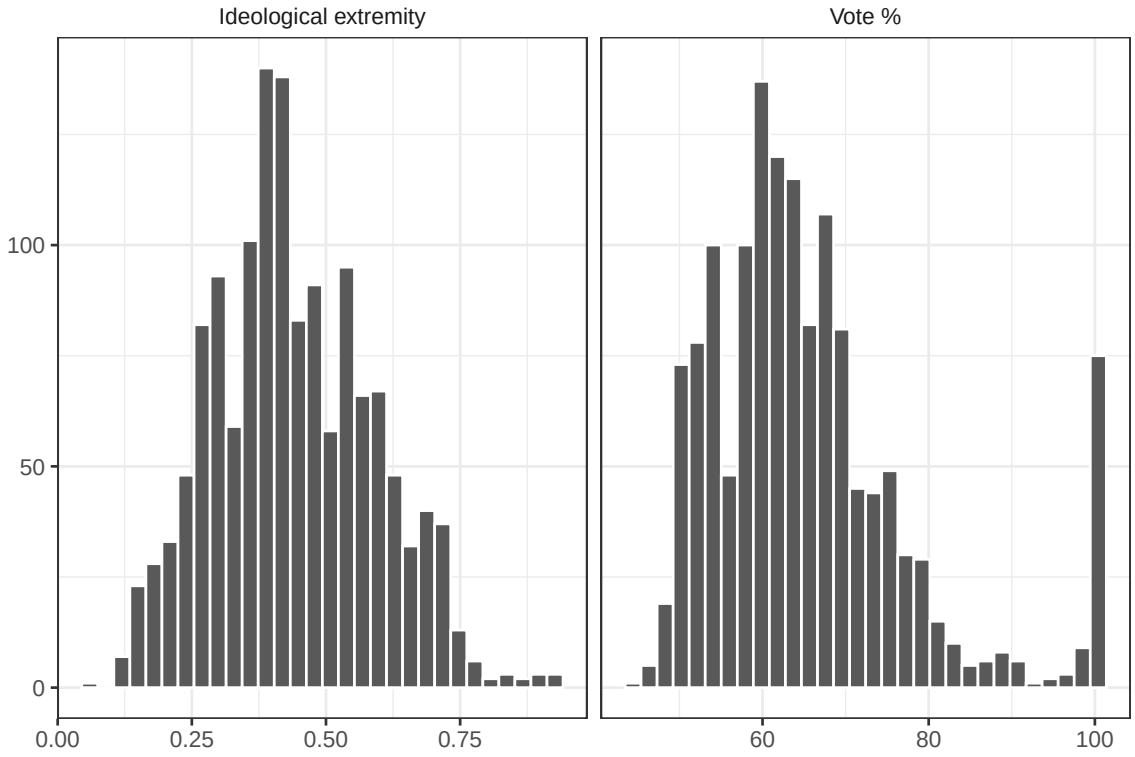

Figure 28: Distribution of Ideological Extremity and Vote %

In addition to electoral safety and extremity, I control for institutional factors that may also constrain the ability of a legislator to opt to focus on the national rather than the local. Those holding positions in party leadership are more likely to dedicate their communications to legislative procedures and discussion of government at the national level, for example talking about meeting with the President or other members of leadership. For this reason I include a dummy variable indicating whether a legislator holds a leadership position. Seniority is controlled for as more senior legislators may be less willing to change their rhetorical style even when the local media environment changes and district urbanicity (the share of households in urban areas according to the 2010 Census) as rural areas have seen greater declines in local media. I also control for whether a legislator is a member of the majority and whether they are in the out-party with respect to the President. Majority status confers many advantages including more opportunities to credit claim on local benefits earmarked in legislation or more sway in the committee system (Cox and McCubbins 1993). Minority party members, on the other hand, are left with fewer tangible local benefits to credit claim on which may incentivize nationalized rhetoric, particularly that attacking the majority party's actions. Similarly, legislators for whom the president is in the out-party are incentivized to nationalize their rhetoric by criticizing the executive. Indeed both majority and out-party (respective to the president) legislators in the House have been shown to make more presidential references in floor speeches (Noble 2024). Finally, I control for the logged number of communications a legislator sent during a Congress and the logged number of newspaper outlets in their district.

19.4 Two-way Fixed Effects Identification

To test the hypotheses using closure data, I estimate OLS regression models with state-year fixed effects for each outcome variable and communication type, one without interaction terms of the form:

$$\begin{aligned}[\Delta\text{comms with in-state mentions}]_{it} = \alpha_i + \lambda_t + \beta_1[\text{closures}]_{it} + \beta_2[\text{vote \%}]_{it} + \\ \beta_3[\text{extremity}]_{it} + \bar{\beta}\bar{Z}_{it} + \varepsilon_{it} \end{aligned} \tag{4}$$

And one with interaction terms in order to test whether electoral safety and ideological extremity mediate responsiveness to changes in local news capacity:

$$\begin{aligned}[\Delta\text{comms with in-state mentions}]_{it} = \alpha_i + \lambda_t + \beta_1[\text{closures}]_{it} + \beta_2[\text{vote \%}]_{it} + \\ \beta_3[\text{closures}]_{it} \cdot [\text{extremity}]_{it} + \\ \beta_5[\text{closures}]_{it} \cdot [\text{vote \%}]_{it} + \\ \bar{\beta}\bar{Z}_{it} + \varepsilon_{it} \end{aligned} \tag{5}$$

where observations are at the legislator-year level with the dependent and independent variables calculated biennially, α_i is the state fixed effect, λ_t the year fixed effect, $\bar{Z}_{it}$ contains controls for leadership, majority status, out-party president, seniority, and urbanicity, and ε_{it} is the error term. All standard errors are robust and clustered by state. Models of a similar form estimated using the alternative independent variables–yearly percent of reporters covering politics and circulation per capita.

To examine how member and district characteristics influence legislators' baseline local orientation, I also estimate models with the yearly percent of a legislator's communications with in-state mentions regressed on the controls with the independent variable omitted. These models take the following form:

$$[\text{comms with in-state mention}]_{it} = \alpha_i + \lambda_t + \beta_1[\text{vote \%}]_{it} + \beta_2[\text{extremity}]_{it} + \bar{\beta}\bar{Z}_{it} + \varepsilon_{it} \tag{6}$$

20 Results

I present results for the above models in the two following sections. The first details the results for the undifferenced model (Equation 3), in which the outcome, the yearly percent of the legislator's communications with in-state mentions, is regressed on district and member control variables. This does not reveal anything about how media environment influences legislators' communications but instead shows what other contextual factors correlate with local orientation and serves as a validity check for the construction of the outcome variable. Next, to test the hypotheses, I estimate the differenced models (Equations 1 and 2) which regress the *change* in the percent of a legislator's communications with in-state mentions on local newspaper closures in addition to changes in the percent of reporters covering politics and circulation per capita.

20.1 Undifferenced Models

Table 23: Undifferenced Control-Only Yearly Model, USND

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
majority	1.15 (4.73)	0.76 (2.49)	-2.84 (4.16)	1.23 (2.93)
out-party president	-0.04 (3.63)	-2.59 (2.77)	7.94 (3.63)*	4.75 (2.95)
urbanicity	-13.30 (13.66)	-17.89 (9.98)+	-14.16 (15.38)	-24.84 (13.47)+
vote %	-0.31 (0.16)+	-0.11 (0.10)	0.25 (0.20)	0.18 (0.13)
seniority	-0.16 (0.59)	0.24 (0.38)	-0.64 (0.41)	0.01 (0.30)
leadership	3.88 (8.59)	-2.20 (4.87)	-4.21 (6.88)	-16.78 (4.08)***
extremity	10.49 (13.72)	-1.77 (10.04)	-38.04 (8.97)***	-27.33 (7.87)**
log(number of newspapers)	-3.64 (2.56)	-0.97 (1.72)	-2.17 (3.05)	-3.39 (3.08)
Num.Obs.	797	797	1355	1355
AIC	8477.6	7843.3	14403.9	14132.7
BIC	8758.4	8124.2	14721.8	14450.6
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Before estimating the primary models to test the hypotheses, I present models using the undifferenced yearly percent of communications with in-state mentions as the outcome and measures of local media decline omitted to assess what other factors predict legislators' local orientation. Table 23 yields several statistically significant predictors of local orientation: When the president is in the out-party, legislators issue about 8% more newsletters with in-state mentions ($k \geq 2$) with no such effect for press releases or the $k \geq 5$ newsletter model. Those in leadership positions issue 16% fewer newsletters with in-state mentions under the $k \geq 5$ specification. Extremity is also a significant predictor– more ideologically extreme legislators have a smaller percent of newsletters with in-state mentions under both keyword thresholds. A one standard deviation increase in extremity (a 0.15 unit increase in absolute value

of DW-NOMINATE first dimension score) is associated with around 5% fewer newsletters with in-state mentions. Despite previous research finding legislators in the majority are better able to bring distributive benefits to their district which makes credit-claiming on local benefits easier (Engstrom and Vanberg 2010), majority party status is not a significant predictor of local orientation.

These results are robust to the addition of observations for 2021 and 2022 for legislators in parts of the country the SOLN data includes coverage of (see Appendix 41 Table 62).[11] Appendix 39 Table 57 estimates undifferenced models for the sample of legislators corresponding to the supplemental Paper Cuts data–press releases from incumbents serving continuously from the 109th to 115th Congress and newsletters from all members from the 111th to 115th Congress. For this sample, whether the president is in the out-party is significant for both press releases and newsletters and corresponds to roughly 4% more communications with in-state mentions. Additionally, extremity is significant and negative for press releases and seniority for newsletters.

[11] Because the SOLN data only includes newspaper closures, the logged number of newspapers in a legislators' district is not included in these models.

20.2 Differenced Models

Table 24: USND Closures and Biennial Change in In-State Mentions ($k \geq 2$)

	Δ in % of press releases		Δ in % of newsletters	
closures	1.18 (0.68)+	8.79 (3.94)*	-0.06 (0.43)	0.44 (2.55)
closures × vote %		-0.08 (0.04)+		-0.05 (0.03)
closures × extremity		-4.37 (4.95)		6.03 (3.86)
majority	8.07 (5.41)	7.58 (5.39)	-0.53 (2.50)	-0.90 (2.48)
out-party president	-3.15 (5.79)	-2.03 (5.77)	-0.67 (2.56)	-1.38 (2.58)
urbanicity	-4.14 (11.86)	-2.17 (11.52)	-1.97 (5.02)	-2.18 (5.01)
vote %	-0.14 (0.14)	0.05 (0.18)	0.14 (0.10)	0.19 (0.11)+
seniority	-0.15 (0.29)	-0.27 (0.32)	-0.38 (0.23)+	-0.41 (0.23)+
leadership	-1.38 (6.21)	-0.98 (6.57)	1.68 (2.99)	1.49 (3.06)
extremity	17.97 (16.66)	23.96 (20.37)	-7.65 (6.92)	-12.55 (7.17)+
log(number of newspapers)	-2.50 (2.51)	-2.89 (2.54)	-1.37 (0.95)	-1.32 (1.00)
Num.Obs.	377	377	1106	1106
AIC	3744.3	3744.3	10854.6	10854.5
BIC	3972.4	3980.2	11165.1	11175.1
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 25: USND Closures and Biennial Change in In-State Mentions ($k \geq 5$)

	Δ in % of press releases		Δ in % of newsletters	
closures	0.45 (0.31)	1.72 (2.67)	-0.07 (0.46)	2.89 (2.83)
closures × vote %		-0.03 (0.03)		-0.04 (0.03)
closures × extremity		1.26 (2.88)		-0.67 (3.15)
majority	-1.56 (2.94)	-1.68 (2.94)	0.76 (1.93)	0.67 (1.92)
out-party president	2.36 (3.35)	2.56 (3.55)	-1.25 (2.13)	-1.27 (2.17)
urbanicity	4.63 (6.76)	4.95 (6.58)	4.22 (5.08)	4.14 (4.97)
vote %	0.03 (0.07)	0.09 (0.12)	0.11 (0.05)+	0.15 (0.06)*
seniority	-0.32 (0.27)	-0.36 (0.28)	-0.05 (0.16)	-0.09 (0.16)
leadership	-0.03 (7.13)	-0.07 (7.24)	-2.06 (2.22)	-1.98 (2.19)
extremity	-3.47 (10.08)	-6.28 (10.58)	-3.63 (4.39)	-3.33 (3.83)
log(number of newspapers)	-0.66 (1.79)	-0.73 (1.80)	-0.15 (0.92)	-0.25 (0.94)
Num.Obs.	377	377	1106	1106
AIC	3446.6	3449.7	10622.7	10624.9
BIC	3674.6	3685.6	10933.2	10945.4
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Tables 24 and 25 present results for the $k \geq 2$ and $k \geq 5$ specifications of the differenced dependent variable regressed on USND closures. While the coefficient for closures is significant for the press release model with interactions (Table 24 column 2), it is insignificant elsewhere and in the opposite direction predicted by **H1**–closures are associated with an increase in press releases with in-state mentions rather than the predicted decrease. There is also no support for **H2** which predicts those in more competitive districts will be more responsive to local media decline–the interaction between closures and vote percent insignificant across models. Vote percent on its own is significant and

positive in 25 for the newsletter model with interactions but insignificant elsewhere. With no robust evidence that legislators change how locally oriented their press releases or newsletters are in response to closures, there is also no support for **H3** which predicts a greater degree of responsiveness in press releases than newsletters. Moreover, Appendix 41 Tables 63 and 64 show these results to be robust to the inclusion of the SOLN data.

Beyond the null results with respect to the hypotheses, there is one finding worth noting. Though not entirely consistent across models, the coefficient for vote percent is positive and significant in the $k \geq 5$ newsletter models with interactions (Table 25 column 4) as well as borderline significant ($p < .1$) in the $k \geq 2$ newsletter model with interactions (Table 24 column 4) and the $k \geq 5$ newsletter model without interactions (Table 25 column 3). The results are similar when including SOLN data (Appendix 41 Tables 63 and 64). The more electorally secure a legislator, the more likely they are to increase the share of their newsletters with in-state mentions regardless of media decline. However, the effect is small–a 5% increase in vote percent corresponds to only about a 0.75% increase in newsletters.

Table 26: Change in Percent of Reporters Covering Politics ($k \geq 2$)

	Δ in % of press releases		Δ in % of newsletters	
	(1)	(2)	(3)	(4)
Δ in % of reporters	0.03 (0.05)	-0.55 (0.47)	0.08 (0.07)	1.43 (0.91)
Δ in % of reporters × extremity		1.08 (0.57)+		-1.95 (1.46)
Δ in % of reporters × vote %		0.00 (0.00)		-0.01 (0.01)
majority	0.26 (1.97)	0.07 (1.97)		-1.27 (3.32)
out-party president	1.93 (1.49)	2.00 (1.43)	1.33 (3.42)	
urbanicity	4.82 (9.90)	4.72 (9.78)	-5.02 (10.96)	-6.13 (10.70)
vote %	0.06 (0.09)	0.06 (0.09)	-0.24 (0.08)**	-0.22 (0.07)**
seniority	-0.13 (0.33)	-0.13 (0.33)	-0.07 (0.31)	-0.06 (0.31)
leadership	-1.89 (1.95)	-2.06 (1.85)	-1.87 (5.99)	-1.85 (5.90)
extremity	-1.27 (7.09)	-0.41 (7.16)	23.26 (10.60)*	21.80 (9.90)*
log(total communications)	-1.55 (3.17)	-1.45 (3.11)	-0.21 (1.30)	-0.27 (1.28)
log(number of newspapers)	0.45 (1.09)	0.38 (1.01)	0.24 (1.52)	0.34 (1.54)
Num.Obs.	383	383	422	422
AIC	3290.7	3291.9	3962.6	3962.5
BIC	3472.4	3481.4	4173.0	4181.0
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 27: Change in Per Capita Circulation ($k \geq 2$)

	Δ in % of press releases		Δ in % of newsletters	
	(1)	(2)	(3)	(4)
Δ in circulation	-115.78 (32.02)**	-622.60 (292.68)*	-105.42 (125.88)	-44.95 (416.20)
Δ circulation × extremity		553.64 (341.37)		-835.13 (674.33)
Δ circulation × vote %		3.63 (4.78)		5.04 (4.74)
majority	0.35 (2.00)	0.37 (2.01)		-1.33 (3.37)
out-party president	2.00 (1.62)	2.41 (1.65)	1.40 (3.39)	
urbanicity	6.53 (9.69)	7.12 (9.37)	-6.55 (11.31)	-5.30 (10.49)
vote %	0.05 (0.09)	0.09 (0.09)	-0.24 (0.08)**	-0.17 (0.10)
seniority	-0.09 (0.32)	-0.10 (0.32)	-0.06 (0.31)	-0.08 (0.31)
leadership	-1.72 (2.01)	-2.00 (1.95)	-2.14 (5.85)	-1.38 (5.71)
extremity	-1.83 (7.10)	2.41 (6.44)	23.31 (10.42)*	12.82 (14.44)
log(total communications)	-1.56 (3.16)	-1.63 (3.15)	-0.18 (1.30)	-0.16 (1.31)
log(number of newspapers)	0.62 (1.07)	0.74 (1.11)	0.04 (1.37)	0.07 (1.42)
Num.Obs.	383	383	427	427
AIC	3289.0	3292.2	4004.2	4007.0
BIC	3470.6	3481.7	4215.2	4226.0
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

As a supplement to the primary analyses using USND data, Tables 26 and 27 present models with independent variables constructed from the Paper Cuts data, the change in the percent of reporters covering politics and newspaper

circulation per capita, respectively. As with the primary analysis, there is no robust evidence in support of the hypotheses. In fact Table 27 indicates that when newspaper circulation increases legislators *decrease* the percent of their press releases with in-state mentions–contrary to **H1**. However, Appendix 39 Table 59 shows this finding is not robust to the $k \geq 5$ specification of the dependent variable. On the other hand, vote percent and extremity are also statistically significant predictors of newsletter content in both Tables 26 and 27–more extreme legislators are more likely to increase the share of newsletters with in-state mentions year over year. I also find, contrary to the result in Table 25, legislators with a higher voter percent are more likely to *decrease* the share of their newsletters with in-state mentions. However, these effects are only borderline significant at best under the $k \geq 5$ specification (Appendix 39 Tables 59 and 58).

21 Discussion

Overall, I find no support for the hypotheses–legislators, even those in more competitive districts, do not respond to declining local news capacity by presenting themselves as less locally oriented in press releases or newsletters. A potential explanation for this result lies in limitations of the measurement approach. The most obvious of these is the dictionary search method used for a binary classification of communications as either locally oriented or not. This does not directly measure how nationalized the content of a communication is. This could underestimate responsiveness if legislators do not substitute locally oriented messages for nationalized ones but rather reframe what would have been a locally oriented message absent media decline to engage with national issues. Future research in this area could improve on the measurement approach used by identifying keywords that signal engagement with national topics as well as local. Since communications are often not strictly addressing national or local issues but rather some combination, an approach estimating to what degree a communication is concerned with local versus national issues could also yield different results by better capturing the subtleties of congressional communications. This could be accomplished by using a more sophisticated machine learning classification such as keyword or LLM-assisted topic modeling.

A further limitation of the primary analysis is the temporal coverage offered by USND which only reports closures in even years from 2014 to 2020. This means the change in the percent of communications with in-state mentions is measuring changes in local orientation *from non-election to election years*. It is well-established that legislators strategically change their legislative and roll-call voting behavior (Herrick, Moore, and Hibbing 1994; McAlexander and Urpelainen 2020; Rothenberg and Sanders 2000), content of their communications (Hemphill and Shapiro 2019), and their attention to their district in the run-up to an election (Herrick, Moore, and Hibbing 1994). Consistent with this, I descriptively find legislators issue between 2.8% and 4.3% more press releases with in-state

mentions in election years and, on average, 3% to 4% more with in-state mentions in an election year relative to the previous year (Appendix 38 Tables 55 and 56). A similar relationship is apparent for press releases (Figure 25 but is only significant when regressing the change in press releases with at least five in-state keywords on an election year indicator, yielding a 4.3% increase in press releases in election years relative to the year prior. The relationship between election years and local orientation could potentially confound the relationship between local news capacity and local orientation if there is a causal pathway linking election years to local news capacity–a plausible concern given many newspaper closures are a result of mergers that depend on economic factors which in turn depend on political conditions. Future research could hope to recover a causal effect if able to use more granular local news capacity data that includes non-election years and whether an outlet was merged with others or shut down to recover a causal effect. It is also worth investigating whether this increased local orientation in messaging in election years reflects legislators engaging in more locally oriented activities like securing pork for their district.

Despite the above limitations, the null results for the relationship between media decline and local orientation may reflect most legislators being unwilling to change their presentation of self if they feel it works electorally or that altering it will not improve their media coverage. Timing may also be a factor–USND provides coverage from 2014 to 2020 but local media's decline began as early as the 1990s and accelerated in the early 2000s (D. Hayes and Lawless 2018). It is possible that legislators who failed to adapt to the changing media environment lost re-election to candidates campaigning on a nationalized message while legislators who successfully adapted did so before the USND data begins. Of course, it is implausible that failure to adapt to media decline would alone lose legislators their seat. Yet, given other work finding replacement rather than adaptation accounts for much of congressional polarization, such legislators may simultaneously fail to adapt in other ways, such as in their ideological positioning (Bonica 2014; Theriault 2006, 2008).

In the supplemental analyses using Paper Cuts data with coverage starting nearly a decade earlier than USND (2006 to 2012), we might then expect to find responsiveness to local media decline but this is not the case. This may again reflect a shortcoming of the data–Paper Cuts only offers coverage in 30 states and the only press release data available for this period covers just over 70 House members who served continuously from the 109th to 115th Congresses–seasoned incumbents who may be unwilling or see no electoral need to adapt. Future research could examine whether newly elected legislators exhibit different degrees of locally oriented and nationalized messaging as well as looking for within-legislator changes to assess whether adaptation or replacement better explains the trend of nationalization.

Despite null findings for press releases and newsletters, it is possible that legislators do respond to local media decline but do in other venues such as social media. Press releases and newsletters often focus on legislative activities which individual members have little control over or which are costly in terms of time and resources, like sponsoring

legislation or holding in-person events. While social media posts do cover these activities as well, legislators post to social media much more frequently than they issue traditional communications and so are more flexible in what content they include. For example, on January 28, 2025 Rep. Scott Peters (D-CA) posted on X:

> My office just heard from a homeless services provider in San Diego that their funding will be paused for 90 days. They help house over 1,000 people in SD and will go under if Trump's order goes through. I'll do everything in my power to stop this unconstitutional power grab.

His press releases make no mention of this executive order or its effect on San Diegans, instead he issued a press release the same day denouncing President Trump's "Prioritizing Military Excellence and Readiness" executive order (Peters 2025). If a legislator wants to appear more locally oriented, because of media decline or otherwise, changing their presentation of self on social media offers a cheap and effective way to do so.

