Learning About Presidential Power

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Abstract

Presidents teach the public about power by using it. News organizations increasingly focus on public policy enacted by decree, which subsidizes reporting by offering a simple narrative structure. We argue this benefits presidents by shifting public attention toward them and their initiatives. Using a dataset of verified coverage of executive actions appearing in national and state-wide newspapers, we develop sub-national measures of news attention to public policies. This news attention disproportionately attributes policy change to the president and downplays the role of Congress in the policy process. A matched difference-in-difference design finds that media attention to executive action strongly predicts subsequent search-engine traffic about the American presidency. In summary, our study reveals how presidents use executive action to shift the public's attention.

Keywords: presidency, political communication, agenda setting, public policy

To hold their government accountable, people need to know who is doing the governing. They do not learn this from personal experience, since almost no one witnesses the enactment of policy, and most do not experience its direct effects. Instead, people learn about political institutions and public policy through the news (Soroka and Wlezien, 2022). This makes the ability to drive the news cycle valuable for politicians. When politicians get their actions into the news, they teach the public about their preferences and show off their accomplishments (Grimmer, Westwood and Messing, 2013). Information, in short, animates political contests and helps determine electoral success.

In this study, we argue the American presidency has an important, under-recognized advantage in this contest of information: the ability to take executive action. While members of Congress are canonically thought of as desperate to shape public information, their tools are meager—limited to floor speeches, hearings, public statements, bill sponsorship, and voting. The President has long been thought to possess a louder megaphone, the so-called "bully pulpit," that can drive public attention towards favorable policies or viewpoints (e.g., Canes-Wrone, 2006; Kernell, 2007; Noble, 2024). Yet, evidence that presidential rhetoric influences public attention is hard to come by. What scholarship we have suggests if there is any public attention paid to presidential speech, its effects are temporary and unpersuasive (Edwards, 2006; Franco, Grimmer and Lim, 2018; Howell, Porter and Wood, 2020).

But presidents can do more than talk. Executive action allows chief executives to propose and often implement changes to policy alone (Carey and Shugart, 1998; Moe and Howell, 1999). There is no shortage of research about why presidents act this way (e.g., Howell, 2003; Lowande, 2024), what its limitations are (Chiou and Rothenberg, 2017; Rudalevige, 2021; Bolton and Thrower, 2022), and what the public thinks about it as a way of making policy (Christenson and Kriner, 2020; Reeves and Rogowski, 2021).[1] Research generally acknowledges executive action's potential effect on the news and subsequent public attention, but the reasons for such effects are not clear, and the effects themselves remain unmeasured.

We argue that executive action enjoys tactical advantages that render it more effective

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[1]For a recent review, see Lowande and Rogowski (2021).

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than other kinds of policymaking at holding the attention of the media and the public. First, because executive action can be attributed to the president alone, it provides the media with a low-cost news hook (i.e., "who" content). Since the president is the most famous politician in America, no print space is needed to explain who they are or what they want (Frantzich, 2019). Second, it offers a clear narrative (i.e., "why" content) which is already familiar to most readers. This is the folk version of the "evasion" hypothesis: the President acts unilaterally to get around a gridlocked Congress. These same features, which subsidize the production of the news, also lead the public to shift their attention toward the president. In this way, we argue that for the purposes of influencing the information available to voters, all policymaking is not equal. Presidents enjoy a tool in executive action that allows them to hold public attention in ways Congress cannot.

Properly evaluating this argument requires several innovations in measurement and research design. First, we use thousands of news articles from 51 newspapers with varied geographic circulation to estimate measures of the salience of executive action in the news media. These measures differ from past estimates, beyond their broader sweep of media coverage. Our hierarchical, Bayesian Item Response Theory (IRT) model allows executive actions to matter more in some regions of the country, and less in others. We show that coverage of executive action is widespread, and has become an increasingly important part of the news Americans' read about their government. Moreover, these measures reveal that, consistent with research on the so-called "nationalization" of politics, salience of executive action is essentially uniform across the country (Hopkins, 2018).

Second, we take stock of public attention to the president using Google Trends. This data source provides remarkably granular measures of public attention without some of the drawbacks of survey research (e.g., Dancy and Fariss, 2023; Stephens-Davidowitz, 2013). The measure is passively collected, so our study is not limited to assessing public reactions to a particular executive action. It also allows us to speak to the relative importance of the president's actions, alongside other events outside their control. Simply put, we can gauge how much this tactic moves public attention, relative to the broader sweep of events in American politics.

We deploy a matched difference-in-difference design that limits the potential for confounders and interference. Specifically, we match search traffic within region in periods in which executive action was taken, to periods without such action in the same presidential term and proximity to an election. We then compare changes in search traffic related to the president in these periods over time. This analysis consistently shows that executive action has strong, positive effects on web-traffic. The most media salient actions lead to a 20% relative increase in searches related to the President, and can last for up to a week. We also show that these effects are driven almost entirely by news coverage, not the issuance of policy itself.

Our study has important implications for understandings of democratic systems that feature the separation of powers. Decree authority does not just give chief executives advantages in the production of policy. It gives them the opportunity to move first in the contest for public attention, and perhaps to hold it or limit the opportunity for the opposition to break through. This may have important implications for public opinion, which have gone unexamined because of sub-disciplinary boundaries in the social sciences. Our evidence suggests the president's impact on the public agenda comes not primarily through words, but with actions. These actions are generally the purview of scholars who study "elite" institutions, while the public agenda is the purview of those who study public opinion. Our findings demand further research on how the actions of the president shape public understandings of presidential power, and American democracy, more broadly.

Policymaking and Information in American Politics

Information is critical in all political interactions. Democratic republics do not work well unless citizens know what politicians stand for, what decisions politicians make, and how those decisions are likely to impact them. Two well-known stylized facts complicate that need. First, people tend to not know much about politics. If you ask them questions about who is in charge, or what they have done, most people run out of working information quickly (Kinder and Kalmoe, 2017). Second, what people believe appears to be malleable—often cued by

elite actors with an interest in public beliefs—and is sometimes inconsistent with reality (e.g. Bullock et al., 2015; Iyengar et al., 2019).

These inconvenient facts run through a large academic literature about democracy and responsiveness in American politics. Some argue that the public does not possess sufficient information to hold its government accountable, and that most decisions are made on the basis of vague in-group and out-group distinctions (e.g., Lippmann, 1922; Achen and Bartels, 2016). Others argue that responsiveness can work just fine, so long as politicians themselves believe in the possibility that they will be rewarded and punished for their policy choices (e.g., Soroka and Wlezien, 2010; Caughey and Warshaw, 2022).

Several practices common in this research area highlight the contributions of our study. Put simply, what "policy," "politician," and "media" mean in practice is vague, by design. System-level analysis calls for researchers to abstract away from the behavior of particular institutions and the policies they contribute to. All heterogeneity within them, along with the messiness of rules and institutions, are usually subsumed in a single, aggregate signal and response within some time window.