Though the primary analysis did not yield support for the hypotheses, several variables were significant predictors of legislators' local orientation. When the president was in the out-party, legislators in the 113th to 116th Congresses issued about 8% more locally oriented newsletters (Table 23 column 3). In the sample of legislators corresponding to the earlier Paper Cuts data (press releases of those serving continuously from 109 to 115th Congresses, newsletters of all members of the 111th and 112th Congresses), the effect for both press releases and newsletters was around 4% (Appendix 39 Table 57).

This finding runs counter to Noble (2024) who finds legislators with an out-party president, especially those with a nationalized media environment in their district (using broadband coverage as a proxy) in their district, nationalize the rhetoric in their floor speeches by mentioning the President more frequently. To test for such an interaction effect here, I regress the percent of communications with in-state mentions on an interaction between the logged number of outlets in the district and whether the President is out-party but find no significant effect (Appendix 42 Table 65).[12] As an additional test, I estimate similar regressions using the Paper Cuts data, interacting circulation per capita with whether the President is out-party. I again find that legislators with an out-party president issue more locally oriented press releases as well as that greater newspaper circulation in the district is associated with fewer locally oriented communications (Appendix 42 Table 66). These results highlight the need for further study of how nationalized and locally oriented messaging differs across platforms and the implication for the information reaching constituents. In particular, it begs the question of whether when legislators nationalize their rhetoric in one venue they present themselves as more locally oriented in another leading the differing effects of an out-party president found here and in Noble (2024).

[12] I opt for the number of outlets rather than closures as the latter only serves as a proxy for the change in local media environment, not its current level of nationalization.

In addition to the President's party, several other factors predicted legislators' local orientation. The observation that more senior legislators demonstrate less local orientation (Table 23 and Appendix 39 Table 57) may reflect their having more sway in the policymaking process, such as in the committee system, and so choose to engage more with national issues because they have actual influence over them. It may also reflect senior legislators feeling more secure in their seat as they win election after election and so do not feel locally oriented messaging is vital to their remaining office. In this case we should see a significant, negative coefficient when interacting vote percent and seniority but no such effect is present (see Appendix 40 Table 61). More pronounced than seniority is the finding that more ideologically extreme legislators issue fewer locally oriented messages–a one standard deviation increase in a legislator's extremity (a 0.15 unit increase in absolute value of their DW-NOMINATE first dimension score) is associated with about 4.5% fewer communications with in-state mentions. This aligns with previous research finding extreme legislators use more polarizing rhetoric and in doing so garner more coverage from national media (Ballard et al. 2023; Wagner and Gruszczynski 2018).

22 Conclusion

Combining data on local media from USND, SOLN, and Paper Cuts with nearly 500,000 newsletters and press releases from members of the House from 2005 to 2022, I find no robust evidence that legislators respond to declining local media in their district by presenting themselves as less locally oriented in their communications. Recent work raises concerns that media decline harms the functioning of democracy by limiting the information available for constituents to evaluate their elected officials and reinforcing polarization by causing voters to seek information from more partisan, national outlets that focus on divisive issues. However, the findings here indicate that declining local news capacity, at a minimum, does not seem to significantly erode legislators' local orientation in their communications.

Instead, local orientation is related to both the legislators' characteristics and the broader political environment. More extreme legislators and those in leadership positions exhibit less local orientation, particularly in newsletters, while having a president in the out-party is associated with more locally oriented communications from a legislator. There is also descriptive evidence (Figures 23 and 24) that legislators demonstrate different degrees of local orientation across different modes of communication–with newsletters being more locally oriented than press releases and increasingly so. Legislators also seem to anticipate an upcoming election by issuing more locally oriented press releases in election years–a finding which could indicate legislators engage in more locally oriented legislative activities in the lead-up to an election that they can subsequently message about.

These findings indicate that while declining local news capacity does not explain variation in local orientation, other factors do influence when legislators focus on the national as opposed to the local. One direction for future

research is characterizing how the nationalization of congressional rhetoric varies across platforms and time. When do legislators feel it valuable to focus more on national issues in their floor speeches vs. social media posts vs. newsletters and how does this affect their coverage by the media? To date only a handful of studies consider how the evolving media environment affects political representation, primarily due to limited data on local media. Collecting more complete data in this area will open the door for research considering how different forms of media, i.e. local vs. national or digital vs. print, cover legislators differently. Pairing this with legislators' communications from different venues can elucidate the role the media plays in shaping the information flows that between elected officials, journalists, and citizens. In addition, pairing communications with data on legislators' other activities, such as floor votes or bill sponsorship, can reveal when and where legislators are responsive their constituency, providing a more holistic understanding of the representation offered to constituents. By studying what induces elites to nationalize their rhetoric the consequences for information provision, scholars can better understand the interplay between nationalization and polarization among elites and the masses at a time when division and backsliding increasing threaten democratic functioning.

Appendix

23 Press Release Topics

#	Topic Name	Pork-policy	Top Words	Percent
1	Oversight	-	Highest Prob: letter, report, concern, requir, process, depart, request FREX: review, letter, concern, request, gao, sent, wrote Lift: overdrew, roadcolleg, tdrs, accret, fasb, ffiec, frappucino Score: letter, report, request, agenc, regul, gao, review	2.9
2	Barbara Lee	-	Highest Prob: congresswoman, lee, caucus, congression, barbara, chair, servic FREX: postal, oakland, usp, cbc, repbarbarale, postmast, chand Lift: adesuyi, benchley, bordelon, bukowski, calo, cawhen, cayenn Score: lee, congresswoman, barbara, kaptur, postal, caucus, oakland	0.5
3	Holidays	-	Highest Prob: women, american, nation, honor, histori, day, world FREX: celebr, commemor, wherea, luther, legaci, pope, tribut Lift: adha, aileycamp, alcott, apahm, araminta, bohlk, bollywood Score: women, celebr, african, commemor, honor, american, anniversari	3.6
4	Condolences	-	Highest Prob: famili, statement, pelosi, today, peopl, follow, contact FREX: dali, condol, prayer, elshami, sadden, nadeam, nanci Lift: abruzzo, afirst, ahren, ataturk, attackshonor, bastill, biphobia Score: pelosi, hammil, prayer, nanci, elshami, nadeam, shoot	2.8
5	Waterfront projects	pork	Highest Prob: project, river, corp, larsen, coast, will, lake FREX: dredg, skagit, wrda, snohomish, dam, carp, whatcom Lift: baitfish, barrella, bcdc, beachfil, beardsley, berghoff, beulter Score: larsen, river, lake, flood, coast, port, corp	1.7
6	Disaster relief	pork	Highest Prob: texa, disast, cornyn, sen, assist, emerg, hurrican FREX: airland, tornado, nfip, fugat, landfal, evacue, congresista Lift: abajo, abierta, abierto, abogado, abordar, abril, abrir Score: cornyn, fema, disast, hurrican, texa, flood, sen	2.2
7	District events	-	Highest Prob: will, congressman, counti, offic, district, meet, washington FREX: rodger, sonoma, solano, walla, mcmorri, jcp, cst Lift: aidinform, alabamachickasha, albertvill, aledo, alliancejodi, alstott, amshepherd Score: counti, mcmorri, hall, rodger, thompson, town, king	2.5
8	Middle East	policy	Highest Prob: iraq, war, militari, terrorist, troop, secur, terror FREX: isil, iraqi, aumf, afghan, syrian, taliban, qaeda Lift: abazaid, abbottabad, abdo, amrullah, asaib, baath, basescongress Score: iraq, troop, iraqi, war, terrorist, afghanistan, syria	2.5
9	Guns and crime	policy	Highest Prob: law, violenc, enforc, gun, crime, victim, traffick FREX: offend, traffick, abduct, gun, crime, firearm, vawa Lift: abductor, abramski, andenact, antitraffick, arreste, atest, barbirou Score: traffick, violenc, gun, crime, victim, sexual, crimin	2.3
10	Foreign affairs	policy	Highest Prob: state, human, right, iran, intern, unit, govern FREX: genocid, sudan, isra, palestinian, iranian, darfur, egypt Lift: abou, abubakr, ackermann, adalberto, adamawa, adeba, adebonajo Score: iran, genocid, israel, nuclear, sanction, semit, sudan	4.9

11	Food and transit safety	policy	Highest Prob: safeti, food, airport, fda, faa, product, aviat FREX: faa, nois, salmonella, ntsb, cpsc, fda, nhtsa Lift: abracehem, actgiv, agriculturerоom, agriculturerur, airportwhen, alpa, andspoken Score: fda, faa, airport, food, safeti, aviat, passeng	1.9
12	Executive branch investigations	policy	Highest Prob: investig, general, trump, attorney, elect, depart, justic FREX: mueller, comey, fisa, bannon, alleg, subpoena, resign Lift: ackermanjo, apologis, attacksu, bairdhoward, bermanrick, bff, boucherrobert Score: trump, investig, attorney, russian, fbi, alleg, fisa	2.5
13	Eddie Bernice Johnson	-	Highest Prob: park, nation, johnson, san, histor, dalla, schiff FREX: dalla, lancast, desoto, duncanvill, wilmer, hutchin, ovilla Lift: acequia, agoura, anderlini, arabiaalli, armsmear, avrin, ayso Score: park, dalla, oak, museum, sherman, bernic, johnson	1
14	Economy	policy	Highest Prob: job, tax, busi, small, econom, economi, financi FREX: mortgag, foreclosur, credit, unemploy, small, bank, tax Lift: amtrepres, businessesbil, careerbuild, carehealth, cii, codewashington, creditwashington Score: tax, job, unemploy, loan, busi, credit, economi	4.6
15	Health and disease	-	Highest Prob: health, drug, aid, prevent, diseas, treatment, mental FREX: hiv, overdos, ebola, malaria, opioid, virus, fentanyl Lift: aacap, aarc, acmg, acog, adspp, afsp, ahtfp Score: hiv, diseas, drug, opioid, mental, health, alzheim	2.9
16	First responder grants	pork	Highest Prob: fund, program, grant, depart, million, will, provid FREX: afg, grant, fire, firefight, fund, hud, program Lift: albro, allingtown, andwork, baus, blaylock, bornemiss, bracevill Score: fund, grant, program, firefight, fire, award, depart	3.4
17	Constituent awards	-	Highest Prob: communiti, organ, award, develop, said, nation, center FREX: rhode, kentucki, roger, hal, langevin, warwick, worcest Lift: administrationcarmen, administrationst, agu, ankur, bryleigh, budnick, buhrman Score: rhode, roger, langevin, award, island, kentucki, balart	1.4
18	Social welfare	policy	Highest Prob: famili, worker, benefit, social, work, secur, pay FREX: snap, census, wage, pension, hunger, nutrit, social Lift: adust, ampleharvest, azzarella, barabba, beckmann, bfet, blockhead Score: worker, wage, food, incom, snap, social, nutrit	2.3
19	Cosigned statements	-	Highest Prob: rep, john, senat, larson, kind, repres, letter FREX: ellison, pingre, schultz, wasserman, chelli, speier, castor Lift: affairscongressman, agriculturecongressman, aldi, ambercrombi, arizonacongressman, arizonacongresswoman, artichok Score: larson, rep, wasserman, schultz, wisconsin, mcgovern, debbi	0.6
20	Regional (South)	-	Highest Prob: north, congressman, state, carolina, scott, south, virginia FREX: carolina, georgia, mchenri, durham, carolinian, raleigh, releasecontact Lift: aadministrativeboard, aflac, approvedth, ashevill, bleckley, boulevarddurham, brodhead Score: carolina, foxx, north, georgia, mchenri, wilson, virginia	0.5

21	Budget	pork	Highest Prob: republican, budget, cut, spend, govern, hous, democrat FREX: spend, trillion, budget, cut, deficit, shutdown, republican Lift: budgetrenew, cutsdecemb, cutsobama, daydream, fiendish, grownup, hedgefund Score: republican, budget, tax, deficit, cut, debt, trillion	5.5
22	Health and disease	-	Highest Prob: cancer, health, respond, compens, autism, center, program FREX: autism, breast, zadroga, wtc, vcf, prostat, fossella Lift: addm, admetech, advair, aerodigest, ajourneyfor, albuterol, asmonex Score: cancer, autism, zadroga, breast, wtc, health, vcf	1
23	Energy	policy	Highest Prob: energi, oil, gas, fuel, clean, price, climat FREX: gas, drill, biofuel, emiss, greenhous, geotherm, oil Lift: aeu, amwr, biopow, cavaney, chemi, cira, cleanenergi Score: energi, oil, gas, emiss, drill, fuel, clean	2.8
24	Lucille Roybal Allard	-	Highest Prob: congresswoman, california, los, angel, lowey, communiti, roybal FREX: angel, rockland, reppa, clara, downey, updatesfollow, repgwenmoor Lift: adelfa, altam, alvidrez, andfight, andocada, andrel, andresourc Score: los, roybal, angel, allard, lowey, congresswoman, lucill	0.8
25	Education grants	pork	Highest Prob: educ, school, student, colleg, program, children, train FREX: devo, raytown, grandview, apprenticeship, frierson, educ, claycomo Lift: actclick, affordablework, alberici, bekah, boni, cicarella, classwork Score: student, school, educ, colleg, teacher, graduat, youth	2.8
26	Student grants and awards	-	Highest Prob: school, high, academi, art, congression, student, year FREX: artwork, championship, fowk, ncaa, pencil, acryl, varsiti Lift: abarca, abeer, abhishek, abuela, academyal, academybenjamin, academychristoph Score: academi, student, school, art, artwork, artist, nomin	2.4
27	Technology and communication	policy	Highest Prob: inform, consum, communic, internet, access, eshoo, use FREX: fcc, wireless, googl, internet, broadband, telecommun, broadcast Lift: actabus, actanna, adarand, aji, attwel, bergmay, blockchain Score: fcc, internet, eshoo, broadband, consum, communic, privaci	1.5
28	Presidential speech	policy	Highest Prob: presid, follow, statement, releas, american, obama, administr FREX: presid, obama, statement, releas, follow, bush, administr Lift: starkest, benmosch, nestora, repsir, obama, riddanc, troika Score: presid, statement, obama, trump, releas, follow, administr	2
29	Veterans	policy	Highest Prob: veteran, servic, militari, serv, famili, nation, honor FREX: veteran, tbi, vash, medal, warrior, cemeteri, homeless Lift: alsac, backgroundcurr, beckner, belu, bermeosolo, bocchicchio, bureauarlington Score: veteran, militari, medal, soldier, homeless, troop, war	2.8

30	Infrastructure	pork	Highest Prob: project, transport, will, infrastructur, improv, fund, transit FREX: freight, rail, metra, amtrak, sacramento, mta, intermod Lift: ageopt, bikepath, brucevill, carless, clyne, congresswil, contractca Score: transport, rail, project, sacramento, matsui, infrastructur, highway	2.6
31	Defense	pork	Highest Prob: defens, militari, forc, nation, air, base, guard FREX: turner, ndaa, brac, delphi, afb, lakehurst, rosoboronexport Lift: absaa, abx, adal, aec, aeromed, afimsc, afrl Score: defens, militari, turner, air, ruppersberg, dod, ndaa	2.3
32	Legislative procedure	-	Highest Prob: bill, act, legisl, hous, pass, senat, vote FREX: legisl, bill, pass, act, provis, amend, introduc Lift: astrada, cfbp, dormanc, saccacio, shede, sortabl, theirhom Score: bill, legisl, act, amend, vote, pass, provis	2.4
33	Healthcare	policy	Highest Prob: health, care, insur, afford, medicar, will, coverag FREX: aca, schip, cms, premium, coverag, medicar, insur Lift: aca, acaif, acawork, actonel, agingn, ahbp, amendemnt Score: health, care, medicar, insur, coverag, medicaid, patient	4.7
34	Judiciary	policy	Highest Prob: right, court, law, vote, state, rule, constitut FREX: unconstitut, transgend, doma, kavanaugh, suprem, abort, voter Lift: ackermanrobert, adegbil, allardbobbi, andrewskaren, andrewsron, antonin, appx Score: court, suprem, abort, constitut, judg, voter, discrimin	3.4
35	Regional (NYC)	-	Highest Prob: new, citi, york, maloney, jersey, engel, mayor FREX: bronx, rican, nycha, rockaway, puerto, rico, stringer Lift: analilia, appelbaum, astoriafeder, atiyeh, baldermann, belros, bichott Score: york, puerto, citi, maloney, rico, bronx, serrano	0.9
36	Immigration	policy	Highest Prob: secur, immigr, border, homeland, cuellar, state, enforc FREX: laredo, cbp, undocu, unaccompani, deport, immigr, border Lift: accountablefor, accountamount, alcoc, aldret, andujar, arivaca, auo Score: immigr, border, cuellar, homeland, dhs, refuge, secur	2.2
37	Agriculture	policy	Highest Prob: water, agricultur, epa, farm, pallon, environment, farmer FREX: superfund, grower, crop, flounder, drought, fresno, algal Lift: antalya, aph, auglaiz, azid, backwash, benichek, cadiz Score: epa, water, farm, farmer, agricultur, pallon, usda	2
38	Congressional leadership	-	Highest Prob: peopl, want, say, just, know, leader, can FREX: say, think, realli, someth, talk, yes, want Lift: bengal, boomlet, brunet, cheeri, criticalissu, dashiki, deconstructionist Score: pelosi, think, say, don, talk, speaker, republican	2.2
39	Industry	-	Highest Prob: compani, industri, manufactur, product, market, american, job FREX: steel, manufactur, cybersecur, cfius, auto, youngstown, compani Lift: afm, aftra, arno, aseduc, backgroundcr, bainwol, bedessem Score: manufactur, compani, industri, steel, export, market, cybersecur	1.3

40	Committee activities	-	Highest Prob: committe, member, hous, chairman, congress, subcommitte, rank FREX: subcommitte, committe, chairman, rank, member, vice, aderholt Lift: administrationjohn, affairsbenni, affairssand, agriculturenorman, andpolici, budgetgeorg, businessnick Score: committe, subcommitte, chairman, member, hous, rank, democrat	1.3
41	Public lands and wildlife	policy	Highest Prob: land, alaska, oregon, walden, young, forest, feder FREX: alaska, idaho, alaskan, wilder, blm, anchorag, pilt Lift: aborigin, actwat, aerosmith, agdc, ahmann, akutak, alakanuk Score: alaska, walden, oregon, forest, land, wildlif, alaskan	2
42	Trade	policy	Highest Prob: trade, china, agreement, state, unit, countri, hast FREX: haiti, haitian, nafta, colombia, tpp, tibet, miramar Lift: baima, bas, bevel, birru, brandstad, calderonpresid, cattan Score: trade, china, chines, haiti, hast, alce, nafta	1.7
43	Science	policy	Highest Prob: research, technolog, scienc, univers, innov, develop, nation FREX: lyme, cord, embryon, nasa, biomed, nsf, upton Lift: agencyaward, agencyfi, ajax, alllevel, alongwith, americacompet, anarray Score: research, scienc, technolog, upton, nih, nasa, cell	1.3
44	Holidays	-	Highest Prob: work, year, will, can, need, forward, make FREX: forward, work, look, togeth, challeng, hope, come Lift: tefillah, tikatavu, umetukah, hashanah, metuka, metukah, nidr Score: work, forward, look, togeth, need, challeng, thank	1.2

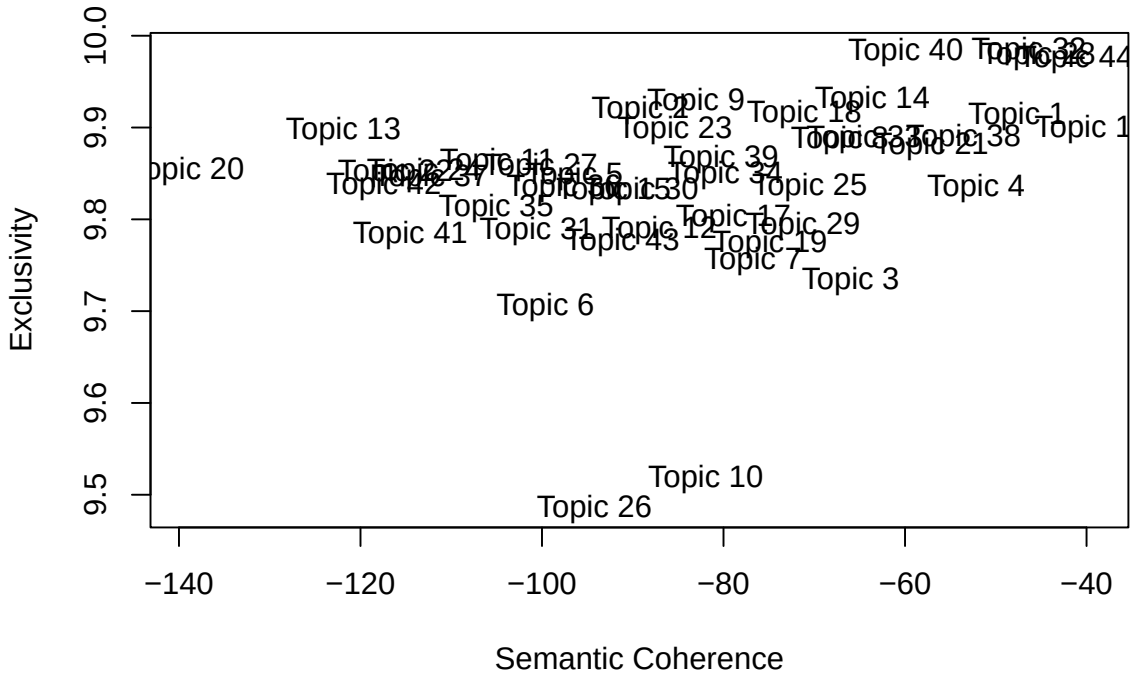

Figure 29: Exclusivity vs. Semantic Coherence for Unsupervised Topic Model

24 Black Centered Dictionary

The following dictionary of terms was generously provided by Chris Stout in order to identify press releases about issues salient to African American constituents:

13th amendment, 14th amendment, 15th amendment, a. philip randolph, aaron bailey, abolition, adriene ludd, affirmative action, african-american, african american, africanamerican, ahmaud arbery, akai gurley, alabama a and m university, alabama a&m university, alabama state university, albany state university, alcorn state university, alex nieto, alicia garza, allen university, alpha kappa alpha, alpha phi alpha, alt-right, alt right, alton sterling, altright, alvin cole, amendment xiii, amendment xiv, amendment xv, american baptist college, amir locke, an'twan gilmore, andrew brown jr., andrew goodman, andrew loku, anthony hill, anthony lamar smith, anthony mcclain, antwon rose, aretha franklin, arkansas at pine bluff, university of, arkansas baptist college, atatiana jefferson, aura rosser, barbara jordan, barber-scotia college, barber scotia college, barberscotia college, bayard rustin, bb king, benedict college, bennett college, bethune-cookman university, bethune cookman university, bethunecookman university, bigot, bishop state community college, black, black history month, black lives matter, blacklivesmatter, bloody sunday, bluefield state college, bobbie daggs jones, body camera, booker t. washington, botham jean, bowie state university, bradley blackshire, breonna taylor, brown v. board of education, brown vs. board of education, carnell snell jr., carver college, casey goodson jr., cbc, central state university, chad washington, chadwick boseman, cheyney university of pennsylvania, chikesia clemons, choke-holds, choke holds, chokeholds, chuck berry, chuck brown, civil rights, claflin

university, clark atlanta university, clinton college, coahoma community college, colby friday, colin kaepernick, communities of color, concordia college, alabama, confederate flag, confederate monuments, congressional black caucus, coppin state university, corey mobley, create a respectful and open world for natural hair, criminal justice, crown act, dana fletcher, daniel hambrick, daniel prude, darell richards, darrius stewart, dashboard camera, daunte wright, david jones, david richmond, de'von bailey, de-escalation, de escalation, deborah danner, decynthia clements, deescalation, delaware state university, delta sigma theta, denmark technical college, deon kay, desmond tutu, diane nash, dick gregory, dijon kizzee, dillard university, dion johnson, disarm hate act, discrim, district of columbia, university of the, diverse, diversity, donte shannon, dontre hamilton, dorothy height, dravon ames, dred scott, earl mcneil, edson thevenin, edward waters university, ej jackson, elijah cummings, elijah mcclain, elizabeth city state university, ella baker, emantic fitzgerald bradford jr., emanuel ame church, emanuel nine, emmett till, eric garner, eric logan, excessive use of force, executive order 9981, ezell blair jr, ezell ford, fair housing act of 1968, fayetteville state university, ferguson, fifteenth amendment, fisher v. university of texas, fisher vs. university of texas, fisk university, florida a and m university, florida a&m university, florida memorial university, fort valley state university, fourteenth amendment, franklin mccain, fred shuttlesworth, freddie gray, frederick douglass, freedom riders, freedom rides, freedom summer, gadsden state community college (valley street campus), george floyd, george zimmerman, grambling state university, greensboro sit-in, greensboro sit in, greensboro sitin, greenwood massacre, greenwood race massacre, grutter v. bollinger, grutter v. bollinger (2003), grutter v. bollinger 2003, gwen ifill, h. councill trenholm state, hampton university, harith augustus, harriet tubman, harris-stowe state university, harris stowe state university, harrisstowe state university, hate crime, hinds community college at utica, hood theological, howard university, huey newton, huston-tillotson university, huston tillotson university, hustontillotson university, i have a dream, ida b. wells, interdenominational theological center, iota phi theta, isak aden, j. f. drake state technical college, jackie robinson, jackson state university, jacob blake, jamar clark, jamarion robinson, jameek lowery, james byrd, james earl chaney, james farmer, james meredith, james scurlock, jarvis christian college, jason walker, jemel roberson, jerame reid, jérémie meli, jeremy mcdole, jesse jackson, jim crow, john crawford iii, john elliott neville, john lewis, johnson c smith theological seminary, johnson c. smith university, jonathan ferrell, jordan edwards, joseph lowery, joseph mcneil, joshua beal, julian bond, juneteenth, justice in policing act, kamala harris, kappa alpha psi, keith lamont scott, kendra james, kentucky state university, kevin matthews, kevin peterson jr., kiwi herring, knoxville college, kobe bryant, ku klux klan, lane college, langston university, laquan mcdonald, law enforcement accountability, lawson state community college, lemoyne-owen college, lemoyne owen college, lemoyneowen college, lewis college of business, lincoln university, little richard, little rock nine, livingstone college, loretta lynch, loving v. virginia, loving vs. virginia, lynching, m4bl, ma'khia bryant, malcolm x, march on washington, marcus garvey, marcus golden, marian spencer, mario woods, markeis mcglockton, martin luther king, martin luther king jr. day, mary church terrell, maryland eastern shore, maya angelou, medgar evers, meharry medical college, men of color, michael brown,

michael henry schwerner, middle passage, miles college, miles jackson, miles school of law, minorities, minority, minority-owned, minority aids initiative, minority business, minority depository institutions, minority owned, minority science and engineering improvement program, minorityowned, mississippi valley state university, mlk day, mlk jr day, montgomery bus boycott, morehouse college, morehouse school of medicine, morgan state university, morris brown college, morris college, movement for black lives, muhammad ali, naacp, nancy wilson, national urban league, nelson mandela, neo-nazis, neo nazis, neonazis, nia wilson, niagara movement, no hate act, norfolk state university, north carolina a and t state university, north carolina a&t state university, north carolina central university, oakwood university, omega psi phi, opal tometi, osaze osagie, paine college, pamela turner, patrick lyoya, patrisse cullors, paul o'neal, paul quinn college, payne theological, peggy cooper cafritz, people of color, person of color, persons of color, phi beta sigma, philander smith college, philando castile, police accountability, police brutality, police killing, police murder, police reform, prairie view a and m university, prairie view a&m university, prince rogers nelson, race, racial, racial gerrymandering, racial inequality, racialprofiling, racism, racist, rainbow/push coalition, ralph abernathy, ralph fertig, rashad cunningham, rayshard brooks, redel jones, regents of the university of california v. bakke, regents of the university of california v. bakke (1978), regents of the university of california v. bakke 1978, rekia boyd, reparations, ricky price, right to vote, ron dellums, ronald johnson, rosa parks, roshad mcintosh, ruby bridges, russell b. sugarmon, rust college, saint paul's college, sam dubose, sandra bland, savannah state university, sayhername, sean reed, selma, selma university, sha'teina grady el, shanita maeberry, shaw university, shelby county v. holder, shelby county vs. holder, shelton state community college- c a fredd campus, shelton state community college c a fredd campus, shelton state community college c a fredd campus, shirley chisholm, shorter college, sigma gamma rho, simmons college of kentucky, sixteenth street baptist church, slave, sncc, sojourner truth, souls to the polls, south carolina state university, southern christian leadership conference, southern university and a and m college, southern university and a&m college, southern university at new orleans, southern university at shreveport, southwestern christian college, spelman college, st. augustine's university, st. philip's college, stephanie washington, stephon clark, stillman college, student non-violent coordinating committee, student non violent coordinating committee, student nonviolent, student nonviolent coordinating committee, students of color, systematic inequality, ta'neasha chappell, talladega college, tamir rice, tarana burke, tennessee state university, terence crutcher, texas college, texas southern university, the devine nine, the lincoln university, thirteenth amendment, thurgood marshall, thurman blevins, toni morrison, tony mcdade, tony robinson, tougaloo college, trayvon martin, tulsa race massacre, tuskegee airman, tuskegee airmen, tuskegee experiment, tuskegee university, tusla massacre, tyre king, underrepresented group, underrepresented minorities, university of arkansas at pine bluff, university of california v. bakke, university of california vs. bakke, university of the district of columbia, university of the virgin islands, violet henderson, virgin islands, university of the, virginia state university, virginia union university, virginia university of lynchburg, voorhees university, voter disenfranchisement, voter id, voter identification, voter intimidation, voter suppression, voting rights, w.e.b. du bois,

walter scott, walter wallace jr., west virginia state university, white nationalism, white nationalist, white supremacist, white supremacy, wilberforce university, wiley college, winnie mandela, winston-salem state university, winston salem state university, winstonsalem state university, woman of color, women of color, xavier university of louisiana, z'kye husain, zeta phi beta, zoe dowdell

25 Dependent Variable Trends

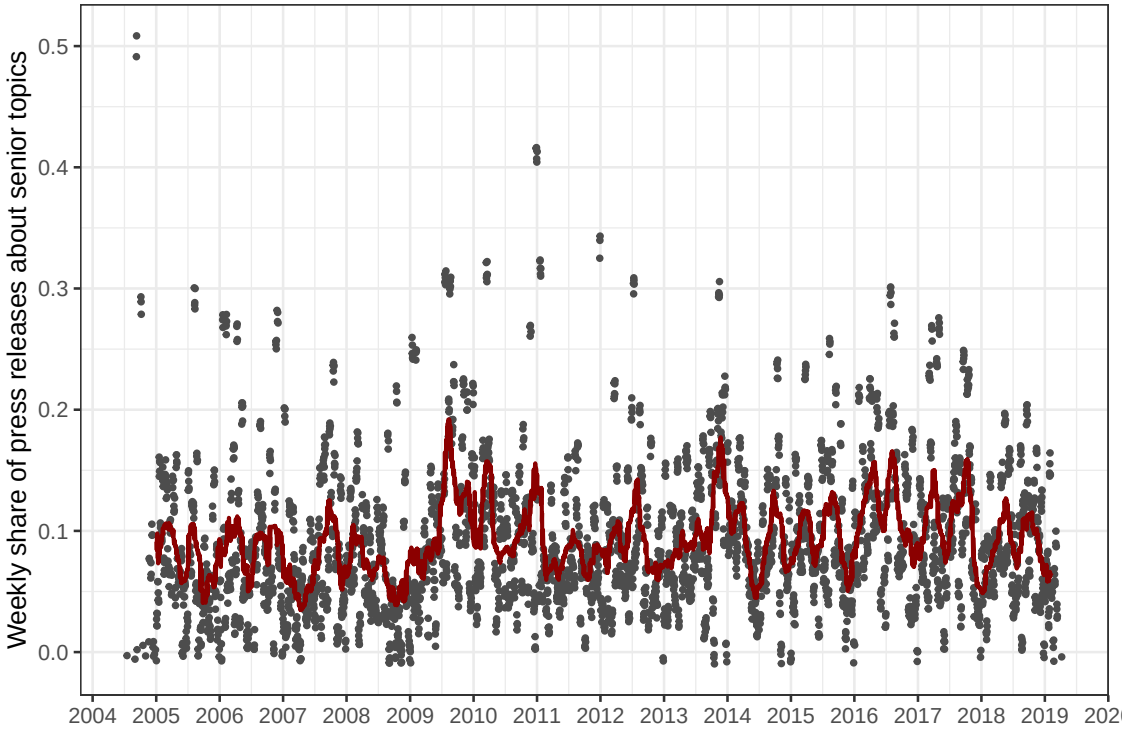

Figure 30: Aggregate Weekly Share of Press Releases about Senior Topics with 1 Year Moving Average

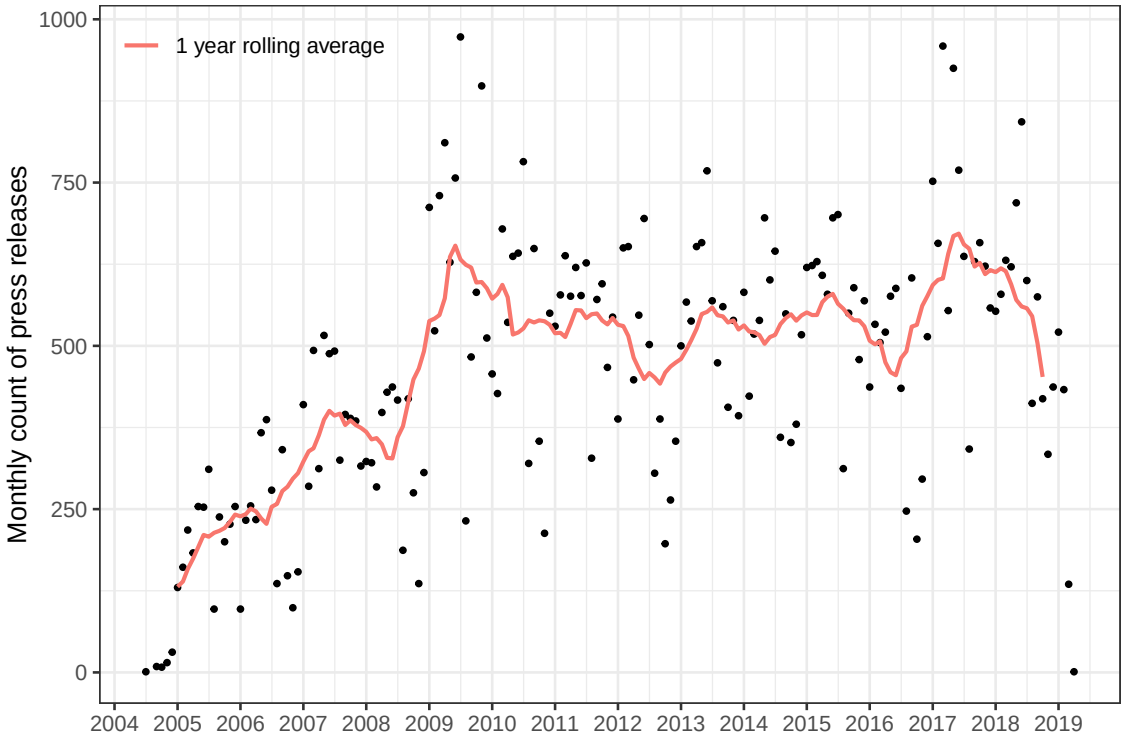

Figure 31: Aggregate Monthly Count of Press Releases

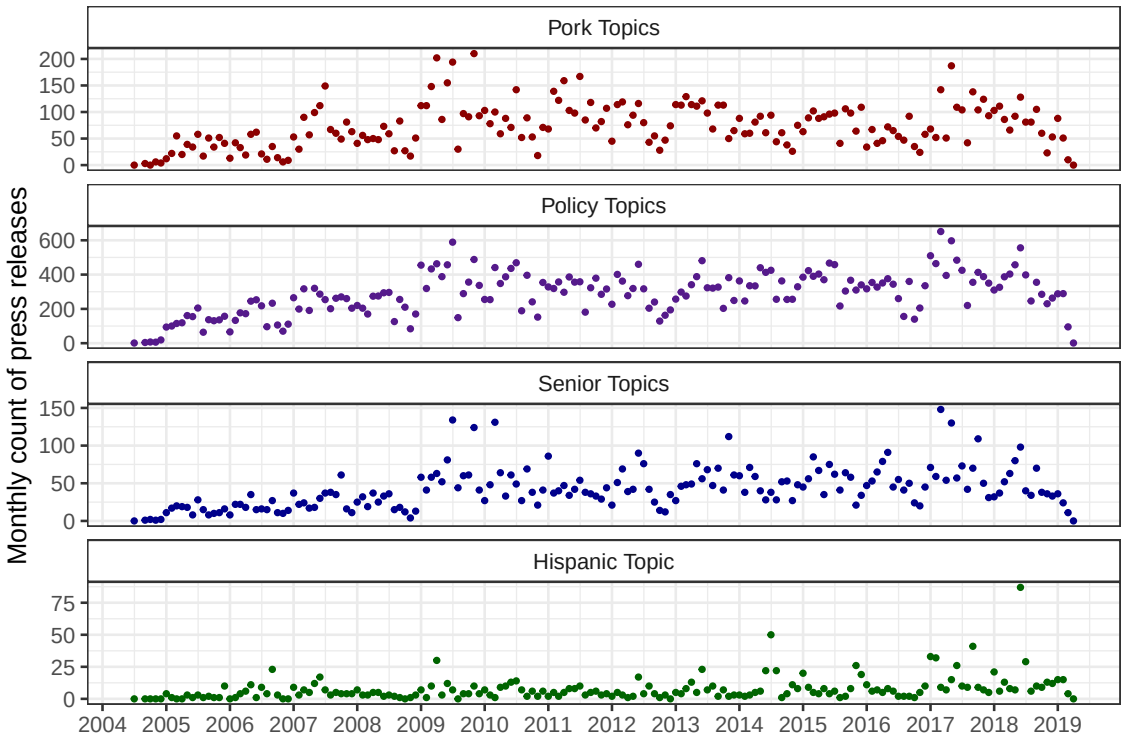

Figure 32: Aggregate Monthly Count of Press Releases by Topic Area

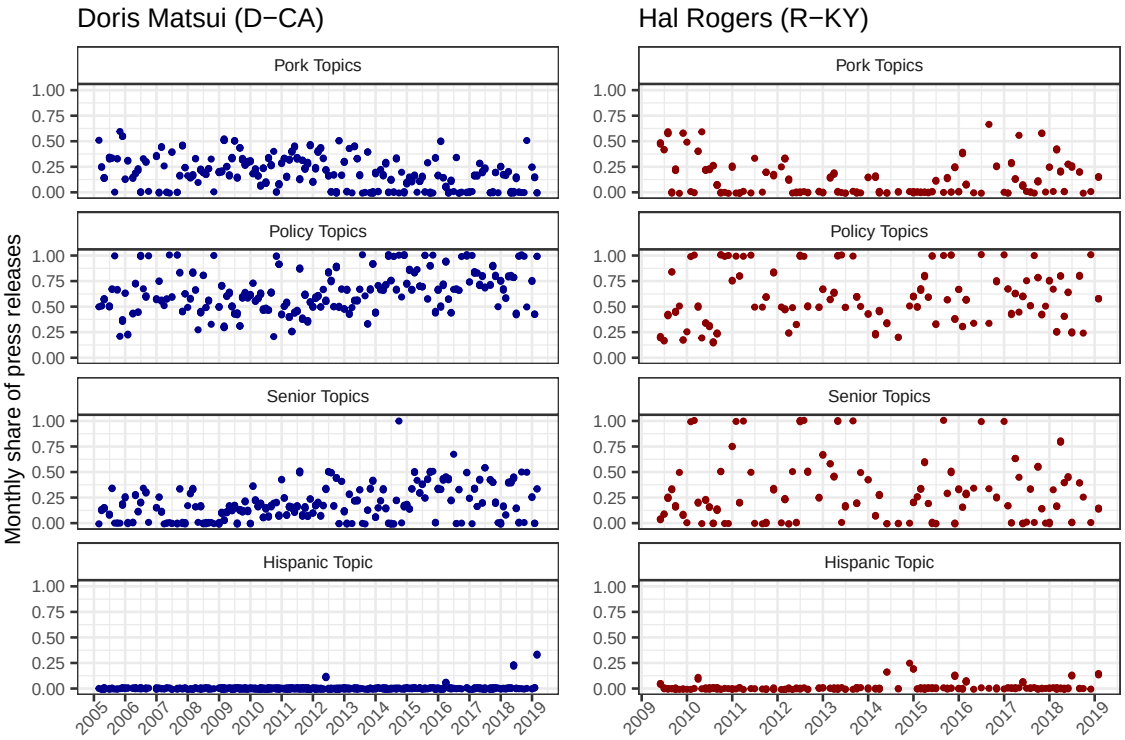

Figure 33: Example Legislator Press Release Trends

26 Independent Variable Distributions

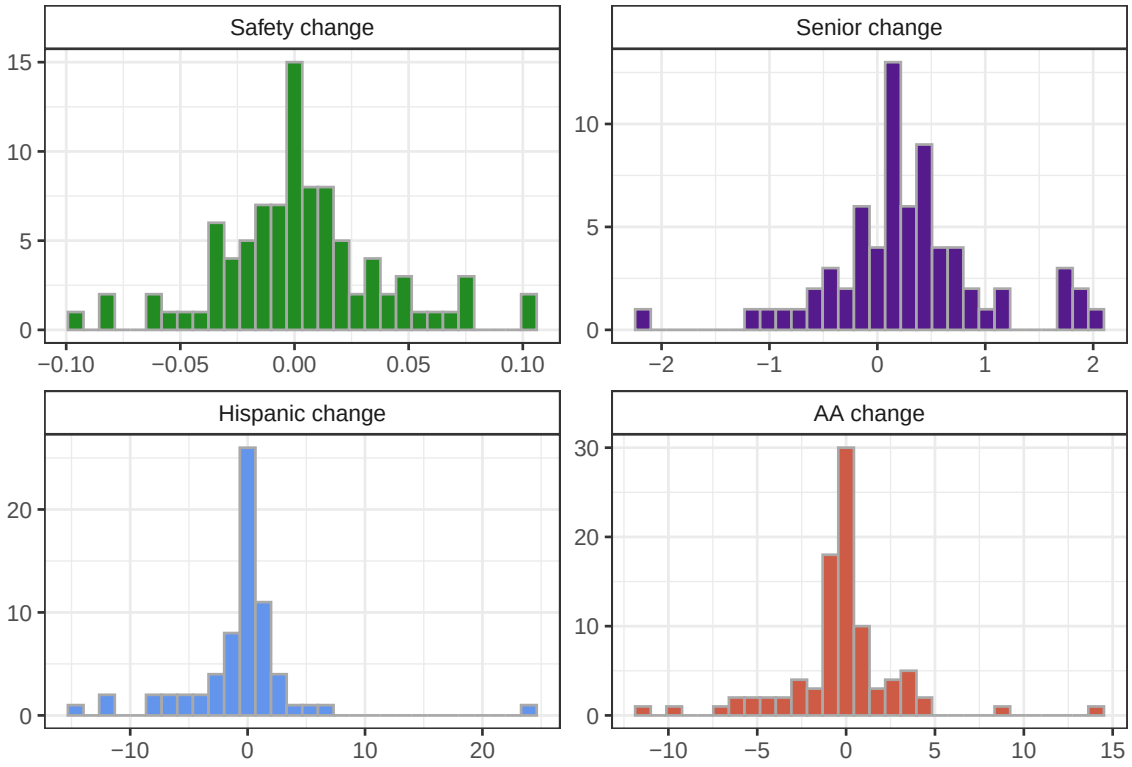

Figure 34: Distribution of Demographic Change Variables

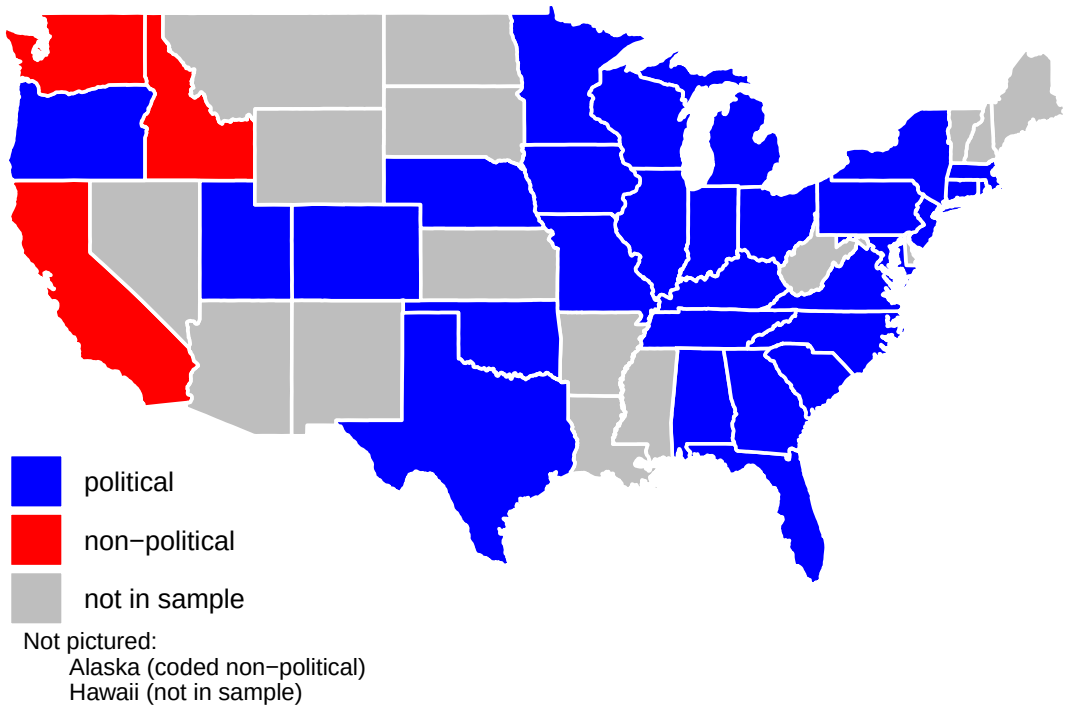

Figure 35: Redistricting Process by State

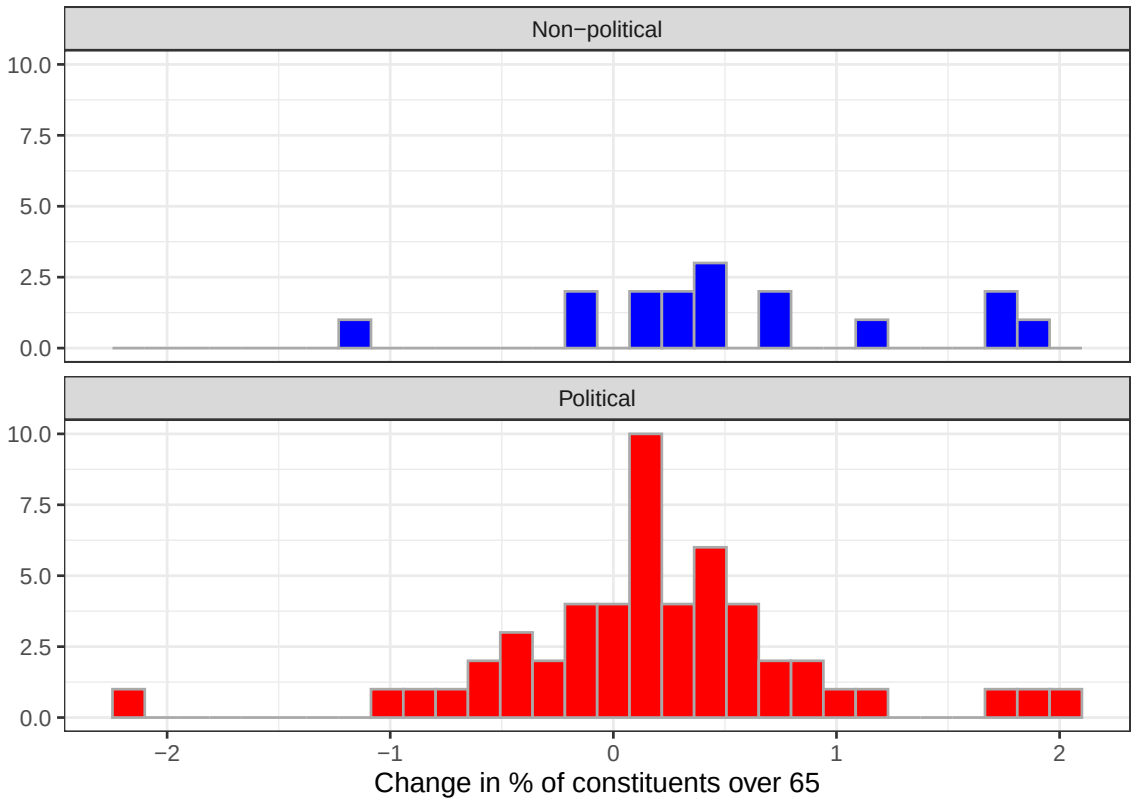

Figure 36: Distribution of Constituency Demographic Change by Redistricting Process

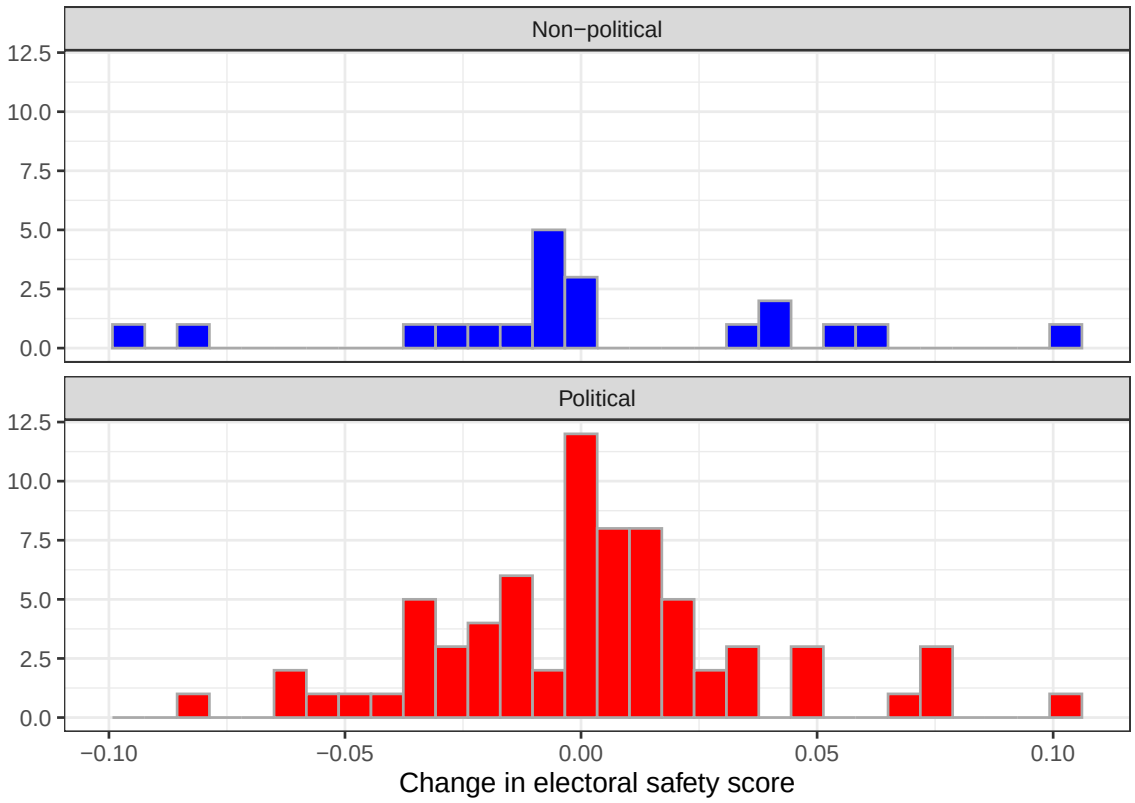

Figure 37: Distribution of Electoral Safety Change by Redistricting Process

27 Binary Demographic Change Measures

27.1 Pork

Table 28: Unsupervised Pork Weekly Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.013	0.013	0.018	0.015	0.017	0.010	-0.011	-0.010	0.028
	(0.016)	(0.011)	(0.012)	(0.017)	(0.012)	(0.012)	(0.027)	(0.026)	(0.026)
D×safety change	-0.007	-0.010	0.000	-0.012	-0.024*	-0.002	0.023	0.027	0.010
	(0.012)	(0.009)	(0.009)	(0.011)	(0.010)	(0.010)	(0.028)	(0.018)	(0.016)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.16	0.16	0.16	0.16	0.16	0.16	0.14	0.14	0.15

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

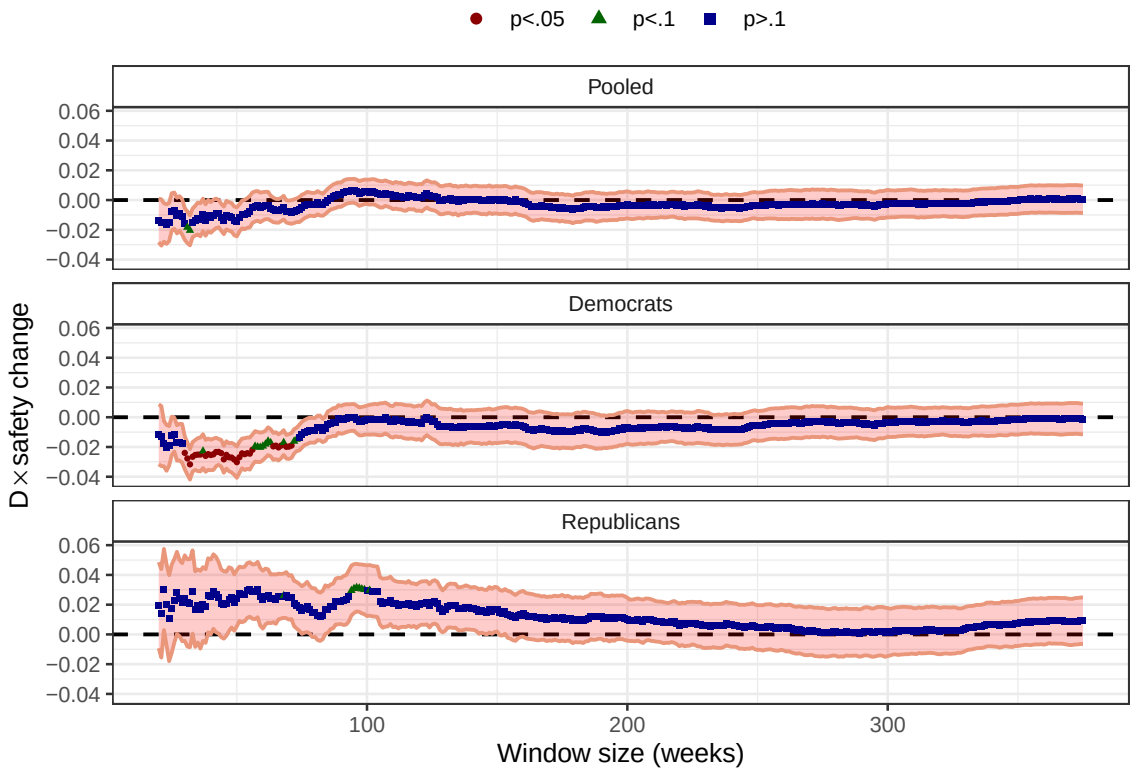

Figure 38: Unsupervised Pork Pooled Model Triple Interaction Coefficient Estimates by Window Size (binary IVs)

Table 29: Supervised Pork Weekly Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.072*	0.060*	0.027	0.046	0.020	0.001	0.112+	0.132*	0.098+
	(0.032)	(0.028)	(0.031)	(0.040)	(0.029)	(0.036)	(0.061)	(0.055)	(0.052)
D×safety change	-0.029	-0.030	0.006	-0.037	-0.018	-0.023	-0.046	-0.055	0.044
	(0.028)	(0.027)	(0.025)	(0.029)	(0.031)	(0.022)	(0.046)	(0.045)	(0.038)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.32	0.33	0.34	0.31	0.32	0.33	0.30	0.30	0.32

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

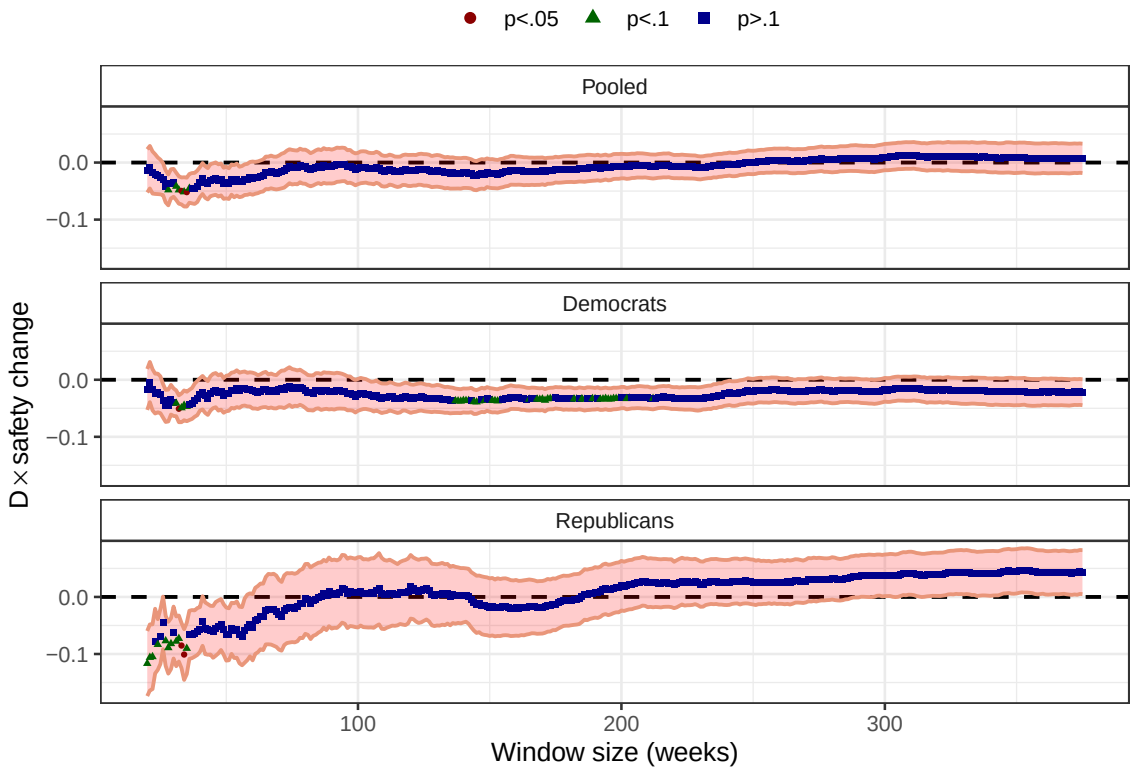

Figure 39: Supervised Pork Pooled Model Triple Interaction Coefficient Estimates by Window Size (binary IVs)

27.2 Policy

Table 30: Policy Weekly Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.014	-0.012	-0.033	-0.013	0.005	-0.033	-0.014	-0.028	-0.008
	(0.034)	(0.022)	(0.021)	(0.037)	(0.020)	(0.022)	(0.063)	(0.043)	(0.060)
D×safety change	0.010	0.024	0.015	-0.014	0.010	0.018	0.073	0.062	0.008
	(0.023)	(0.020)	(0.015)	(0.026)	(0.025)	(0.020)	(0.060)	(0.043)	(0.028)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.27	0.27	0.28	0.27	0.27	0.28	0.24	0.25	0.26

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

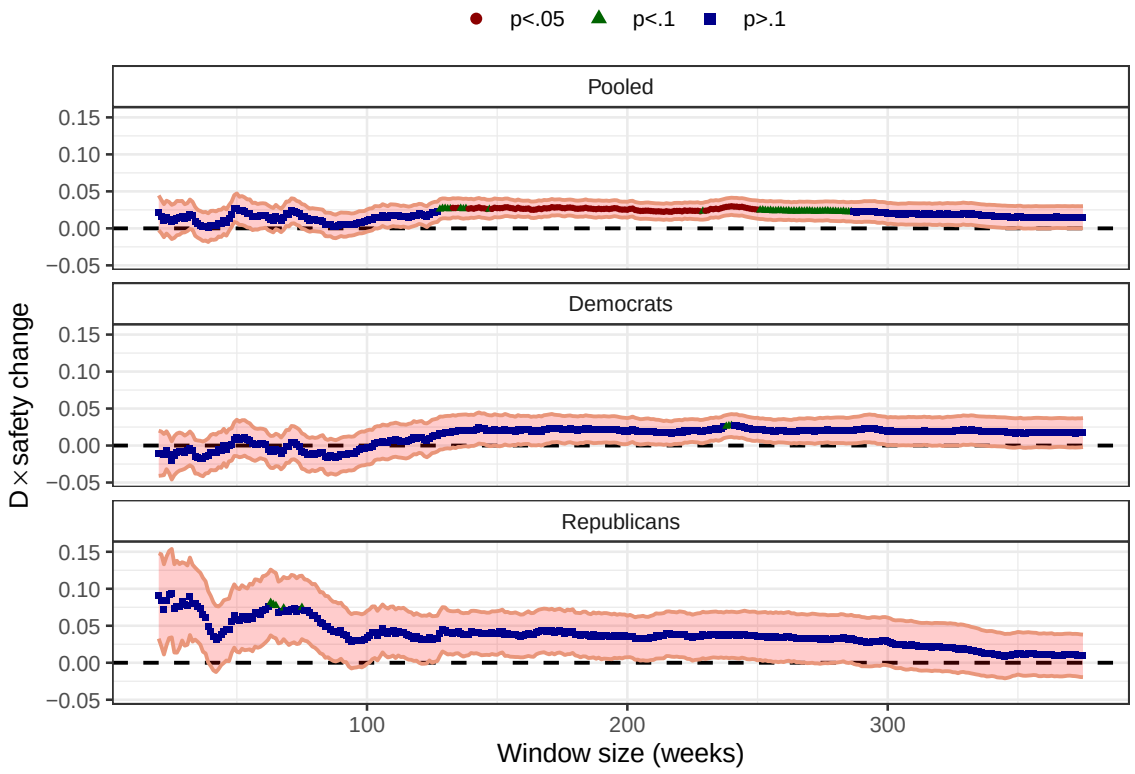

Figure 40: Policy Model Coefficient Estimates by Window Size (binary IVs)

Table 31: Supervised Policy Weekly Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.067+	-0.047	-0.027	-0.038	-0.005	-0.004	-0.127+	-0.136*	-0.097+
	(0.035)	(0.030)	(0.036)	(0.047)	(0.038)	(0.044)	(0.070)	(0.051)	(0.056)
D×safety change	0.035	0.030	0.008	0.039	0.016	0.036	0.065	0.076	-0.021
	(0.031)	(0.027)	(0.025)	(0.034)	(0.030)	(0.024)	(0.056)	(0.047)	(0.035)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.32	0.33	0.34	0.31	0.32	0.33	0.31	0.32	0.33

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

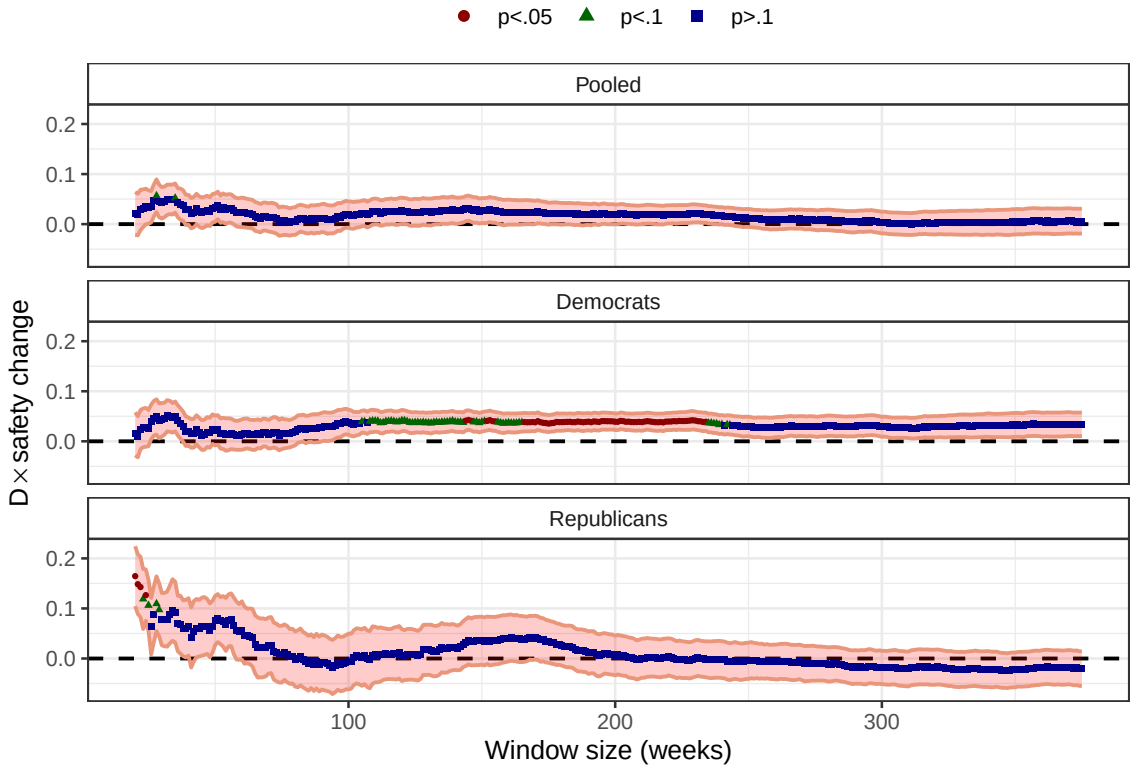

Figure 41: Supervised Policy Model Coefficient Estimates by Window Size (binary IVs)

27.3 Seniors

Table 32: Senior Weekly Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.017	-0.007	0.003	-0.017	0.001	0.010	-0.029	-0.028	-0.005
	(0.029)	(0.020)	(0.015)	(0.036)	(0.023)	(0.014)	(0.048)	(0.033)	(0.034)
D×senior change	0.001	-0.011	-0.010	0.018	-0.006	-0.006	-0.077	-0.033	-0.028
	(0.021)	(0.019)	(0.016)	(0.027)	(0.024)	(0.014)	(0.049)	(0.027)	(0.030)
Num.Obs.	1632	3089	19448	1208	2265	14480	424	824	4968
RMSE	0.21	0.21	0.23	0.21	0.21	0.23	0.19	0.19	0.21

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 33: Senior Weekly Triple Interaction Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.013	0.023	-0.007	0.037	0.032	-0.004	-0.088	0.027	0.027
	(0.030)	(0.023)	(0.022)	(0.029)	(0.030)	(0.021)	(0.065)	(0.039)	(0.032)
D×safety change	-0.041	-0.042+	0.016	-0.083*	-0.049	0.022	0.073	-0.060	-0.041+
	(0.033)	(0.024)	(0.025)	(0.039)	(0.030)	(0.024)	(0.058)	(0.037)	(0.021)
D×senior change	-0.043*	-0.059**	0.007	-0.044*	-0.047+	0.014	-0.042	-0.122**	-0.055*
	(0.019)	(0.021)	(0.021)	(0.016)	(0.026)	(0.019)	(0.077)	(0.040)	(0.025)
D×senior change×safety change	0.077+	0.084**	-0.031	0.106**	0.073**	-0.039*	-0.018	0.143*	0.029
	(0.039)	(0.026)	(0.021)	(0.035)	(0.023)	(0.017)	(0.112)	(0.059)	(0.049)
Num.Obs.	1632	3089	19448	1208	2265	14480	424	824	4968
RMSE	0.21	0.21	0.23	0.21	0.21	0.23	0.19	0.19	0.21