Our aim is different—to understand and measure a particular mechanism by which citizens learn about policy and politicians, and to argue that all political actors do not have equal access to this mechanism. More specifically, Soroka and Wlezien (2022) argue the media provide sufficiently relevant information about what politicians are up to. They show evidence that this link exists in the aggregate. But there follows an equally important question, which is: *does this media link advantage some political actors over others?*

Separation of powers systems involve competing institutions that contest each other's jurisdictions, and operate with different electoral bases. Politicians are in a constant battle for public attention. Members of Congress (and the parties within which they caucus), for example, are thought to be so desperate for it that most of their behavior can be tied to the need to say who they are, what they believe, and attribute some kind of success to their efforts as a party or an individual (Mayhew, 1974; Grimmer and Stewart, 2013; Lee, 2016). You do not have to know much more to guess that the president might end up with an advantage

in this contest. The presidency is, empirically, just one *homo sapien*, sitting at a desk, signing stuff. The contest for credit both within the presidency, and between the presidency and other political actors, seems eminently winnable.

For decades, presidency scholars have investigated presidents' efforts to hold the public's attention. But this is mostly the study of talking. Jeffrey K. Tulis (1987) showed that the acceptability of presidents publicly expressing opinions on policy took a long time to develop. Samuel Kernell (2007) argued that presidents' success appealing directly to the people could be used as a lever to bend Congresses toward their will. Brandice Canes-Wrone (2006) presumed no such persuasive power, instead, arguing that presidents merely highlighted inconsistencies between what voters wanted, and what Congress intended to do. Even this modest conception of public appeals would advantage the presidency.

The main hang-up is that, beyond illustrative cases, it is difficult to find evidence that appeals move public opinion, by any definition. George C. Edwards (2006), collecting every poll and public appeal in sight, finds no consistent evidence that the polls follow appeals. If there is any evidence of the effect of presidential rhetoric, it is usually temporary and not one with direct implications for public opinion. Franco, Grimmer and Lim (2018) show that newscasts and social media posts temporarily respond to presidential rhetoric. Howell, Porter and Wood (2020) show experimental evidence that the public's perceptions of the president can be changed by the president's rhetoric, but again, not their opinions about policy. Most recently, Noble (2024) has argued that presidents can alter opinions about the opposition party by going negative.

We think the behavior in question—speeches and public appeals—itself explains why evidence is hard to come by. Speeches can be complicated and difficult for journalists to clearly summarize, if they decide to cover them at all. Moreover, Americans have not consumed them huddled around the family radio for almost a century, if they ever did. Today, the competition for the public's attention is fierce, even within politics, and politics itself is far down the list of things normal people care about (Prior, 2007). If there is a signal that voters consistently pick up, it must be stronger, more focused, and more reliably delivered than mere

presidential rhetoric.

Some scholarship says the president can do more than talk. The tools the president uses to ostensibly control the federal bureaucracy might be valuable for holding the attention of the public. Cooper (2014) argues that presidential directives can be used to generate favorable publicity and play "shell games" with particular constituencies. More recently, Lowande (2024) argues that executive action itself is motivated by the desire to keep up appearances, and shows it often produces favorable press coverage. But the extent to which the public receives these signals is not known. Public opinion about executive power has been studied, but it is always thought of as a potential constraint on executive action itself, not as a tool that drives public attention (e.g., Christenson and Kriner, 2020; Reeves and Rogowski, 2021; Lowande and Rogowski, 2022).

Our study, then, builds the case that executive action influences the kind of information the public consumes about American politics. In this way, executive action gives presidents an advantage in the contest of providing voters with the minimum amount of relevant information needed for American democracy to function. Making news and reaching the public is not just about competing rhetoric, it is about action.

Executive Action and the Politics of Attention

To explain why executive action influences the information available to—and taken up—by the public, we start by recalling the president's goals and strategies. Presidents have sincere preferences about policy, and want to be popular—both goals are tied to re-election, electing copartisans, and building a historical legacy. Executive action is one of many tools that serves these proximate goals. They leverage constitutional and delegated powers, along with ambiguity in statutes and the president's capacity as the chief executive officer of the federal government, to change what the government does (Moe and Howell, 1999; Howell, 2003).

Presidents know that their executive actions will be seen by the public. This structures the way they use executive action. Reeves and Rogowski (2021) argue the public has underlying

preferences about the exercise of executive power, and so presidents avoid coloring outside the lines of their authority. Christenson and Kriner (2019) argue presidents pay costs for the policy position signaled by their action, rather than the means. Both works demonstrate the public finds the narrative that presidents use executive action to circumvent gridlock very persuasive. Lowande (2024) argues that presidents' desire to be popular sometimes cuts against the preference for influencing public policy. As a result, the purpose of executive actions is often to help the president reinforce their brand as a politician.

All of this suggests that presidents will avoid taking executive actions that draw negative attention. Moreover, if their actions are designed to bolster their political brand, we can expect them to attract attention—as opposed to being boring or mundane administrative actions of little interest to constituents. This, however, does not yet explain why executive action would be a particularly effective tool for attracting the kind of attention these works have supposed.

The production of news is neither costless nor perfectly indexed to the substantive importance of events. In research on the "significance" of public policy, most scholars acknowledge that media attention is an imperfect measure of the importance of policy. Clinton and Lapinski (2006) lament the "futility" of identifying objective criterion for measuring substantive significance, and define a significant policy as "a [policy] that has been identified as noteworthy by a reputable chronicler-rater"(234). Executive action is particularly useful for attracting media attention, given the production function for news. News stories have a set of standard components that—the who, what, when, where, and how of politics—have to be communicated efficiently, typically at an 11th grade reading level, to a public that may have little contextual information.

We argue that executive action subsidizes the production of news in several ways. First, it provides a subject, the president, who is already the most famous politician in the world. No background information about the president needs to be provided. Their motivations and role in civic life are self-contained in their title and person. Second, executive action often defines itself in ways that are helpful to reporters. The preamble of a presidential directive defines the president's position and provides context. In short, the directives are self-annotating.

Executive action provides a familiar, powerful narrative about the "why" of news. It typically portrays the president taking executive action as a result of a gridlocked Congress. This narrative feeds into existing beat coverage. Curry, Lee and Oldham (2024) show that news about Congress typically emphasizes failures and negativity over success and accomplishment. News about executive action provides the perfect contrast. It is also important to remember that journalists work within space constraints. Political news cannot delve deeply into caveats, conditional logic, or contingency.

This argument has an important implication which we take to the data in the following sections. Executive action should lead to shifts in public attention toward the sitting president. Because presidents know the media will tend to take up their initiatives and newsworthy stories, they will tend to select policies that shine favorable light on their governance. Presidents and their advisors will help journalists write their stories. The news will be produced *because* journalists anticipate it will be consumed. And we expect the news coverage will shift public attention toward its subject: the president.

Moreover, based on this argument, empirical patterns in public attention will have implications for presidents' accountability relationship with the public. In particular, we identify and examine three parameters key to this relationship: the durability of attention shifts, their relationship to the local relevance of policy, and partisan asymmetry.

Durability. The implications of attention durability are straightforward. In past work on public agenda setting, researchers have found scant evidence that politicians are able to systematically change what the public thinks is pressing or needs action on. But the lack of evidence does not imply that politicians have no influence. In this case, because of the granularity of our data, we can recover more precise estimates of how long executive action shifts public attention, if at all. This, naturally, would be relevant for a president considering the effects of their actions on public perceptions.

Localism. Some executive action is only regionally significant. Actions targeting historically black colleges and universities, for example, will be relevant where those in-

stitutions are prominent educators and employers (i.e., the Midwest and South). The creation of new national monuments will be especially relevant to the communities adjacent to those monuments. Media organizations try to find stories relevant to their readers, so we can expect some local variation in the coverage of these actions. If attention shifts toward the president have a corresponding, regional dimension, it has an important implication. It would mean that the president might be able to target actions for public consumption by particular constituencies. On the other hand, news about executive action could be nationalized, without regional variation tied to relevance. In this case, the president will have limited capacity to target their actions toward specific communities.

Partisanship. The attention drawn by executive action might be conditioned by partisanship. There are two possible asymmetries. Either co-partisans, or those who identify with the opposition, might be more likely to have their attention drawn to the president by executive action. The implication of either asymmetry is important for the sitting president. It tells us whether executive action is primarily a tool for satisfying the president's base of support, or whether it arouses the attention, instead, of the opposition. The latter would result in a tool that poses more risks than previously thought.

In short, we argue that executive action presents presidents with a unique opportunity to shift public attention, and that this advantages them in a system of separated powers in ways not previously appreciated. But the particulars of this attention shift are important to investigate, because they are relevant for understanding the degree to which president shifts the information available to citizens.

Evidence

We leverage three datasets to examine how the public learns about executive policymaking. The first lists executive actions taken by presidents from 1989-2021 (Lowande, 2024). The second consists of new data on the coverage of unilateral actions across 51 newspapers. We use

these data to estimate new measures of action salience that vary by geographic region. Finally, we measure public responses to these actions using Google Trends data, which provide a day-by-day trend of public attention to presidents.

Policy Salience in the News

Testing the impact of policymaking on information-seeking behavior requires a measure of the salience of executive actions. Not all executive actions provide the same opportunity for the public to learn about executive policymaking. Most executive actions receive little coverage in national newspapers (Christenson and Kriner, 2020). For every DACA or travel ban order, there are countless actions creating commissions or directing agencies that receive little press coverage, and thus few opportunities for learning about presidential power. We develop measures of action salience using a dataset of newspaper coverage of 1,174 unilateral actions issued by Presidents H.W. Bush, Clinton, Bush, Obama, and Trump. These actions include not only executive orders but presidential memoranda, proclamations, national security directives, and other types of policy statements issued by presidents—even those that do not include the president's signature.[2]

While other scholars have collected data on how the news media cover unilateral actions, our dataset marks a significant improvement in scope. Aided by a team of undergraduate research assistants, we searched for instances of relevant coverage across 51 U.S. newspapers in the ProQuest news database. We plot the locations of the newspapers in Figure 1 along with the 9 geographic regions that we group papers into for purposes of calculating regional salience scores.[3] An article counted as providing coverage if it mentioned the action and attributed it to the president. An article could be counted as covering an executive order if the relevant terms—e.g., "executive order" or "presidential memorandum"—were omitted.

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[2]This is a random sample of approximately 68% of all unilateral actions issued between 1989 and 2021. For discussion of these data and how they were collected, see Lowande (2021) and Lowande (2024).
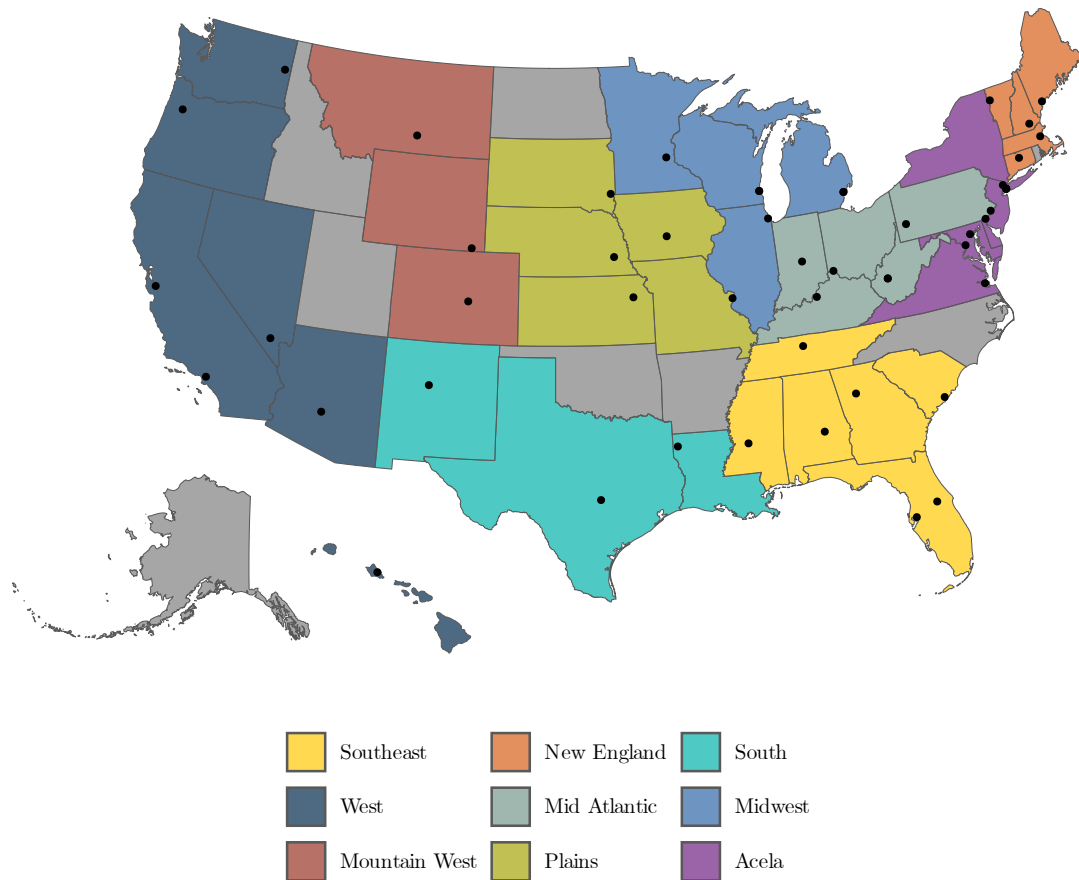
[3]Table A.1 lists the newspapers along with their locations and political affiliations. We detail our conceptualization of "relevant coverage" and coding procedures at length in the SI. See Goehring (2024) for additional details concerning our data collection procedure.