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

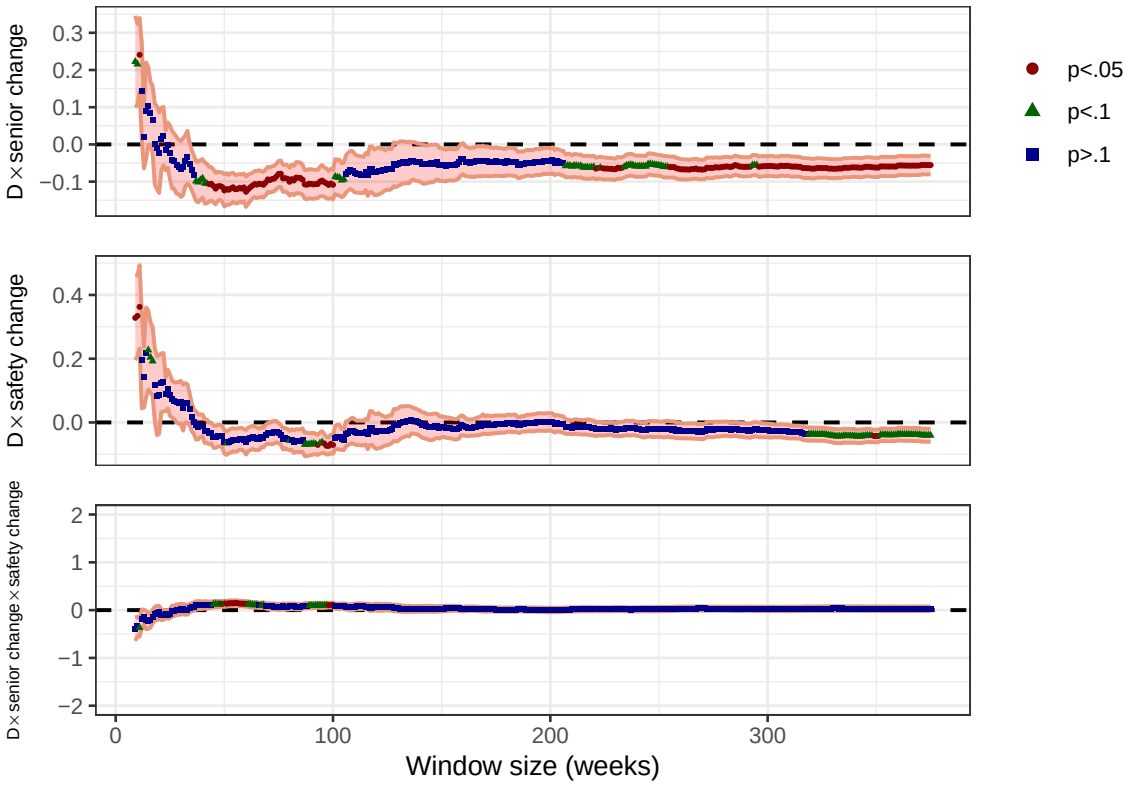

Figure 42: Senior Triple Interaction Model Coefficient Estimates by Window Size (binary IVs, Republicans only)

27.4 Hispanics

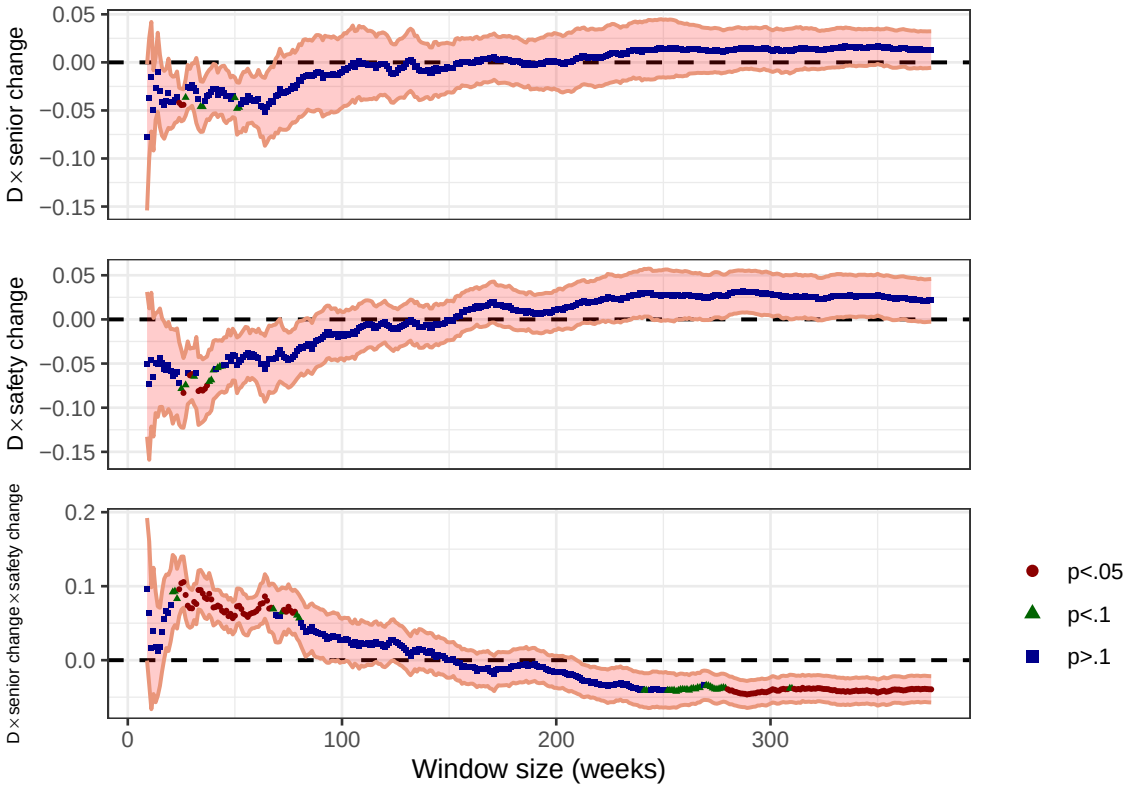

Figure 43: Senior Triple Interaction Model Coefficient Estimates by Window Size (binary IVs, Democrats only)

Table 34: Hispanic Weekly Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.000	0.005	0.007	0.003	0.010**	0.007	0.021	0.020	0.021
	(0.011)	(0.005)	(0.007)	(0.006)	(0.003)	(0.008)	(0.040)	(0.019)	(0.018)
D×Hispanic change	0.001	-0.011+	-0.002	-0.006	-0.013**	-0.001	0.007	-0.008	-0.009
	(0.008)	(0.006)	(0.008)	(0.005)	(0.005)	(0.010)	(0.023)	(0.016)	(0.013)
Num.Obs.	1613	3052	19253	1208	2265	14480	405	787	4773
RMSE	0.09	0.09	0.12	0.07	0.07	0.11	0.09	0.11	0.13

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 35: Hispanic Weekly Triple Interaction Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	-0.006	0.000	0.003	-0.001	0.009*	0.002	0.026	0.023	0.009
	(0.012)	(0.008)	(0.007)	(0.005)	(0.004)	(0.008)	(0.027)	(0.017)	(0.028)
D×safety change	0.013	0.010	0.008	0.010	0.003	0.010	-0.007	-0.004	0.012
	(0.011)	(0.006)	(0.009)	(0.011)	(0.006)	(0.012)	(0.033)	(0.015)	(0.030)
D×Hispanic change	0.003	-0.007	0.004	-0.005	-0.014	0.015	0.002	-0.010	-0.016
	(0.013)	(0.010)	(0.014)	(0.011)	(0.010)	(0.019)	(0.020)	(0.013)	(0.028)
D×Hispanic change×safety change	-0.006	-0.008	-0.012	-0.005	-0.000	-0.031	0.008	0.004	0.024
	(0.016)	(0.011)	(0.017)	(0.019)	(0.013)	(0.022)	(0.038)	(0.025)	(0.033)
Num.Obs.	1613	3052	19253	1208	2265	14480	405	787	4773
RMSE	0.09	0.09	0.12	0.07	0.07	0.11	0.09	0.11	0.13

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 36: Hispanic Weekly Triple Interaction Model, Varied Window (binary IVs, outlier omitted)

	Pooled			Democrats		
	6 months	1 year	All	6 months	1 year	All
D	-0.006	0.000	0.003	-0.001	0.008*	0.000
	(0.012)	(0.008)	(0.007)	(0.005)	(0.004)	(0.007)
D×safety change	0.013	0.010	0.008	0.010	0.004	0.011
	(0.011)	(0.006)	(0.009)	(0.010)	(0.006)	(0.012)
D×Hispanic change	0.003	-0.007	0.004	-0.004	-0.014	0.016
	(0.013)	(0.010)	(0.014)	(0.011)	(0.010)	(0.019)
D×Hispanic change×safety change	-0.006	-0.008	-0.012	-0.008	-0.002	-0.033
	(0.016)	(0.011)	(0.017)	(0.017)	(0.014)	(0.021)
Num.Obs.	1613	3052	19253	1182	2219	14254
RMSE	0.09	0.09	0.12	0.07	0.07	0.11

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

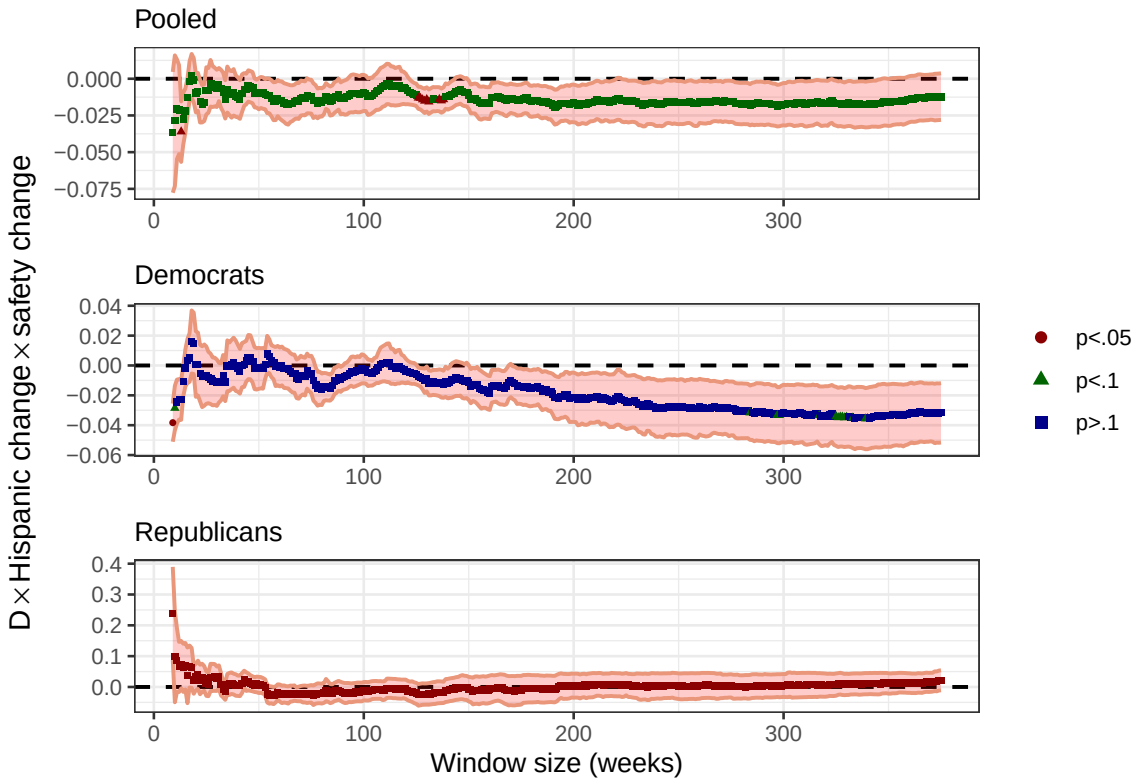

Figure 44: Hispanic Triple Interaction Model Coefficient Estimates by Window Size (binary IVs, outlier omitted)

Table 37: Hispanic Weekly Triple Interaction Model by Redistricting Type, Varied Window (binary IVs)

	Non-political			Political		
	6 months	1 year	All	6 months	1 year	All
D	0.043	0.002	-0.004	-0.010	-0.010	-0.008
	(0.017)	(0.014)	(0.011)	(0.019)	(0.010)	(0.008)
D×safety change	0.044*	0.013	0.044	0.019	0.021*	0.011
	(0.009)	(0.013)	(0.033)	(0.017)	(0.008)	(0.010)
D×Hispanic change	-0.048	-0.048	0.047	0.023	0.011	0.005
	(0.018)	(0.023)	(0.099)	(0.016)	(0.008)	(0.010)
D×Hispanic change×safety change	-0.009	0.022	-0.098	-0.030	-0.030**	-0.010
	(0.034)	(0.019)	(0.087)	(0.018)	(0.010)	(0.011)
Num.Obs.	458	864	5261	1013	1905	12304
RMSE	0.08	0.08	0.12	0.06	0.07	0.10

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

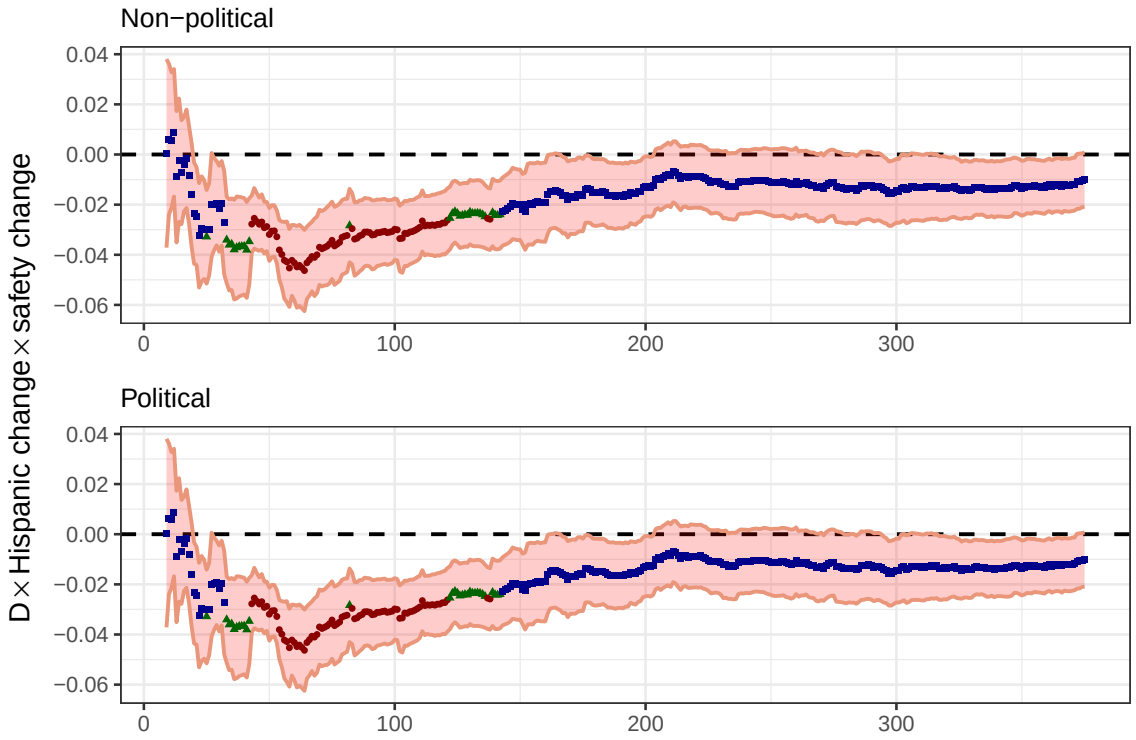

Figure 45: Hispanic Triple Interaction Model Coefficient Estimates by Window Size and Redistricting Type (binary IVs, outlier omitted)

27.5 African Americans

Table 38: African American Weekly Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.003	-0.002	-0.004	0.007	-0.002	-0.002	0.003	0.001	-0.005
	(0.006)	(0.005)	(0.005)	(0.009)	(0.006)	(0.006)	(0.003)	(0.003)	(0.004)
D×AA change	-0.003	-0.005	0.010	-0.006	-0.007	0.010	-0.005*	-0.002	0.004
	(0.005)	(0.006)	(0.007)	(0.007)	(0.007)	(0.010)	(0.002)	(0.004)	(0.003)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.09	0.10	0.12	0.10	0.11	0.13	0.02	0.03	0.04

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 39: African American Weekly Triple Interaction Model, Varied Window (binary IVs)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.003	-0.002	-0.005	0.009	-0.002	-0.003	-0.001	0.001	-0.002
	(0.006)	(0.005)	(0.005)	(0.009)	(0.006)	(0.007)	(0.002)	(0.004)	(0.004)
D×safety change	-0.000	0.000	0.001	-0.009	0.003	0.006	0.006*	-0.000	-0.003+
	(0.006)	(0.005)	(0.008)	(0.010)	(0.005)	(0.009)	(0.003)	(0.005)	(0.002)
D×AA change	0.004	0.006	0.008	0.008	0.020	0.012	-0.001	-0.003	-0.000
	(0.007)	(0.014)	(0.012)	(0.014)	(0.032)	(0.014)	(0.002)	(0.008)	(0.002)
D×AA change×safety change	-0.009	-0.015	0.002	-0.010	-0.033	-0.006	-0.007*	0.003	0.010
	(0.009)	(0.015)	(0.011)	(0.017)	(0.033)	(0.012)	(0.003)	(0.009)	(0.006)
Num.Obs.	2194	4165	26281	1578	2980	18891	616	1185	7390
RMSE	0.09	0.10	0.12	0.10	0.11	0.13	0.02	0.03	0.04

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

28 Binning by Redistricting Process

28.1 Pork

28.2 Policy

28.3 Seniors

Table 42: Senior Weekly Model with Electoral Safety by Redistricting Type, Varied Window

	Non-political			Political		
	6 months	1 year	All	6 months	1 year	All
D	0.064+	0.085+	0.058*	-0.012	-0.019	-0.002
	(0.019)	(0.023)	(0.012)	(0.029)	(0.018)	(0.016)
D×safety change	-1.028	-0.085	-0.645	0.155	0.012	0.054
	(0.453)	(0.365)	(0.240)	(0.281)	(0.374)	(0.219)
D×senior change	-0.047	-0.026	-0.014+	0.016	0.002	-0.013
	(0.019)	(0.010)	(0.004)	(0.017)	(0.009)	(0.012)
D×senior change×safety change	0.094	-0.230*	-0.298	0.786+	0.269	-0.025
	(0.196)	(0.038)	(0.151)	(0.429)	(0.333)	(0.159)
Num.Obs.	458	864	5261	1174	2225	14187
RMSE	0.20	0.19	0.21	0.20	0.21	0.23

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 40: Pork Weekly Model by Redistricting Process, Varied Window

	Non-political			Political		
	6 months	1 year	All	6 months	1 year	All
D	-0.100	-0.012	-0.035	0.020	0.016	0.028*
	(0.055)	(0.016)	(0.019)	(0.019)	(0.015)	(0.013)
D×safety change	-0.711+	-0.255*	0.050	-0.241	-0.219	0.009
	(0.189)	(0.059)	(0.144)	(0.263)	(0.190)	(0.137)
Num.Obs.	554	1047	6227	1640	3118	20054
RMSE	0.14	0.15	0.15	0.16	0.16	0.16

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

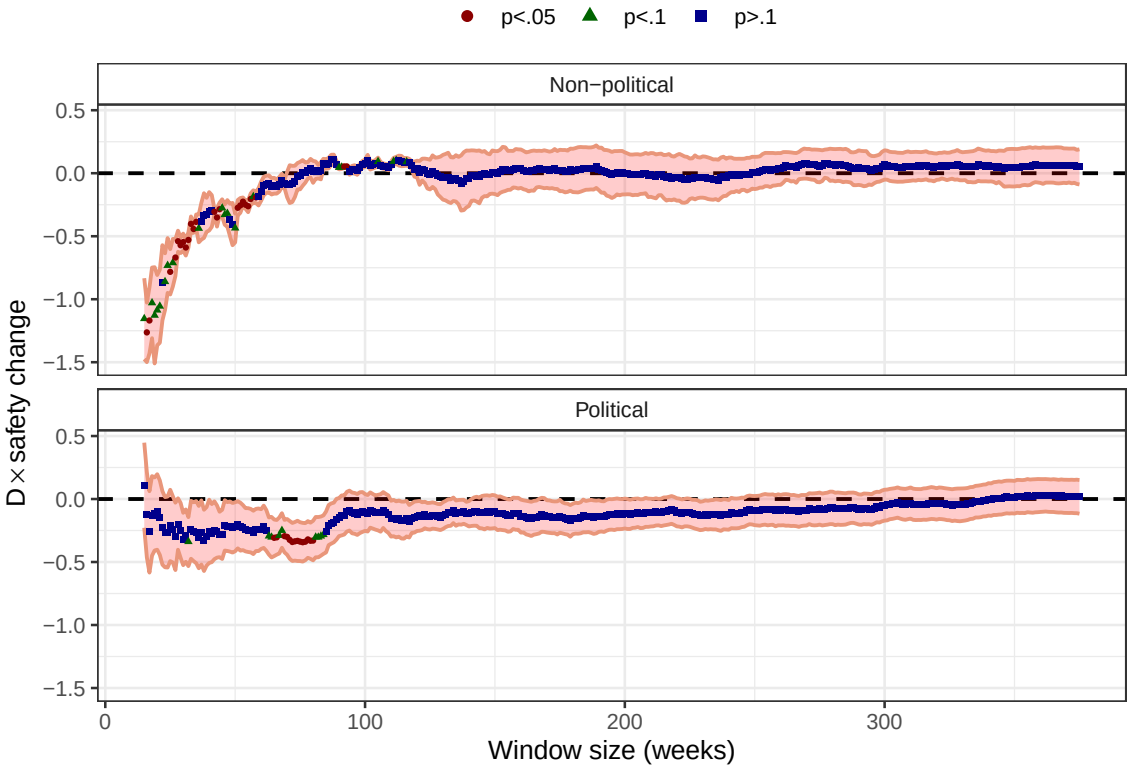

Figure 46: Pork Pooled Model Triple Interaction Coefficient Estimates by Window Size

Table 41: Policy Weekly Model by Redistricting Process, Varied Window

	Non-political			Political		
	6 months	1 year	All	6 months	1 year	All
D	-0.239**	-0.029	-0.066	0.033	0.014	-0.016
	(0.009)	(0.051)	(0.030)	(0.032)	(0.021)	(0.026)
D×safety change	1.233+	0.462	-0.115	0.241	0.253	0.291
	(0.296)	(0.500)	(0.216)	(0.486)	(0.466)	(0.229)
Num.Obs.	554	1047	6227	1640	3118	20054
RMSE	0.25	0.27	0.26	0.27	0.27	0.28

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

28.4 African Americans

Table 43: African American Weekly Model with Electoral Safety by Redistricting Type, Varied Window

	Non-political			Political		
	6 months	1 year	All	6 months	1 year	All
D	0.007+	-0.016	-0.017+	0.004	-0.003	0.000
	(0.002)	(0.006)	(0.005)	(0.007)	(0.007)	(0.007)
D×safety change	-0.315+	-0.144	0.072	-0.033	-0.077	0.164
	(0.084)	(0.139)	(0.149)	(0.094)	(0.128)	(0.128)
D×AA change	0.012***	0.006**	0.009*	-0.000	-0.000	0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
D×AA change×safety change	-0.296**	-0.090***	-0.171+	0.008	-0.000	0.013
	(0.022)	(0.002)	(0.051)	(0.017)	(0.017)	(0.016)
Num.Obs.	554	1047	6227	1640	3118	20054
RMSE	0.10	0.11	0.12	0.09	0.09	0.11

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 44: African American Weekly Model with Electoral Safety by Redistricting Type, Varied Window (Democrats only)

	Non-political			Political		
	6 months	1 year	All	6 months	1 year	All
D		-0.022**	-0.024	0.007	-0.001	0.001
		(0.000)	(0.011)	(0.012)	(0.010)	(0.011)
D×safety change	-0.408+	-0.250	0.074	-0.345	-0.288	0.399
	(0.036)	(0.048)	(0.146)	(0.358)	(0.380)	(0.283)
D×AA change	0.013**	0.007*	0.010*	0.001	0.001	-0.001
	(0.000)	(0.000)	(0.001)	(0.004)	(0.004)	(0.002)
D×AA change×safety change	-0.318*	-0.119	-0.178	0.037*	0.001	0.007
	(0.005)	(0.040)	(0.055)	(0.017)	(0.018)	(0.015)
Num.Obs.	471	907	5472	1107	2073	13419
RMSE	0.10	0.11	0.12	0.10	0.11	0.13

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Note: in Table 45 6 month and 1 year models for Republican legislators in states with non-political redistricting processes could not be estimated due an insufficient number of legislators in the subsample.