What matters is that the article provided sufficient information so that a reader could understand that a policy action took place and that it was executed by the president.

Our sweep of news coverage goes beyond examining coverage in major national outlets like the *New York Times*, *Washington Post*, and *Wall Street Journal*. Because our argument suggests that executive action can vary in relevance by geographic region, we constructed a sample of newspapers geographically representative of the United States. Our sample includes regional outlets like the *Wyoming Tribune Eagle*, *Burlington Free Press*, and *Montgomery Advertiser*. In general, we selected the newspaper with the highest circulation in each state, subject to availability in Proquest Gentzkow, Shapiro and Sinkinson (2014).[4] The inclusion of these regional papers allow us to examine the degree to which coverage of executive action is nationalized.

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[4]Sometimes this newspaper was not included our source database, and so the next highest newspaper was included.

Figure 1 – Newspaper Locations and Geographic Regions. Shows the locations of the 51 newspapers in our sample within 9 geographic regions. The following states are excluded due to a lack of newspaper coverage: ID, UT, AK, ND, OK, AR, NC, and RI.

🟨 Southeast	🟧 New England	🟦 South
🟦 West	🟩 Mid Atlantic	🟦 Midwest
🟥 Mountain West	🟩 Plains	🟪 Acela

Overall, across all unilateral actions in our dataset, 51% receive mention in at least one newspaper article. This is notably higher than others have found (e.g., Christenson and Kriner, 2020), likely due to our broader cross-section of media outlets, and the fact that we did not rely on explicit mentions of directives themselves. Figure 2 shows trends in unilateral action coverage across presidential administrations. Most coverage occurs in the days and weeks immediately following the issuance of an action, and thus, Figure 2 only plots coverage in the month following the issuance of an action. This also alleviates censoring issues with actions issued later in presidents' terms. In most years, less than half of unilateral actions

receive coverage in the first month. Substantial coverage is even lower. Only about 21% of actions are covered in more than 5 newspaper articles. Overall coverage has increased during the Obama and Trump administrations, after reaching a low point during George W. Bush's second term. This underscores the degree to which executive action has become an important part of what Americans read about government.

Figure 2 – **Coverage of Unilateral Actions is Increasing Over Time.** Shows the share of actions that received coverage at least 1 article and in more than 5 articles in the first month after issuance. Coverage is truncated to the first month to alleviate right-side censoring for actions issued late in presidents' terms.
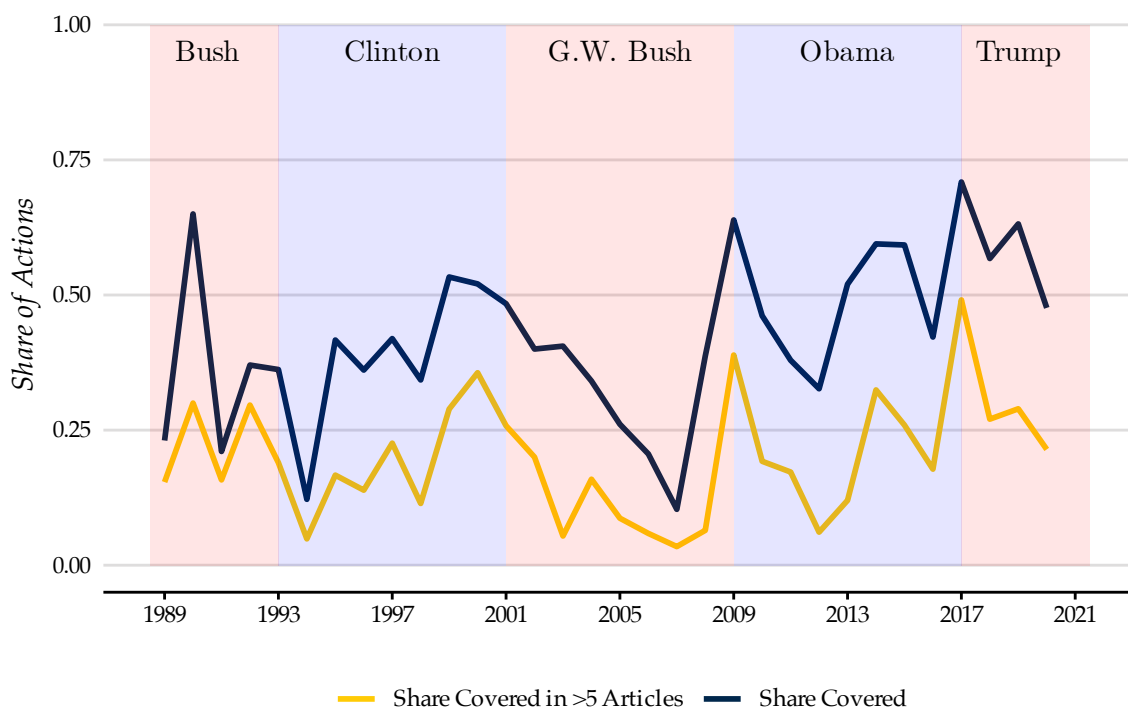
Measure of News Attention. Counts provide an overview of general trends in the salience of unilateral actions, but the raw number of articles covering an action is an imperfect measure of news attention.[5] This is because the information conveyed by newspapers varies. An action receiving coverage in the *The New York Times* does not have the same impact on salience as coverage in *The Billings Gazette*. The former, with a national focus and a relatively large circulation and significant staff resources, is able to cover presidential policymaking with

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[5]Note, we use the terms "news attention" and "salience" interchangeably.

more depth and scope. In contrast, *The Billings Gazette* might have to pick and choose what it covers more closely, staying attuned to the arenas of policy most important to local readers.