Table 45: African American Weekly Model with Electoral Safety by Redistricting Type, Varied Window (Republicans only)

	Non-political	Political		
	All	6 months	1 year	All
D	0.016	-0.000	-0.000	-0.003
	(0.007)	(0.003)	(0.002)	(0.003)
D×safety change	2.915*	-0.037	0.061	0.013
	(0.448)	(0.059)	(0.123)	(0.034)
D×AA change	0.089*	-0.001+	-0.001	0.000
	(0.011)	(0.001)	(0.001)	(0.000)
D×AA change×safety change	14.310*	-0.003	0.010	0.007
	(2.538)	(0.011)	(0.015)	(0.007)
Num.Obs.	755	533	1045	6635
RMSE	0.02	0.03	0.03	0.04

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

29 Omitting Texas

Table 46: Hispanic Basic Weekly Model, Varied Window (Texas omitted)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.000	-0.004	-0.001	0.002	0.002	0.001	0.029	0.008	0.000
	(0.010)	(0.006)	(0.003)	(0.006)	(0.003)	(0.002)	(0.036)	(0.019)	(0.014)
D×Hispanic change	-0.001+	-0.002***	-0.000	-0.000	-0.001***	-0.000	-0.006	-0.008*	-0.007+
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.009)	(0.003)	(0.003)
Num.Obs.	1471	2769	17565	1124	2115	13464	347	654	4101
RMSE	0.07	0.08	0.11	0.06	0.06	0.10	0.09	0.11	0.12

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 47: Hispanic Weekly Triple Interaction Model, Varied Window (Texas omitted)

	Pooled			Democrats			Republicans		
	6 months	1 year	All	6 months	1 year	All	6 months	1 year	All
D	0.000	-0.004	-0.001	0.001	0.002	0.000	0.025	0.006	-0.001
	(0.010)	(0.006)	(0.003)	(0.007)	(0.004)	(0.002)	(0.036)	(0.019)	(0.014)
D×safety change	0.147	0.069	0.193	0.106	-0.054	0.158	-0.251	-0.076	0.068
	(0.090)	(0.081)	(0.127)	(0.088)	(0.102)	(0.165)	(0.233)	(0.192)	(0.175)
D×Hispanic change	-0.002+	-0.002**	-0.001	-0.001	-0.001	-0.001	-0.002	-0.006	-0.003
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.004)	(0.004)	(0.002)
D×Hispanic change×safety change	-0.013*	0.002	0.008	0.006	0.012	0.004	-0.323+	-0.160+	-0.148+
	(0.006)	(0.014)	(0.012)	(0.012)	(0.013)	(0.020)	(0.160)	(0.083)	(0.077)
Num.Obs.	1471	2769	17565	1124	2115	13464	347	654	4101
RMSE	0.07	0.08	0.11	0.06	0.06	0.10	0.09	0.11	0.12

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

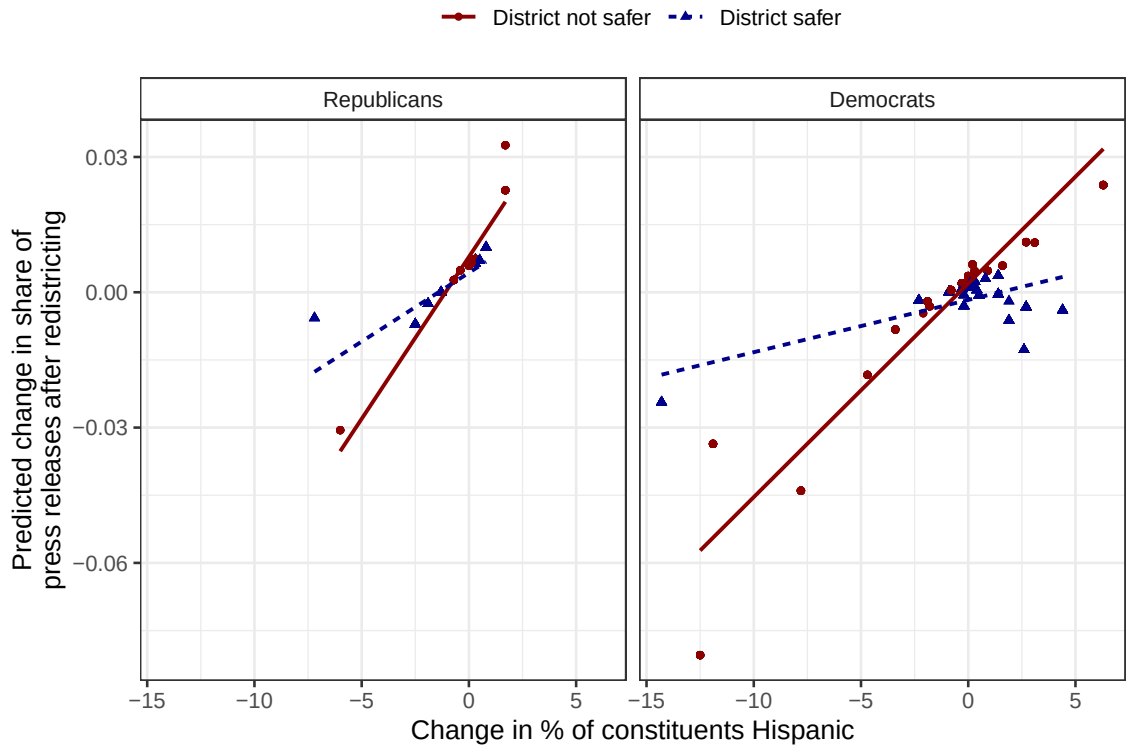

Figure 47: Interaction Between Hispanic Demographic Change and Change in Electoral Competitiveness by Party (Texas omitted)

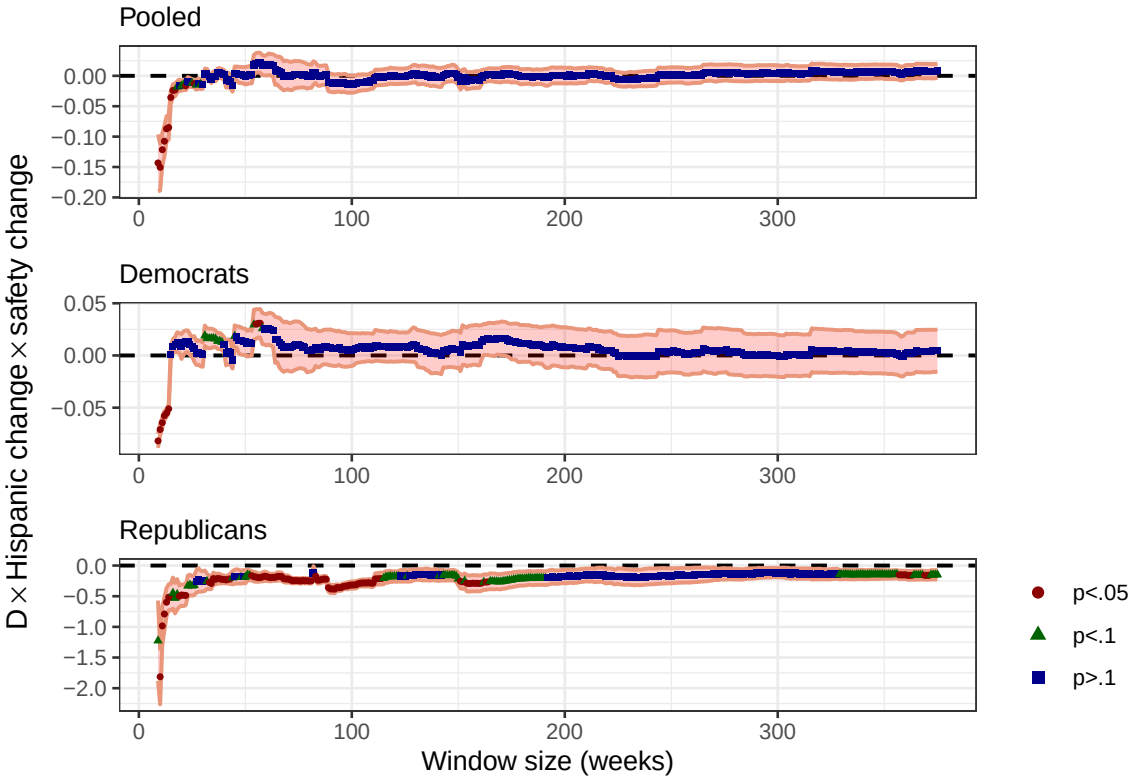

Figure 48: Hispanic Triple Interaction Model Coefficient Estimates by Window Size (Texas omitted)

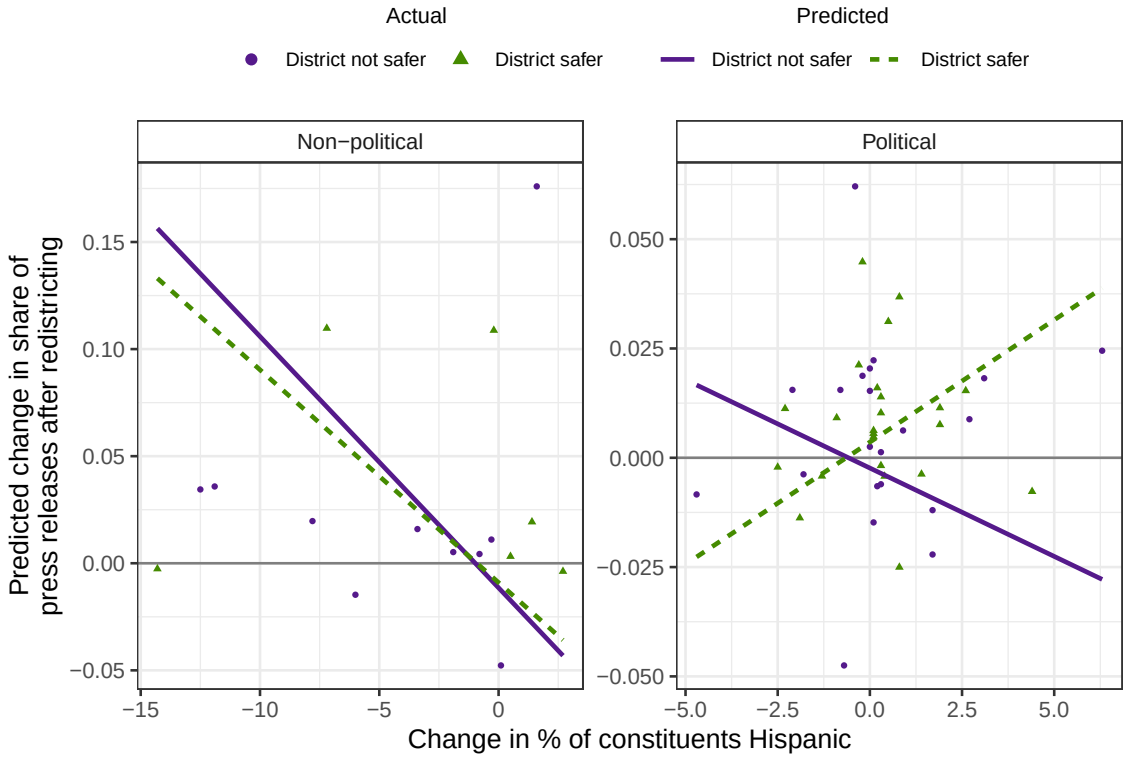

Figure 49: Interaction Between Hispanic Demographic Change and Change in Electoral Competitiveness by Redistricting Type (1 year window, Texas omitted)

30 Restricting to Before Killing of Michael Brown

Table 48: African American Weekly Model, Window before Killing of Michael Brown

	Pooled	Democrats	Republicans
D	0.006	0.009	0.000
	(0.006)	(0.008)	(0.001)
D×AA change	0.001	0.002	-0.000**
	(0.001)	(0.002)	(0.000)
Num.Obs.	16485	11808	4677
RMSE	0.11	0.13	0.04

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

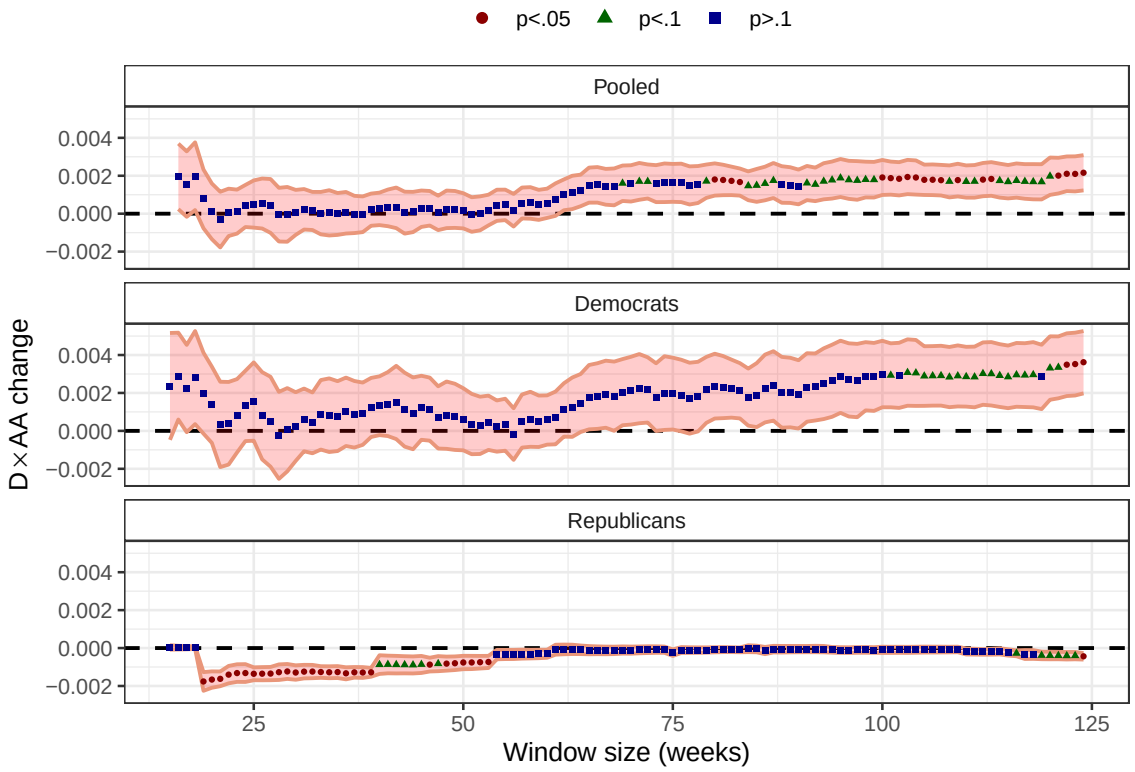

Figure 50: African American Model Coefficient Estimate by Window Size before Killing of Michael Brown

31 Keywords

Keywords are adapted from those provided by Green et al. (2020). All n-grams are also included as a single word, e.g. both “corona_virus” and “coronavirus” are included.

Table 49: COVID-19 Keywords

Category	Keywords
Direct mentions	covid, corona_virus, beat_corona_virus, sars_cov, the_virus, this_virus, this_crisis, wuhan_virus, wuhan_flu, chinese_virus, china_virus, ccp_virus, china_flu, chinese_flu, kung_flu
Economic	economic_injury, supply_chain, disaster_relief, economic_disaster, disaster_loan, disaster_loans, disaster_assistance, furlough, furloughed, furloughs, sick_leave, suspend_foreclosures, jobless_claims, unemployment_insurance, unemployment_benefits, laid_off, lay_off, layoffs, defense_production_act, relief_package, relief_bill, rescue_package, rescue_bill, stimulus_payment, stimulus_check, stimulus_payments, economic_stimulus, stimulus_package, stimulus_bill, bailout, bailouts, cares_act, heroes_act, paycheck_protection_program, ppp_loan
Mitigation	social_distance, social_distancing, hand_sanitizer, disinfect, disinfectant, disinfecting, purell, lysol, clorox, swab, stay_home, staying_home, slow_the_spread, staying_at_home, stay_at_home, shelter_in_place, fauci, secazar, azar, n95, kn95, flatten_the_curve, chloroquine, world_health_organization, centers_for_disease_control, national_institutes_of_health, quarantine, quarantined, quarantines, quarantining, self_isolate, self_isolation, self_isolating, free_testing, respirator, respirators, ventilator, ventilators, surgical_mask, face_mask, wear_a_mask, sars, personal_protective_equipment, medical_supplies, protective_equipment, anti_bodies, immuno_deficiencies, immuno_deficient, immuno_compromised, immune_compromised

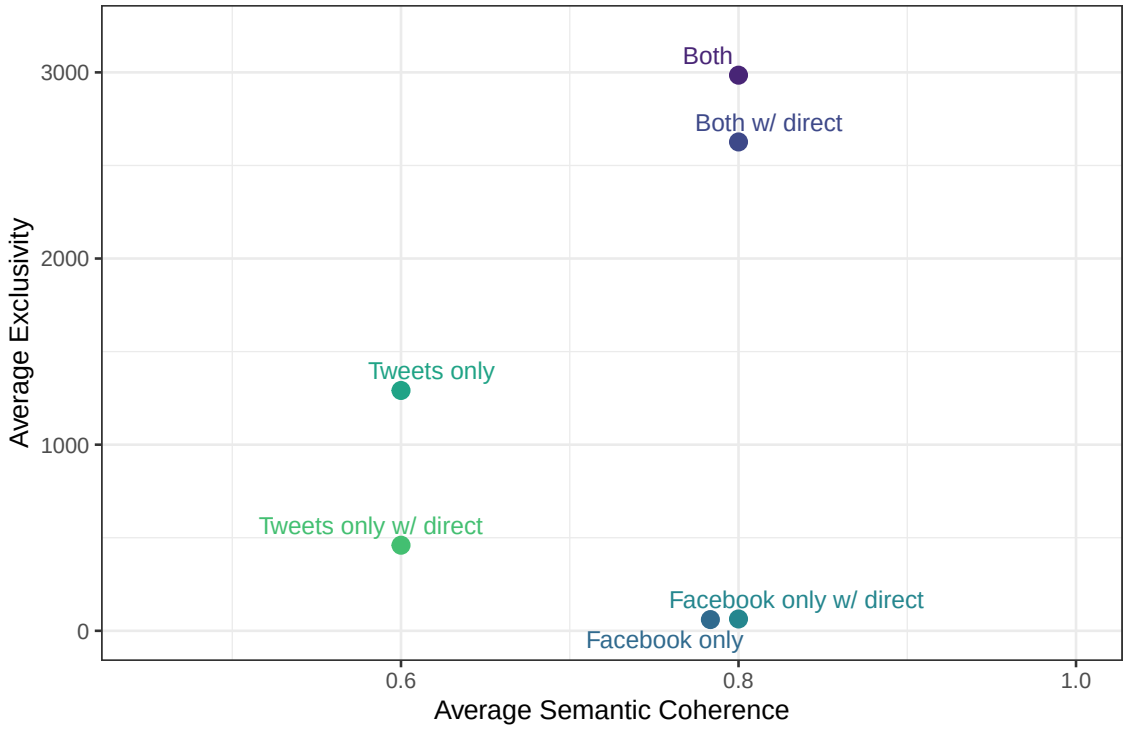

Figure 51: Topic Model Quality: Coherence vs. Exclusivity

32 Topic Model Selection

		Topic Model Quality	
Model Name	# of Topics	Avg. Coherence	Avg. Exclusivity
Both	12	0.80	2985
Both w/ direct	12	0.80	2626
Facebook only	12	0.78	60
Facebook only w/ direct	12	0.80	64
Tweets only	12	0.60	1291
Tweets only w/ direct	12	0.60	460

33 Stationarity Testing

Table 50: Stationarity Tests for Tweets and Death Data

Variable	Legislators	LLC statistic	LLC p-value	IPS statistic	IPS p-value	Summary
pct_economic_topic_combo_direct	166	-8.76	0.000	-17.98	0	stationary
pct_mitigation_topic_combo_direct	166	-12.82	0.000	-22.57	0	stationary
pct_economic_and_mitigation_topic_combo_direct	166	-11.74	0.000	-15.98	0	stationary
cd_incremental_deaths	166	-0.40	0.343	-11.77	0	mixed evidence
national_incremental_deaths	166	-15.63	0.000	-25.46	0	stationary

Table 51: Stationarity Tests for Tweets and Economic Data

Variable	Legislators	LLC statistic	LLC p-value	IPS statistic	IPS p-value	Summary
pct_economic_topic_combo_direct	178	-8.54	0	-20.38	0	stationary
pct_mitigation_topic_combo_direct	178	-8.70	0	-20.21	0	stationary
pct_economic_and_mitigation_topic_combo_direct	178	-8.20	0	-17.89	0	stationary
revenue_all_cd	178	-7.23	0	-11.32	0	stationary
revenue_all_natl	178	-12.99	0	-17.45	0	stationary
spend_all_cd	178	-9.69	0	-13.05	0	stationary
spend_all_natl	178	-11.74	0	-14.12	0	stationary
initclaims_rate_regular_cd	178	-16.74	0	-20.83	0	stationary
initclaims_rate_regular_natl	178	-3.63	0	-8.06	0	stationary

Table 52: Stationarity Tests for Facebook Posts and Death Data

Variable	Legislators	LLC statistic	LLC p-value	IPS statistic	IPS p-value	Summary
pct_economic_topic_combo_direct	130	-10.50	0.000	-17.15	0	stationary
pct_mitigation_topic_combo_direct	130	NA	NA	NA	NA	test failed
pct_economic_and_mitigation_topic_combo_direct	130	-14.60	0.000	-15.94	0	stationary
cd_incremental_deaths	130	-0.66	0.255	-11.13	0	mixed evidence
national_incremental_deaths	130	-13.83	0.000	-22.53	0	stationary

Table 53: Stationarity Tests for Facebook Posts and Economic Data

Variable	Legislators	LLC statistic	LLC p-value	IPS statistic	IPS p-value	Summary
pct_economic_topic_combo_direct	147	NA	NA	NA	NA	test failed
pct_mitigation_topic_combo_direct	147	-8.51	0	-19.06	0	stationary
pct_economic_and_mitigation_topic_combo_direct	147	-6.99	0	-15.91	0	stationary
revenue_all_cd	147	-6.69	0	-10.43	0	stationary
revenue_all_natl	147	-11.81	0	-15.85	0	stationary
spend_all_cd	147	-9.24	0	-12.38	0	stationary
spend_all_natl	147	-10.67	0	-12.83	0	stationary
initclaims_rate_regular_cd	147	-15.34	0	-19.11	0	stationary
initclaims_rate_regular_natl	147	-3.30	0	-7.33	0	stationary

34 Example Press Releases

Gimenez Votes Against Partisan Election Reform and Dangerous Restrictions on Police

March 3, 2021

WASHINGTON, D.C. – Congressman Carlos A. Gimenez (FL-26) issued the following statement after partisan election reforms and dangerous restrictions on police departments were voted on in the House of Representatives:

"In another week of partisan hackery, I voted against two pieces of legislation on topics that would have had the potential for bipartisan input in a normally-functioning Congress. I lament the fact that Republicans are not given a fair chance to help craft legislation or any legitimate opportunity to provide amendments on the floor. Instead, we are asked to engage in a 'my way or the highway' approach to governing.

"Rather than bringing Republicans and Democrats to the table on election reform, Speaker Pelosi put forward some of the most egregious attacks on our election systems. H.R. 1 included provisions that take your hard-earned money and give it to campaigns. For every $200 a want-to-be-politician receives in donations, the federal government will use Americans' taxpayer dollars to give them $1,200. This effectively forces you, the American taxpayer, to finance political campaigns you do not support.

"Ultimately, this bill weaponizes the FEC into a partisan commission and throws out common sense voter ID laws. As one of the only Members of Congress who has actually had to implement election protocols, I speak on authority when it comes to our elections – the bill is a travesty for all Americans.

"In a normal functioning Congress, Speaker Pelosi would bring together Republicans and Democrats to discuss ways to push needed police reforms. But in this dysfunctional Congress, we got a bill that stripped our frontline police officers from qualified immunity, which in turn will hurt recruitment efforts for the police force and decimate a security presence for cities that need it the most.

"As Mayor of Miami-Dade County, I was actually responsible for ensuring my community was kept safe from lawlessness. I understand firsthand the importance of qualified immunity for police officers to carry out their jobs. Officers perform vital tasks requiring split-second decisions under intense circumstances. Taking away qualified immunity will lead to police officers not taking decisive actions and rendering it impossible to do their job. Without this security, officers will resign and deplete our police force, leaving our communities – the very ones who need a strong police force the most - less safe and costing the lives of many Americans."

Figure 52: Example of Locally Oriented Press Release with Policy Content (local keywords highlighted)

Congressman Tony Gonzales Announces $3.4 Million in HHS Grants for Head Start Program in Carrizo Springs

November 4, 2021

CARRIZO SPRINGS, TX – Congressman Tony Gonzales (TX-23) on Thursday announced over $3.4 million in grant funds from the U.S. Department of Health and Human Services (HHS) for Head Start Projects in Texas's 23rd District. The grant will be awarded to Kids Are First, Inc. in Carrizo Springs for $3,491,926. Congressman Gonzales previously served as the Community Representative for the City of San Antonio Head Start Policy Council from 2018 – 2019.

"I am excited to see HHS invest significant funding into Kids Are First, Carrizo Springs and the Head Start program as a whole," **said Congressman Gonzales.** "Head Start programs provide important services to many local families and help our children to put their best foot forward each and everyday."

Figure 53: Example of Locally Oriented Press Release with Credit Claiming Content (local keywords highlighted)

Congressman Tony Gonzales Hosts Meeting with Local Mayors

December 8, 2021

SAN ANTONIO, TX – Congressman Tony Gonzales (TX-23) on Tuesday met with local mayors from Alpine, Brackettville, Castroville, Crane, Crystal City, Eagle Pass, Fair Oaks Ranch, Fort Stockton, Helotes, Lytle, McCamey, Monahans, Pearsall, Shavano Park, Valentine, and Von Ormy. They discussed issues facing the community, including the crisis at our southern border and resources for local projects.

"With my district ranging from San Antonio to El Paso, I lean on my partnerships with local mayors," **said Congressman Gonzales.** "They help provide insight into the challenges our communities are facing so that we can work together to create tangible solutions. I appreciate them taking the time to meet with me."

Figure 54: Example of Locally Oriented Press Release without Policy or Credit Claiming Content (local keywords highlighted)

35 Generic Keyword Construction

Adapted from Ban and Kaslovsky (2024), I define four sets of keywords:

A = ["district", "congressional district", "legislative district", "community", "state", "local", "home", "homes", "county", "counties", "city", "town", "towns", "region", "regions", "regional", "constituent", "constituents", "constituency", "constituencies", "neighborhood", "neighborhoods", "governor", "governors", "mayor", "mayors", "mayoral", "folk", "folks", "rural", "urban", "area", "areas"]

B = ["represent", "represented"]

C = ["home", "back home]

D = ["visit my", "visit our"]

And three sets of prefix terms:

A_{pre} = ["my", "our"]

B_{pre} = ["i", "we"]

B_{pre} = ["went"]

I then combine each set of keywords with its corresponding prefix terms (set D is left as is) into a set of 72 phrases used to indicate a communication is about local topics.

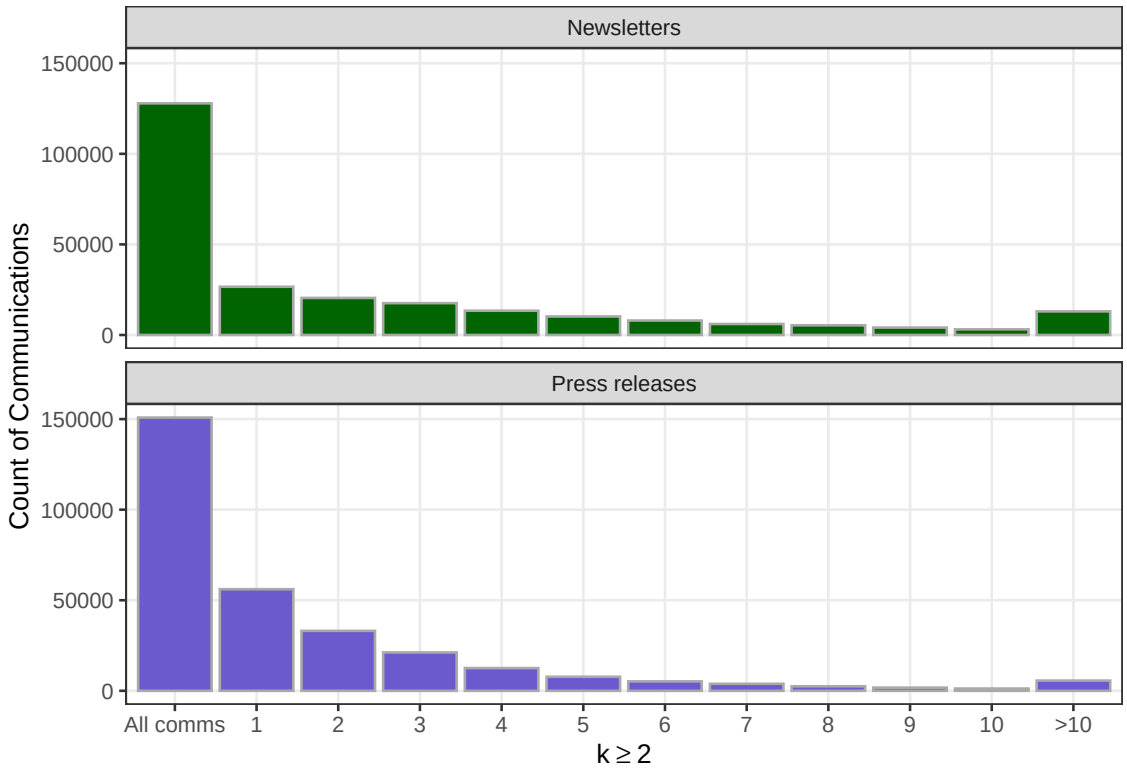

Figure 55: Distribution of Keyword Counts

36 Keyword Threshold

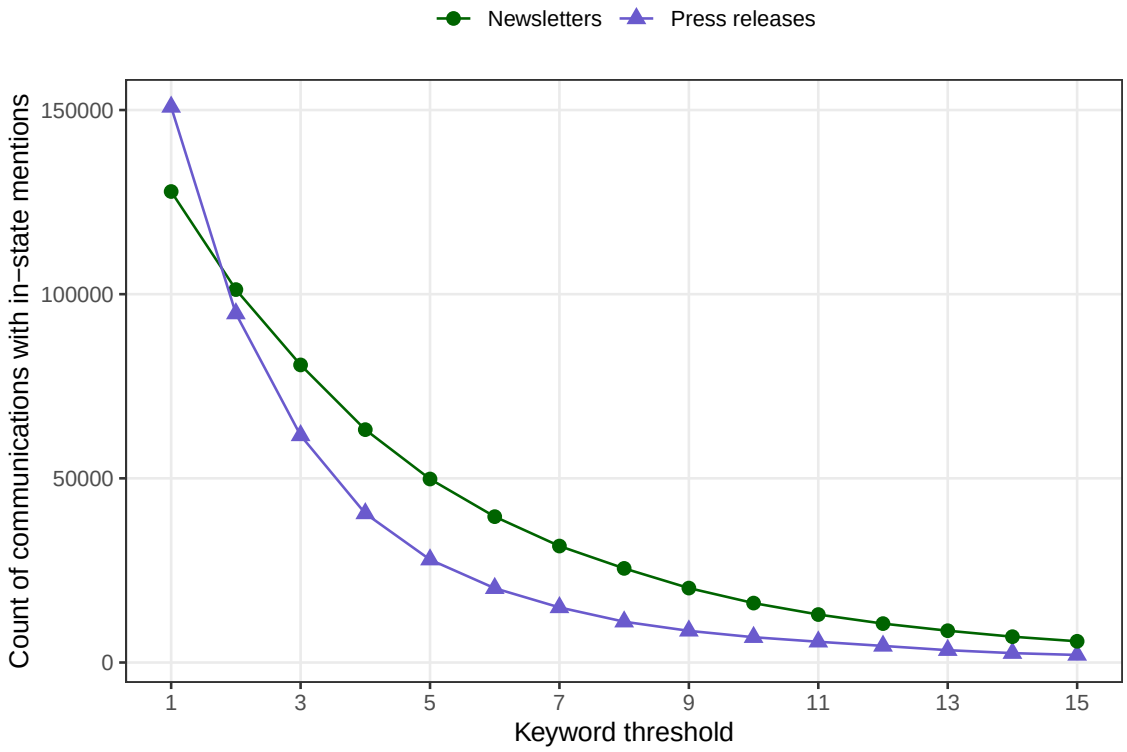

Figure 56: Count of Communications Flagged Across Keyword Thresholds

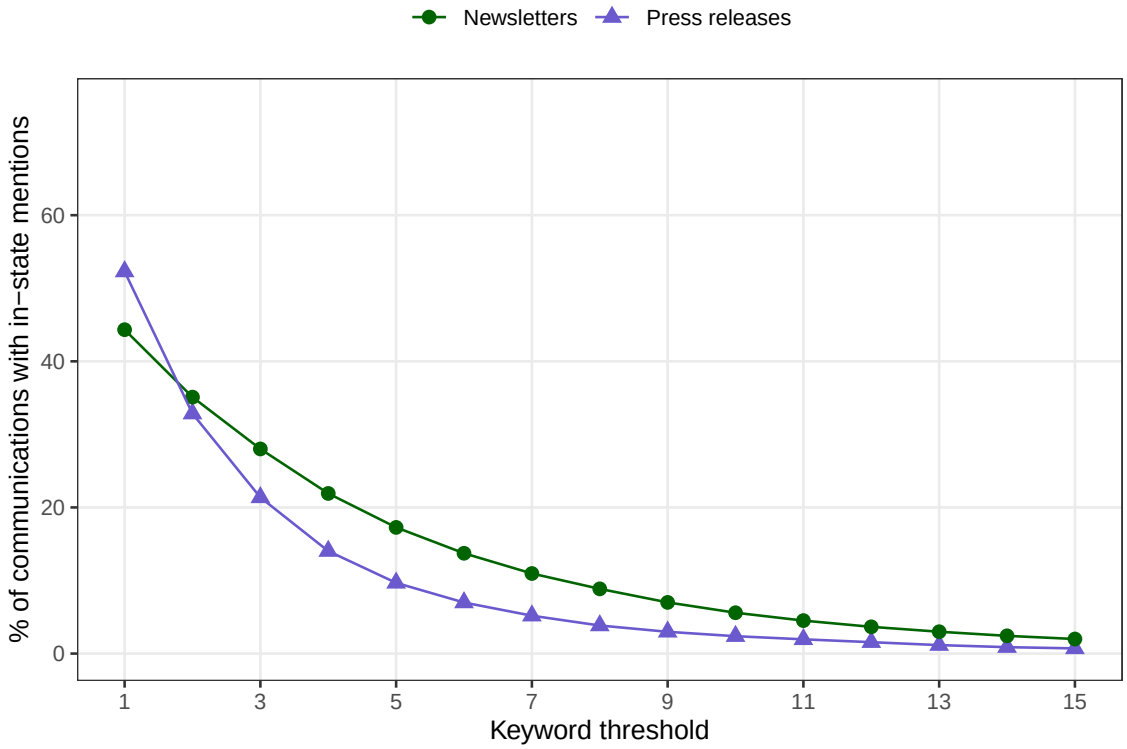

Figure 57: Percent of Communications Flagged Across Keyword Thresholds

37 Keyword Search Validation

To assess the reliability of the keyword search approach to classification, a random sample of 75 press releases and 75 newsletters was manually coded. A text was coded as locally oriented if it discussed any of the following:

1. Issues or legislation through a local frame (e.g. "As noted in the letter, Texas has witnessed a number of voter fraud cases in recent years. For example, just last year, a Carrollton mayoral candidate was arrested on 134 counts of mail ballot fraud.")
2. Local events held or attended by the legislator (e.g. "On August 25th, the National Park Service celebrated its 99th anniversary, and I had the privilege of celebrating it in Saguaro National Park with students and teachers from Cholla High School, Desert View High School and Pueblo High School.").
3. Distributive benefits won for the constituency (e.g. "Slaughter helps secure Investing in Manufacturing Communities Partnership for Rochester, giving region access to $1.3 billion in federal funds to develop OPID industry and create jobs.")

Table 54 shows the agreement and error rates comparing manual classification to the dictionary search method for three keyword thresholds. using, a lower keyword threshold for classification had a higher false positive rate and lower false negative rate.

Table 54: Validation Metrics

Threshold	Agreement rate	False positive rate	True positive rate	False negative rate	True negative rate
$k \geq 1$	75.9%	40.6%	91.3%	8.3%	61.1%
$k \geq 2$	78.7%	17.4%	73.9%	25%	83.3%
$k \geq 5$	66.7%	1.4%	33.3%	63.9%	98.6%

38 Election Year and Local Orientation

Table 55: Election Year and In-state Mentions

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
election year	4.33 (1.93)*	2.80 (1.24)*	0.77 (1.53)	1.59 (1.32)
majority	-1.36 (2.09)	0.91 (1.35)	-1.22 (1.77)	1.33 (1.50)
out-party president	0.21 (2.12)	-0.45 (1.37)	8.14 (1.74)***	3.82 (1.48)**
vote %	-0.13 (0.08)+	-0.06 (0.05)	0.01 (0.07)	0.02 (0.06)
seniority	-0.34 (0.24)	-0.08 (0.14)	-0.36 (0.19)+	0.13 (0.16)
leadership	0.71 (4.65)	-0.53 (2.90)	-1.68 (3.45)	-7.62 (2.63)**
extremity	3.06 (6.83)	0.66 (4.74)	-32.48 (5.17)***	-24.67 (4.50)***
Num.Obs.	2372	2372	4177	4177
AIC	24991.5	22917.0	44413.4	43191.5
BIC	25037.7	22963.1	44464.1	43242.2
vcov	HC3	HC3	HC3	HC3

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 56: Election Year and Change in In-state Mentions

	Δ in % of press releases		Δ in % of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
election year	10.60 (3.10)***	6.95 (1.96)***	3.22 (2.11)	4.29 (1.87)*
majority	1.30 (3.04)	-0.42 (1.88)	-0.12 (2.61)	-0.40 (2.41)
out-party president	-1.27 (3.16)	-2.37 (1.93)	-1.52 (2.57)	-1.79 (2.36)
vote %	-0.07 (0.12)	-0.05 (0.07)	-0.02 (0.09)	-0.00 (0.08)
seniority	0.04 (0.35)	-0.14 (0.22)	0.22 (0.26)	-0.01 (0.24)
leadership	7.03 (7.49)	2.53 (5.28)	-3.15 (4.57)	-2.52 (3.72)
extremity	3.24 (9.98)	1.05 (6.86)	5.97 (7.36)	-0.90 (6.46)
Num.Obs.	1813	1813	3413	3413
AIC	20111.9	18443.0	37748.5	36910.6
BIC	20156.0	18487.0	37797.6	36959.7
vcov	HC3	HC3	HC3	HC3

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

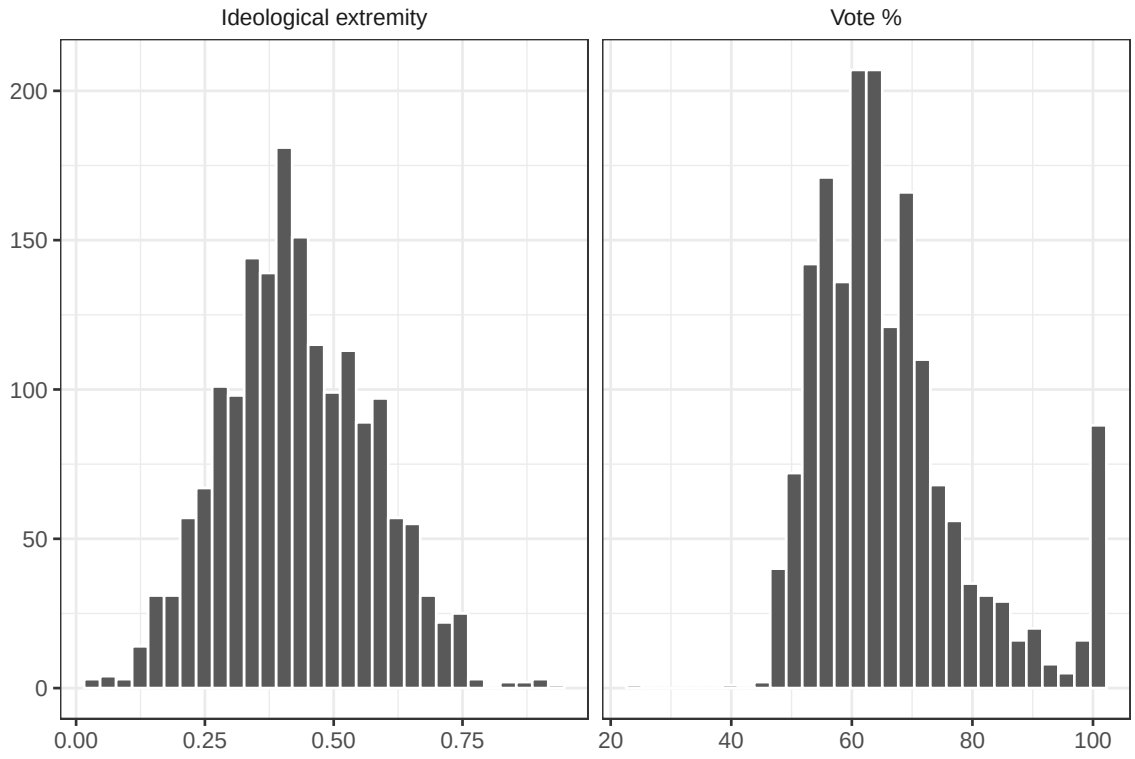

Figure 58: Distribution of Ideological Extremity and Vote %

39 Analyses with Paper Cuts Data

Table 57: Undifferenced Control-Only Yearly Model, Paper Cuts

	% of press releases		% of newsletters	
majority	-2.04 (1.79)	-1.11 (1.59)	2.52 (2.18)	4.89 (1.98)*
out-party president	5.97 (1.18)***	2.49 (0.59)***	4.59 (1.57)**	4.38 (1.37)**
urbanicity	-17.95 (13.85)	-7.55 (9.11)	-3.38 (9.94)	-20.75 (9.17)*
vote %	-0.19 (0.15)	-0.05 (0.12)	-0.01 (0.07)	-0.05 (0.07)
seniority	-0.08 (0.61)	0.02 (0.42)	-0.71 (0.24)**	-0.41 (0.18)*
leadership	-1.25 (5.28)	-2.92 (2.77)	0.19 (3.45)	-4.90 (2.91)+
extremity	-42.63 (11.00)***	-22.78 (5.99)***	-12.89 (8.72)	-13.56 (5.70)*
log(total communications)	-3.52 (1.35)*	-0.06 (0.53)	1.96 (0.85)*	1.97 (0.60)**
Num.Obs.	1031	1029	3059	3059
AIC	8926.6	8252.4	29538.9	28866.1
BIC	9198.2	8523.9	29906.5	29233.7
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 58: Change in % of Reporters Covering Politics ($k \geq 5$)