Thus, following Chiou and Rothenberg (2014) and others, we model the news attention received by executive action as a latent variable, using a Bayesian IRT model. IRT models are widely used in political science, but crucially, in our case, an IRT model allows for newspapers' coverage to have a varying influence on news attention. Other than the large increase in the number of newspaper "raters," our approach builds upon prior models of executive action "significance" (e.g., Chiou and Rothenberg, 2014) by modeling raters as units within geographic regions. Let $j, j = 1, \ldots, J$ be the index of presidential actions, $k, k = 1, \ldots K$ be the index of newspapers, and $r, r = 1, \ldots R$ be the index of geographical regions. Each newspaper is located in a region, which is denoted by $r[k]$ and plotted in Figure 1. National newspapers, *The New York Times*, *The Washington Post*, and *The Wall Street Journal*, are not associated with a particular region but are assumed to have national readership. The locations of the newspapers and their associated regions are plotted in Figure 1. $Y_{j,k}$ is the binary outcome of interest, denoting whether a newspaper k covered action j. We model the outcome as the latent variable Y_{jk}^*:

$$
Y_{jk} = \begin{cases} 1 & \text{if} \quad Y_{jk}^* > 0 \\ 0 & \text{otherwise} \end{cases}
$$

$$
Y_{jk}^* = \begin{cases} -\alpha_k + z_{j,r[k]}\beta_k + \epsilon_{jk} & \text{if newspaper } k \text{ is local} \\ -\alpha_k + w_j\beta_k + \epsilon_{jk} & \text{if newspaper } k \text{ is national} \end{cases} \tag{1}
$$

where $\quad \epsilon_{jk} \overset{\text{i.i.d.}}{\sim} \mathcal{N}(0,1)$.

Moreover, z_{jr} is modeled hierarchically such that

$$
z_{jr} \overset{\text{indep.}}{\sim} \mathcal{N}(w_j, \omega^2). \tag{2}
$$

This specification models the probability of a newspaper covering an action as a function of its regional salience z_{jr} or national salience w_j depending on whether k is local or national, a "difficulty" parameter α_k, and a "discrimination" parameter β_k.

The key departure of our model from Chiou and Rothenberg (2014) is that our model accounts for the heterogeneity of salience across regions. We define action j's national-level salience, w_j, and its region-specific salience for region r, z_{jr}, and model z_{jr} and w_j hierarchically as specified in Equation (2). This model captures the fact that the salience of presidential actions may be different across regions, but that each action also has a common level of salience shared across regions. Generally, newspaper k's coverage of action j is determined by the extent to which the action is salient in their own region, $z_{j,r[k]}$. However, newspapers with national readership cover presidential actions based on their national level of salience rather than the regional level, and therefore coverage by these newspapers carries information about w_j directly, as shown in Equation (1). In short, this specification allows us to test the extent to which news attention is nationalized, rather than assuming it is.

The other two parameters, α_k and β_k offer an interesting snapshot into media coverage of unilateral actions.[6] α_k is the "difficulty" parameter of newspaper k. This parameter represents newspaper k's overall level of attention to politics. Larger α_k suggest that newspaper k is less likely to cover policies in general and that an action must be relatively more salient in order to be covered by the paper. The β_k term is the "discrimination" parameter for newspaper k, which indicates the extent to which the paper's decision to cover an action depends on its latent salience. A higher value for β means that the given newspaper's coverage varies by an action's salience and thus its coverage is better able to distinguish between actions with varying levels of salience.We report these parameters in SI Section B.

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[6]We do not discuss the estimates of these parameters in the text, but see Figures B.2 and B.3 in the SI for more information.

To complete the model, we place the following priors on the model parameters:

$$w_j \overset{\text{i.i.d.}}{\sim} \mathcal{N}(0,1),$$

$$\omega^2 \sim Scaled - inv - \chi^2(10,1),$$

$$\alpha_k \overset{\text{i.i.d.}}{\sim} \mathcal{N}(0,3), \text{ and} \tag{3}$$

$$\beta_k \overset{\text{i.i.d.}}{\sim} \mathcal{TN}_{\beta_k > 0}(0,3),$$

The prior variance of w_j is fixed to 1 for the identification of the latent scale of w_j, and the support of β_k is constrained to be positive so that the direction of w_j is identified (larger values indicating more salience).

We generate posterior draws of $\left((w_j, (z_{jr})_{r=1}^R)_{j=1}^J, (\alpha_k, \beta_k)_{k=1}^K, \omega \right)$ using Stan, running three MCMC chains for 15,000 iterations (warmup = 2,500). Gelman-Rubin diagnostics provide strong evidence of convergence (Gelman and Rubin, 1992).[7] Our key result of interest are the regional salience scores z_{jr}.[8]

Measuring Public Attention. We measure the public's attention to unilateral policymaking via Google Trends search data. These data were accessed via the 3rd party vendor SearchApi. Via the post-processing we describe in this section, they provide longitudinal, day-level information on the frequency of searches for phrases on Google's search engine.

There are several advantages to this measure. First and foremost, it is a behavioral outcome closely related to our research question. It represents a particular kind of mass behavior—namely, the tendency of Google users to use the tool to look up information on a particular subject. In our case, it represents actively learning more about the incumbent president. The action itself is small and low cost, but, in the aggregate, takes stock of what is on internet users' minds. Google Trends data have been fruitfully leverage by scholars across the social sciences. They have been used to measure interest in human rights (Dancy and Fariss, 2023), as well as predict flu epidemics (Ginsberg, Mohebbi and Patel, 2009) and financial market

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[7]See Figure B.1 in the Supplementary Information.
[8]The estimates of α and β for each newspaper are shown in Figures B.2 and B.3

behavior (Preis, Moat and Stanley, 2014).

Second, this data source does not require episodic collection, the way boutique public opinion surveys do. It can be applied to any event with contemporaneous data coverage. This allows us to compare points in time with and without executive action, similar in logic to conventional survey experiments which expose respondents to vignettes. As such, we continuously measure attention to the president. In that way, it also differs from attempts to study presidential agenda setting in Gallup's long-running "most important problem" survey (Franco, Grimmer and Lim, 2018).

We use Google Trends to measure public searches of "President Obama" and "President Trump" throughout both presidents' respective terms.[9] We face three main issues with using Google Trends data. First, the data is aggregated within a particular geographic area and time period. It cannot be tied directly to individual users. As a result, while Google Trends data is a helpful measure of shifts in *public* attention, it does not permit inferences about individual-level behavior. As a result, we avoid ecological inferences. Second, Google provides a normalized integer value between 0 and 100 based on the frequency of searches for the term relative to all searches over the period. As a result, it is not possible to directly compare raw search results across different periods of time or regions. Third, Google also limits day- and week-level searches to 8-month and 5-year chunks, respectively. Acquiring longitudinal search data over longer time periods is only possible at the month level.

We address the second and third challenges by imputing search results on a consistent scale. Bleher and Dimpfl (2022) provide an algorithm for knitting together overlapping intervals of Google Trends search results. They show that two sets of search results for the same phrase and region across overlapping time periods follow a linear relationship. As such, OLS can be used to impute search results on the same scale across two different but overlapping time periods. Following the advice of Eichenauer et al. (2021), we modify the approach of Bleher and Dimpfl (2022) and incorporate week- and month-level data to better capture long-

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[9]Search results span President Obama's first and second terms and President Trump's first term.

term trends in search patterns.

We start by downloading day-, week-, and month-level search data for "President Obama" and "President Trump." For both presidents, day-level data is downloaded in 6 month chunks. Adjacent chunks have 5 months of intersecting data. Since we only focus on President Trump's first term, monthly data is not available and weekly data can be downloaded in a single chunk. We download weekly data for President Obama in 3 chunks that span 4 years and overlap by 2 years. Monthly data is available for the entirety of Obama's term in a single chunk. A president has n day-level chunks of search data and, beginning with the nth and $n-1$ chunks, we start by estimating the following model over the 5 months that chunks n and $n-1$ overlap:[10]

$$Searches_{r,i,d|period_n} = \gamma + \beta Searches_{r,i,d|period_{n-1}} + \alpha \widehat{Searches}_{r,i,w} + \zeta Searches_{r,i,m} + \epsilon_{r,i,d} \quad (4)$$

Where r indexes the region of the country (defined above) or the entire country,[11] i indexes the search phrase (i.e., "President Obama" or "President Trump"), and d, w, and m denote, respectively, the day, week, and month. $\widehat{Searches}_{r,i,w}$ denotes search results for phrase i during the week w that includes day d. These week-level search results are estimated beforehand using a similar procedure, and are therefore already on a common scale. The final term $Searches_{r,i,m}$ denotes search results for phrase i during the month m that includes day d.

After fitting this model on the days that fall within both chunks, we estimate the predicted number of searches for the out-of-sample days from chunk $n-1$. These predicted search results, which are now on the same scale as the chunk n searches, are then appended to the search results from chunk n. Working backward in time, we then repeat the same process, using the newly predicted values to fit the same regression for the next chunk, until we have

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[10]This procedure outline here is for Obama, since it is not possible to download monthly search results for Trump and weekly results are in a single chunk. See the SI for more information.

[11]We get regional search results by calculating the mean number of searches across each of the states in the region, weighted by population size.

looped through all chunks in a president's term.[12] We provide additional details and diag-

nostics about this process in SI Section C.

Figure 3 – **Google Searches for Presidents Obama and Trump.** Shows Google searches for "President Obama" and "President Trump" during their respective terms on a common within-president scale. Search counts cannot be compared across presidents. Counts are national and calculated using the smoothing algorithm run from the most recent to the earliest chunk of search results. See Figure C.1 for results calculated using the algorithm run from the earliest to the most recent period.
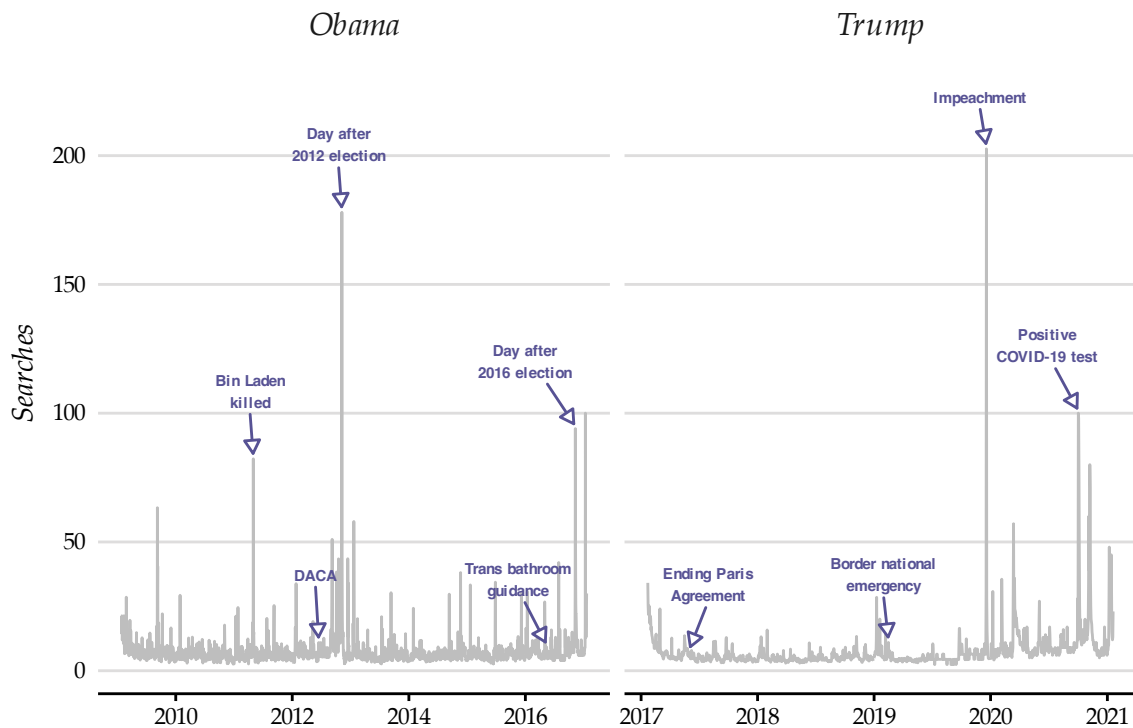

Figure 3 shows the results of our standardization procedure. Each facet plots the day-level

search results for the incumbent on a common within-president scale. Overall, searches for

the president appear highly variable with high spikes around events like elections and im-

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[12]We opt to impute backwards rather that forward from the earliest period to the most recent because of apparent changes in the quality of Google Trends data over time. However, we show in Figures C.1 and C.2 that the forward-imputed search results are closely related. As we discuss in greater detail below, our main results do change somewhat using forward-imputed search results, largely due to differences in aggregated searches in the first month of a presidential administration where the forward- and backward-imputed searches are most different.

peachment proceedings. High-profile unilateral actions appear to correlate with small bumps in searches, but these increases are small when viewed against other types of political events.

Findings

We first examine whether executive action does, in fact, drive public attention toward the incumbent president. We approach this task with a matched difference-in-differences (DiD) design, which compares time-series' of regional web-traffic related to the incumbent president that did and did not feature executive action.

"Control" periods represent web-traffic in the same region, occurring at a similar time in a presidential term, and during which no executive action took place. To give one concrete example: to assess the effect of President Trump's executive order on historically black higher education in the South, we would first select a window to examine Google searches for President Trump surrounding the issuance of the action—for instance, 3 days before and 5 days after. Then we would compare the change in search results in the South before and after the action to the change in web-traffic in the same region over another period that did not feature executive action. We detail our procedure for matching windows of time surrounding unilateral actions to sets of control periods in Section D of the SI and show the distributions of the number of matched control periods in Figures D.3, D.4, and D.5.

Treatment is equal to whether the given period contained the action (0 or 1) times our measure of media salience (which is scaled to [0, 1]). Consequently, the key independent variable can take values between 0 (no action or a minimally significant action) and 1 (the most significant action). The models include regional and action intercept shifts.