	Δ in % of press releases		Δ in % of newsletters	
Δ in % of reporters	0.03 (0.03)	0.04 (0.27)	-0.07 (0.08)	1.29 (0.93)
Δ in % of reporters × extremity		0.06 (0.22)		-0.64 (1.00)
Δ in % of reporters × vote %		-0.00 (0.00)		-0.02 (0.01)
majority	1.66 (1.60)	1.64 (1.60)		-4.63 (3.88)
out-party president	-1.03 (1.26)	-1.02 (1.26)	4.63 (3.80)	
urbanicity	-6.87 (6.21)	-6.87 (6.24)	-9.25 (6.96)	-8.72 (7.26)
vote %	-0.01 (0.07)	-0.02 (0.07)	-0.13 (0.07)+	-0.13 (0.08)+
seniority	-0.36 (0.25)	-0.36 (0.25)	-0.01 (0.22)	-0.01 (0.22)
leadership	1.37 (1.42)	1.38 (1.43)	0.16 (2.99)	0.17 (2.94)
extremity	-3.78 (3.06)	-3.76 (3.00)	11.50 (7.10)	11.77 (6.98)+
log(total communications)	0.79 (0.96)	0.80 (0.95)	0.67 (1.13)	0.65 (1.12)
log(number of newspapers)	0.77 (1.20)	0.77 (1.20)	0.00 (0.64)	-0.05 (0.65)
Num.Obs.	381	381	422	422
AIC	2922.6	2926.6	3840.7	3841.1
BIC	3104.0	3115.9	4051.0	4059.5
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 59: Change in Per Capita Circulation ($k \geq 5$)

	Δ in % of press releases		Δ in % of newsletters	
Δ in circulation	-52.89 (28.42)+	-37.74 (306.87)	140.43 (106.98)	252.74 (552.87)
Δ circulation × extremity		83.53 (383.23)		-953.04 (341.49)**
Δ circulation × vote %		-0.69 (3.40)		5.06 (6.87)
majority	1.69 (1.60)	1.67 (1.64)		-4.45 (3.83)
out-party president	-0.98 (1.31)	-1.00 (1.23)	4.51 (3.78)	
urbanicity	-6.03 (5.87)	-5.97 (5.85)	-7.47 (7.04)	-6.07 (6.92)
vote %	-0.02 (0.07)	-0.02 (0.07)	-0.12 (0.07)+	-0.05 (0.10)
seniority	-0.34 (0.24)	-0.34 (0.25)	-0.01 (0.22)	-0.04 (0.21)
leadership	1.43 (1.36)	1.44 (1.39)	0.32 (3.05)	1.15 (2.88)
extremity	-3.98 (3.01)	-3.25 (3.57)	11.27 (7.14)	-0.66 (7.16)
log(total communications)	0.79 (0.97)	0.79 (0.99)	0.65 (1.12)	0.66 (1.14)
log(number of newspapers)	0.84 (1.24)	0.83 (1.24)	0.07 (0.66)	0.11 (0.66)
Num.Obs.	381	381	427	427
AIC	2922.1	2926.1	3879.7	3881.6
BIC	3103.5	3115.3	4090.6	4100.6
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 60: Change in Per Capita Circulation and Change in Vote Percent

	Δ in % of press releases ($k \geq 2$)		Δ in % of press releases ($k \geq 5$)	
Δ in % of reporters	-0.03 (0.09)	-0.11 (0.30)	-0.04 (0.07)	-0.03 (0.15)
Δ in % of reporters $\times$ extremity		0.25 (0.84)		-0.04 (0.55)
Δ in % of reporters $\times$ Δ vote %		0.00 (0.00)		-0.00 (0.00)
majority	-3.70 (4.78)	-3.95 (4.93)	2.03 (1.99)	1.83 (2.18)
out-party president	4.47 (2.15)*	4.31 (2.21)+	-2.64 (2.31)	-2.48 (2.27)
urbanicity	8.69 (13.00)	8.99 (12.67)	-6.36 (9.04)	-6.09 (9.09)
Δ vote %	-0.08 (0.12)	-0.08 (0.14)	-0.04 (0.09)	-0.00 (0.13)
seniority	-0.28 (0.91)	-0.28 (0.91)	-0.41 (0.44)	-0.42 (0.45)
leadership	5.90 (2.79)*	5.82 (2.39)*	1.46 (3.74)	0.66 (3.11)
extremity	-16.32 (11.79)	-16.15 (12.09)	2.31 (5.52)	0.92 (6.36)
log(total communications)	-7.02 (5.79)	-6.98 (5.97)	1.61 (1.45)	1.76 (1.48)
log(number of newspapers)	-0.07 (3.12)	-0.12 (3.10)	1.64 (2.89)	1.65 (2.88)
Num.Obs.	166	166	165	165
AIC	1518.1	1522.0	1360.0	1363.4
BIC	1648.8	1658.9	1490.5	1500.0
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

40 Analyses with USND Data

Table 61: Interaction between Vote % and Seniority, USND

	% of press releases		% of newsletters	
	Regular	Conservative	Regular	Conservative
vote % × seniority	0.01 (0.03)	-0.02 (0.03)	0.01 (0.03)	-0.02 (0.03)
majority	4.15 (4.24)	1.28 (4.71)	4.15 (4.24)	1.28 (4.71)
out-party president	3.86 (4.16)	0.00 (3.60)	3.86 (4.16)	0.00 (3.60)
urbanicity	-11.63 (14.13)	-14.06 (13.62)	-11.63 (14.13)	-14.06 (13.62)
vote %	-0.07 (0.25)	-0.20 (0.25)	-0.07 (0.25)	-0.20 (0.25)
seniority	-0.90 (2.55)	1.05 (2.36)	-0.90 (2.55)	1.05 (2.36)
leadership	-4.68 (9.72)	4.12 (8.55)	-4.68 (9.72)	4.12 (8.55)
extremity	-15.76 (13.17)	8.69 (13.71)	-15.76 (13.17)	8.69 (13.71)
log(number of newspapers)	-5.80 (2.90)+	-3.69 (2.68)	-5.80 (2.90)+	-3.69 (2.68)
Num.Obs.	804	804	804	804
AIC	8614.5	8552.5	8614.5	8552.5
BIC	8900.6	8838.6	8900.6	8838.6
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

41 Analyses with USND and SOLN Data

Table 62: Undifferenced Control-Only Yearly Model, USND and SOLN

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
majority	1.90 (4.08)	0.50 (2.00)	-2.11 (3.49)	2.76 (2.62)
out-party president	-0.06 (3.12)	-2.69 (2.55)	8.25 (3.01)**	5.69 (2.83)+
urbanicity	-5.57 (10.33)	-17.12 (6.63)*	-8.20 (11.88)	-16.57 (10.56)
vote %	-0.35 (0.17)*	-0.09 (0.09)	0.27 (0.18)	0.18 (0.13)
seniority	-0.10 (0.51)	0.22 (0.33)	-0.65 (0.39)+	-0.01 (0.28)
leadership	5.42 (7.92)	-2.25 (4.36)	-4.12 (6.41)	-14.37 (4.34)**
extremity	11.52 (12.32)	2.98 (9.04)	-38.91 (8.56)***	-30.76 (7.57)***
Num.Obs.	888	888	1439	1439
AIC	9430.9	8720.3	15288.6	15000.4
BIC	9723.0	9012.4	15615.4	15327.3
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 63: USND and SOLN Closures and Biennial Change in In-State Mentions ($k \geq 2$)

	Δ in % of press releases		Δ in % of newsletters	
closures	1.02 (0.58)+	7.24 (3.70)+	0.09 (0.40)	0.67 (2.42)
closures × vote %		-0.07 (0.04)+		-0.04 (0.03)
closures × extremity		-3.05 (4.65)		5.31 (3.59)
majority	8.63 (5.23)	8.22 (5.24)	0.85 (2.24)	0.65 (2.25)
out-party president	-6.37 (4.58)	-5.83 (4.59)	0.32 (2.34)	-0.21 (2.34)
urbanicity	-1.33 (7.71)	0.54 (7.86)	1.72 (4.87)	1.49 (4.75)
vote %	-0.15 (0.12)	0.00 (0.16)	0.15 (0.10)	0.19 (0.11)+
seniority	-0.18 (0.25)	-0.27 (0.28)	-0.34 (0.24)	-0.37 (0.24)
leadership	2.08 (6.93)	2.72 (7.07)	2.88 (2.82)	2.75 (2.88)
extremity	7.72 (13.82)	11.75 (17.02)	-8.96 (6.50)	-13.63 (6.99)+
Num.Obs.	442	442	1157	1157
AIC	4372.0	4373.1	11353.0	11353.7
BIC	4613.4	4622.6	11671.4	11682.2
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 64: USND and SOLN Closures and Biennial Change in In-State Mentions ($k \geq 5$)

	Δ in % of press releases		Δ in % of newsletters	
closures	0.36 (0.32)	1.21 (2.44)	0.12 (0.48)	2.30 (2.93)
closures × vote %		-0.03 (0.03)		-0.03 (0.03)
closures × extremity		2.66 (2.86)		-0.99 (3.12)
majority	-0.41 (3.04)	-0.52 (3.04)	2.58 (1.67)	2.54 (1.67)
out-party president	-1.07 (2.64)	-0.97 (2.72)	0.25 (1.96)	0.29 (2.00)
urbanicity	1.07 (6.04)	1.27 (6.05)	6.12 (5.52)	6.26 (5.50)
vote %	-0.00 (0.07)	0.06 (0.10)	0.12 (0.05)*	0.15 (0.06)*
seniority	-0.14 (0.24)	-0.18 (0.24)	-0.01 (0.16)	-0.03 (0.16)
leadership	-1.48 (5.98)	-1.76 (6.25)	-1.06 (2.35)	-0.95 (2.33)
extremity	1.77 (7.94)	-3.54 (9.13)	-3.66 (4.68)	-3.00 (3.92)
Num.Obs.	442	442	1157	1157
AIC	4049.1	4051.4	11122.7	11125.8
BIC	4290.4	4301.0	11441.1	11454.3
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

42 Analysis of Out-party President Interaction

Table 65: Interaction between Number of Newspapers (USND) and Out-party President

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
log(number of newspapers) × out-party president	-2.83 (2.32)	-2.44 (1.30)+	0.06 (2.52)	-1.78 (2.53)
majority	-0.91 (3.54)	0.76 (1.87)	0.04 (3.57)	1.93 (2.99)
out-party president	8.76 (6.31)	6.50 (4.08)	8.54 (7.91)	9.97 (7.37)
urbanicity	-17.68 (9.76)+	-18.68 (7.56)*	-9.75 (14.65)	-22.76 (13.16)+
vote %	-0.28 (0.10)**	-0.06 (0.07)	0.12 (0.14)	0.10 (0.10)
seniority	-0.02 (0.45)	0.25 (0.26)	-0.63 (0.31)*	-0.15 (0.23)
leadership	1.02 (6.92)	-3.77 (2.60)	-0.09 (5.71)	-8.61 (4.32)+
extremity	8.37 (10.85)	-2.03 (7.74)	-30.94 (8.89)**	-28.53 (7.23)***
log(number of newspapers)	-2.37 (2.06)	-0.05 (1.21)	-1.12 (2.69)	-0.41 (2.82)
Num.Obs.	797	797	1355	1355
AIC	7985.6	7368.6	13740.7	13396.6
BIC	8271.2	7654.2	14063.8	13719.7
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 66: Interaction between Per Capita Circulation (Paper Cuts) and Out-party President

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
circulation	-25.75 (10.83)*	-19.68 (20.12)	20.84 (23.93)	30.89 (21.52)
circulation × out-party president	-36.31 (12.66)**	-31.82 (20.72)	-6.10 (21.86)	-19.50 (22.42)
majority	-2.41 (2.65)	0.66 (2.20)	1.07 (1.75)	1.02 (1.48)
out-party president	14.01 (3.14)***	10.02 (4.63)*	10.91 (5.58)+	6.99 (4.23)
urbanicity	-33.85 (14.26)*	-14.09 (9.66)	2.11 (9.57)	-14.22 (8.52)
vote %	0.03 (0.23)	0.04 (0.15)	-0.01 (0.13)	-0.05 (0.14)
seniority	-0.27 (0.78)	0.09 (0.66)	-0.49 (0.21)*	-0.21 (0.21)
leadership	-4.55 (4.55)	-5.90 (3.66)	-14.00 (6.22)*	-13.16 (3.25)***
extremity	-19.14 (15.57)	-8.81 (11.13)	-10.15 (12.13)	-17.86 (9.30)+
log(total communications)	-1.77 (1.66)	-0.50 (1.05)	1.12 (1.51)	0.11 (0.85)
log(number of newspapers)	-3.92 (2.35)	-1.09 (1.55)	-1.24 (1.41)	-0.41 (1.00)
Num.Obs.	451	450	762	762
AIC	3836.0	3656.9	7374.7	7085.4
BIC	4033.3	3854.1	7629.7	7340.4
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

43 Composite Measure of Media Capacity

To combine the SOLN, USND, and Paper Cuts datasets into a single measure of media capacity at the district-year level, I estimate a one-factor Bayesian confirmatory factor model using the `blavaan` package in `R` and

use the first difference of the resulting estimates as a measure of the change in local media capacity. Five indicators were drawn from the datasets to do this: The biannual number of outlets were drawn from USND and log-transformed after adding 0.5. Likewise per capita circulation data from Paper Cuts was log-transformed. The net change in outlets was estimated from USND as the negative first difference of the number of outlets such that a higher value indicated greater local media capacity. Annual closures from SOLN and the share of reporters covering politics from Paper Cuts were also included. All variables were standardized to have a mean of 0 and unit variance to ensure factor loadings were put on a common metric.

The latent construct $MediaCapacity_{it}$ for district i in year t was then modeled with the following specifications:

$$\log(OutletCount)_{it} = 1 \times MediaCapacity_{it} + \epsilon_{it}$$

$$\log(PoliticalReporterShare)_{it} = \lambda_a \times MediaCapacity_{it} + \epsilon_{it}$$

$$\log(CirculationPerCapita)_{it} = \lambda_b \times MediaCapacity_{it} + \epsilon_{it}$$

$$netOutletChange_{it} = \lambda_c \times MediaCapacity_{it} + \epsilon_{it}$$

$$\log(Closures)_{it} = \lambda_d \times MediaCapacity_{it} + \epsilon_{it}$$

The latent mean was then regressed on district urbanicity to capture systematic differences in media markets between districts in urban and rural areas:

$$MediaCapacity_{it} = \beta \times Urbanicity + \varepsilon_{it}$$

The model was fitted with four MCMC chains, 2000 burn-in iterations, 1000 adaptation steps, and 4000 retained draws, converging with every monitored parameter achieving $\hat{R} \leq 1.001$ with a marginal log-likelihood of -7113 and a posterior p-value $\leq .001$ for 4261 district-year observations.

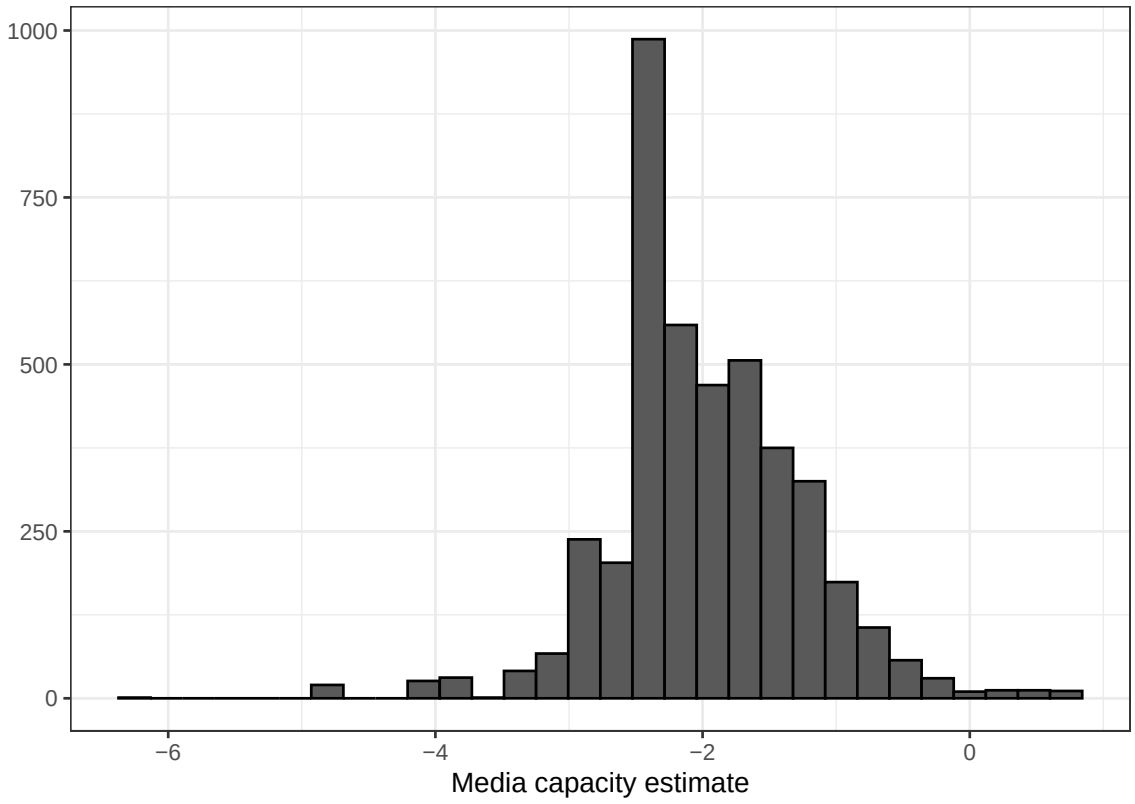

Figure 59: Distribution of Composite Media Capacity Measure

44 Analyses with Composite Measure of Media Capacity

44.1 Undifferenced

Table 67: Composite Local News Capacity Measure

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
media capacity	-1.20 (1.68)	-0.80 (1.04)	-0.65 (1.16)	-1.72 (0.98)+
majority	2.30 (2.43)	1.35 (1.55)	-1.02 (1.93)	1.12 (1.72)
out-party president	-1.90 (1.93)	-2.08 (1.25)	0.15 (1.39)	0.63 (1.31)
vote %	-0.01 (0.10)	0.00 (0.07)	0.06 (0.07)	0.09 (0.06)
seniority	0.01 (0.37)	0.06 (0.23)	0.16 (0.15)	0.11 (0.15)
leadership	1.13 (3.99)	-0.25 (2.82)	-1.31 (3.13)	-3.95 (3.02)
extremity	4.22 (8.88)	1.47 (6.05)	-4.22 (5.73)	-0.38 (5.36)
log(total communications)	-1.21 (0.95)	-0.18 (0.42)	1.83 (0.75)*	1.50 (0.50)**
Num.Obs.	1846	1842	3919	3919
AIC	19282.7	17558.2	40778.4	39787.9
BIC	19691.3	17966.6	41506.1	40515.6
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 68: Composite Local News Capacity Measure (with interactions)

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
media capacity	-6.81 (4.93)	0.77 (3.18)	5.79 (3.14)+	2.85 (2.52)
media capacity × extremity	12.38 (9.52)	-3.67 (7.69)	-13.79 (7.29)+	-10.37 (6.61)
Δ in media capacity	-15.50 (11.19)	6.28 (10.96)	-1.82 (9.07)	10.53 (8.22)
Δ in media capacity × vote %	0.21 (0.15)	-0.08 (0.16)	-0.00 (0.13)	-0.17 (0.12)
majority	0.73 (2.43)	0.05 (1.82)	-1.02 (1.93)	1.61 (1.70)
out-party president	-1.24 (2.50)	-1.03 (1.55)	0.13 (1.42)	0.52 (1.32)
vote %	-0.01 (0.10)	0.05 (0.07)	0.06 (0.07)	0.09 (0.05)+
seniority	-0.05 (0.44)	-0.17 (0.30)	0.12 (0.17)	0.05 (0.15)
leadership	-4.23 (3.99)	-1.60 (3.07)	-1.37 (3.18)	-3.73 (3.03)
extremity	34.05 (19.45)+	-11.93 (16.48)	-33.60 (16.02)*	-24.43 (12.87)+
log(total communications)	-1.37 (1.02)	0.23 (0.48)	1.87 (0.77)*	1.41 (0.50)**
Num.Obs.	1476	1472	3770	3770
AIC	15100.2	13694.1	39111.3	38152.3
BIC	15497.5	14091.2	39853.2	38894.2
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

44.2 Differenced

Table 69: Change in Local News Capacity Measure

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
Δ in media capacity	-1.63 (1.75)	0.31 (1.03)	-1.77 (1.81)	-1.68 (1.22)
majority	0.58 (2.33)	-0.10 (1.80)	-1.12 (1.92)	1.09 (1.68)
out-party president	-1.29 (2.52)	-1.09 (1.55)	0.15 (1.44)	0.38 (1.34)
vote %	-0.03 (0.10)	0.06 (0.08)	0.05 (0.07)	0.09 (0.05)
seniority	-0.08 (0.45)	-0.15 (0.30)	0.17 (0.18)	0.09 (0.15)
leadership	-4.62 (4.03)	-1.61 (3.03)	-1.42 (3.19)	-3.69 (3.06)
extremity	10.18 (10.53)	-4.75 (6.68)	-7.05 (5.48)	-4.81 (5.01)
log(total communications)	-1.33 (1.00)	0.23 (0.48)	1.88 (0.77)*	1.44 (0.51)**
Num.Obs.	1476	1472	3770	3770
AIC	15098.3	13689.5	39109.5	38156.2
BIC	15479.7	14070.7	39832.7	38879.4
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

Table 70: Change in Local News Capacity Measure (with interactions)

	% of press releases		% of newsletters	
	$k \geq 2$	$k \geq 5$	$k \geq 2$	$k \geq 5$
Δ in media capacity	-10.54 (10.98)	10.26 (10.72)	2.13 (8.41)	13.72 (7.93)+
Δ in media capacity × vote %	0.21 (0.15)	-0.07 (0.17)	-0.00 (0.14)	-0.16 (0.12)
Δ in media capacity × extremity	-14.02 (18.15)	-11.36 (10.65)	-9.49 (12.94)	-11.52 (9.65)
majority	0.53 (2.32)	-0.06 (1.80)	-1.10 (1.93)	1.11 (1.68)
out-party president	-1.40 (2.51)	-1.09 (1.56)	0.12 (1.43)	0.40 (1.34)
vote %	-0.01 (0.10)	0.05 (0.07)	0.05 (0.07)	0.09 (0.05)
seniority	-0.08 (0.45)	-0.15 (0.29)	0.17 (0.18)	0.10 (0.15)
leadership	-4.66 (4.03)	-1.64 (3.05)	-1.43 (3.20)	-3.72 (3.05)
extremity	9.27 (10.13)	-5.10 (6.44)	-7.08 (5.50)	-4.72 (4.91)
log(total communications)	-1.34 (1.00)	0.24 (0.47)	1.88 (0.77)*	1.42 (0.50)**
Num.Obs.	1476	1472	3770	3770
AIC	15099.7	13691.8	39112.6	38153.9
BIC	15491.7	14083.6	39848.3	38889.7
FE: state	X	X	X	X
FE: year	X	X	X	X

+ = 0.1, * = 0.05, ** = 0.01, *** = 0.001

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