This research design addresses some obvious challenges in analyzing data of this kind. First, it sets aside all differences in web-traffic attributable to the attention-worthiness of presidents themselves or the particular actions they take. The objective, nationwide significance of an action is accounted for by intercept shifts, and the DiD estimate is driven by the salience of that action in the media. Our design also reduces the noise inherent in analyzing web-traffic. As Figure 3 demonstrates, the longer the period, the more likely that some intervening

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event will swing web traffic wildly toward the incumbent. Moreover, as we move farther away in time from an executive action itself, the measured impact on web-traffic might not be a function of media coverage—but of events precipitated by the action, such as congressional responses or court cases.

A potential downside is that the design puts several important decisions in the hands of researchers, which opens up the possibility that we will fool ourselves. The two most important questions are matching criteria and the length (in days) of comparison windows. Thus, in what follows, we hold constant the former. Cases are matched based on whether they compare the same region, president (Trump or Obama), and time in term (election year or not). For the latter, we report results using 3-day pre-treatment windows and 3, 5, and 7 day post-treatment windows. We opt for asymmetric periods in order to focus attention on the durability of searches for the president while increasing the number of potential control periods. The best substantive argument for our particular set of post-treatment windows is that the shortest length is thought to be the length of a typical news cycle, whereas a week represents a medium term traffic before defeating the original purpose of analyzing short time windows.

Our baseline findings, reported in Table 1, demonstrate that media salient executive action does precipitate increased attention toward the president. The DV is logged to further reduce the influence of outlier periods and ease interpretation. The interaction term suggests that the most significant executive actions lead to a 46% increase in web-traffic toward the incumbent, pooling both presidencies.[13]

This basic finding is robust to a variety of different modeling approaches. First, the results in Table 1 address a basic limitation of Google Trend data, which is that the service will not return search results when search frequencies in a particular location are sufficiently low—ostensibly to protect the anonymity of users. Table 1 treats these control units as missing. Unsurprisingly, if these unknown cases are treated as zeroes, the effects are less precisely estimated (SI Table E.4). However, their magnitude and sign are substantively unchanged.

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[13] $e^{0.38} - 1 = 0.46$

Table 1 – Effect of Unilateral Actions on Searches for the President (3 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 3 day period. Regions are defined using custom divisions (N = 9). Control periods with an insufficient number of search results are dropped from the analysis. Unilateral action and regional fixed effects are included.

	Pooled	Trump	Obama
Post	-0.43^{***}	-0.37^{***}	-0.46^{***}
	(0.01)	(0.00)	(0.01)
Treatment	0.34^{**}	0.27^{***}	0.66^{***}
	(0.11)	(0.05)	(0.19)
Post*Treatment	0.38^{*}	0.20^{**}	0.48
	(0.15)	(0.07)	(0.27)
Action FE	✓	✓	✓
Division FE	✓	✓	✓
N Region-Action Obs	3135	1770	1365
R^2	0.19	0.43	0.24
Adj. R^2	0.19	0.43	0.24
Num. obs.	196747	66710	130037

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

Second, the results are robust to alternative specifications of the treatment. SI Figure E.1 re-analyzes our data, with the treatment as a dichotomous indicator of whether the action was covered in at least one newspaper article. Again, this effect is positive and statistically significant using 3- and 5-day post-treatment windows. On average, Google searches for the president increase by about 8% after the issuance of a newsworthy unilateral action. Finally, as we go on to show later, the results also hold if searches are measured at the national rather than regional level (Table E.1).

Durability. The next question is whether these effects last. The answer depends on both the president and the approach to analyzing web-traffic. To illustrate this, we report pooled and by-president results for all our intervals, and for both approaches to missing web-traffic periods in Figure 4. The general picture is again that executive action in the news increases web-traffic for the incumbent, but the effects vary. Effects are largest in the 5 days following the issuance of an action and dissipate over the course of 7 days. The effects are much more precise for President Trump than Obama. This likely reflects the difficulties of collecting regional Google Trends search data from early in Obama's first term (See Figure D.7 in the SI, although search traffic for President Obama was also more variable during his term (Figure 3).

Figure 4 – Significant Actions Lead to Increased Attention. Shows the results of separate regressions testing the interaction between the treatment and post time indicators. The black points show the exponentiated coefficient on the interaction term and corresponding 95% confidence interval for a pooled model that includes a president fixed effect. The red and blue points show the exponentiated interaction coefficients for unilateral actions issued by Trump and Obama, respectively. Full results in Tables 1, E.8, E.6, E.4, E.7, and E.5.

(a) NA-searches assumed zero   **(b)** NA-searches dropped
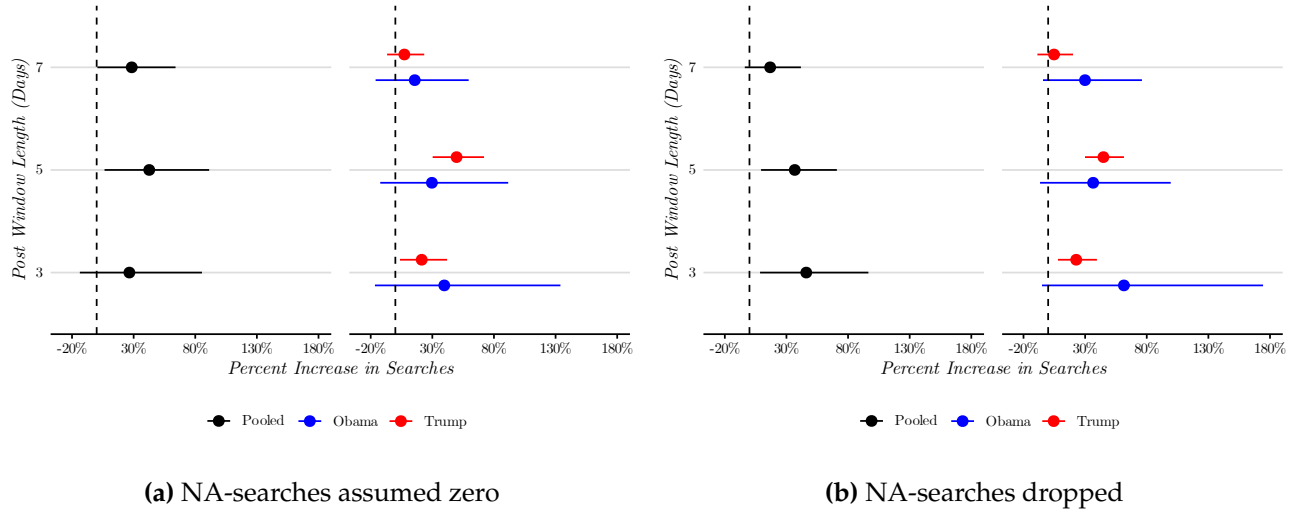
We can also show our results with national-level action significance scores and nationally-aggregated search results, which removes the issue with low search results for some regions in Obama's first term. Figure 5 shows these findings. In this setup, actions lead to increased searches up to 7 days following issuance when pooled across presidents. Although not statistically distinguishable, searches for Obama appear more robust than those for Trump, perhaps reflecting increasingly short news cycles. Overall, however, the results mirror those in Figure 4. Executive action that results in subsequent news coverage leads to a measurable shift in public attention toward the incumbent.

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Figure 5 – Main Results Largely Hold Using National Search Results. Replicates Figure 4 except the search results are measured at the national rather than regional level. Figures D.1 and D.2 show the distributions of control units by interval length and president. Full tabular results in Tables E.1, E.2, and E.3.
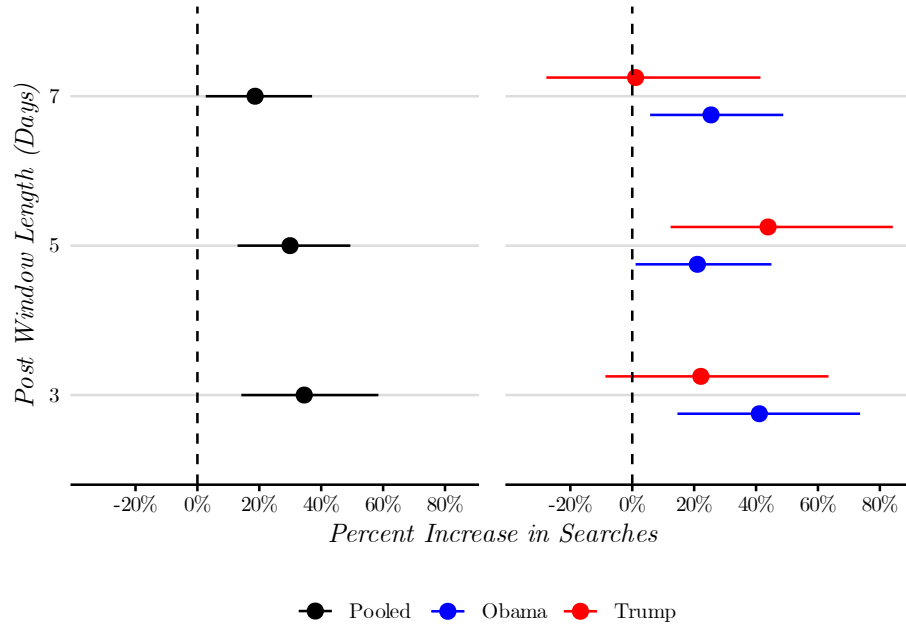
Localism and Nationalization. Executive actions in the news were strong, positive predictors of attention to Presidents Obama and Trump. The previous results, however, set aside all geographic variation in both attention and salience. But this remains an important aspect of the information environment of the public. If the attention spikes we see are driven by regional variation, then in effect, presidents were capturing the attention of the public on the basis on coverage tailored to their area. On the other hand, if minimal regional variation in attention exists, then the president possesses a blunter tool—each executive action would have to be thought of on the basis of its national effect.

To investigate this, we first plot the overall distribution of the posterior means of the regional salience scores z_{jr} against the national salience scores w_j in Figure 6. In general, the correlations between national and regional significance over this period are high. Note, importantly, our hierarchical IRT model does not assume this relationship—it allows these parameters to be independent. What the figure demonstrates is that much of the coverage in

regional outlets over this very recent period essentially duplicates what is produced by the large national papers. In some cases, papers with only statewide circulations merely reprint Associated Press stories about executive action related to the president. The result is an information environment about the incumbent that is *not*, in general, tailored to the particular interests of the region.

Figure 6 – **Action salience is nationally driven.** Shows the estimates of the posterior means of actions' regional and national salience by president. Actions that did not receive any coverage are dropped.
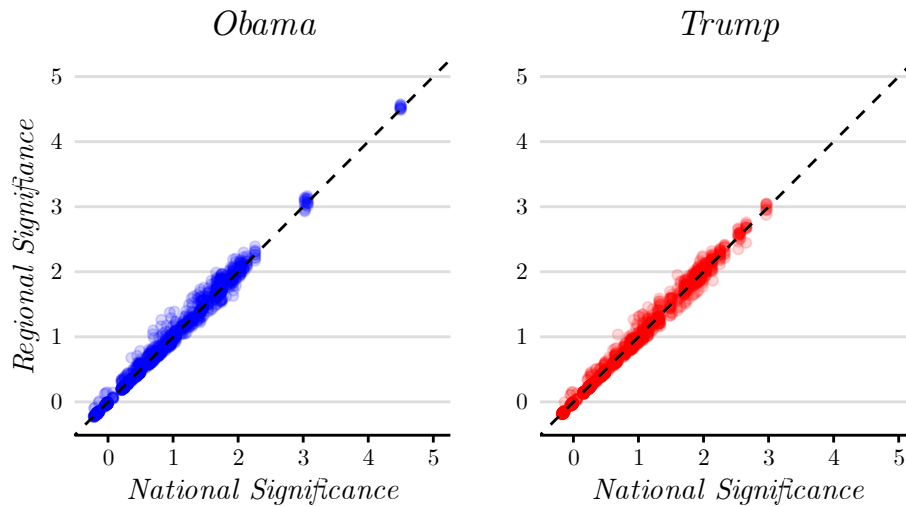

The descriptive evidence in Figure 6 is consistent with broader arguments about the nationalization of U.S. politics and media. Interestingly, we find little evidence of regional variation in action salience, despite the fact that many of these actions have direct impacts on the lands within the circulation regions of the papers in question. Past scholarship, of course, has given us reason to believe this might be the case. Hopkins (2018) shows that the appetite for state and local news has declined. In addition, Peterson (2021) finds that over this time period, staff cuts have led to a decline in region-specific political stories.

The fact that there is little regional variation in news salience suggests that there may be little variation in attention attributable to (regional) politics. Newspapers should be anticipating what their readers will be interested in, and cover actions relevant to those readers more, which should increase public attention. Nonetheless, none of the preceding actually assesses whether there is variation in attention spikes associated with regions' political leanings. To

do that, we repeat our analysis by region and president.

We plot the results in Figure 7, which sorts each coefficient in order of regional support, so that the top region is the set of states with the high proportion supporting the incumbent in the last election. In general, Figure 7 shows little evidence of regional variation, although there is some evidence to suggest that regions more supportive of Obama searched for the president more following the issuance of a unilateral action. Specifically, President Obama received much of his support in Acela and West (see Figure 1), and this is where the effect of executive action news is distinguishable from zero.

Figure 7 – Regional Results, Sorted by Presidential Support. Shows our main results estimated separately by region. The estimates are sorted based on the share of voters in the region who voted for Trump in 2016 and Obama in 2012, respectively. The interval length is set to 7 days.
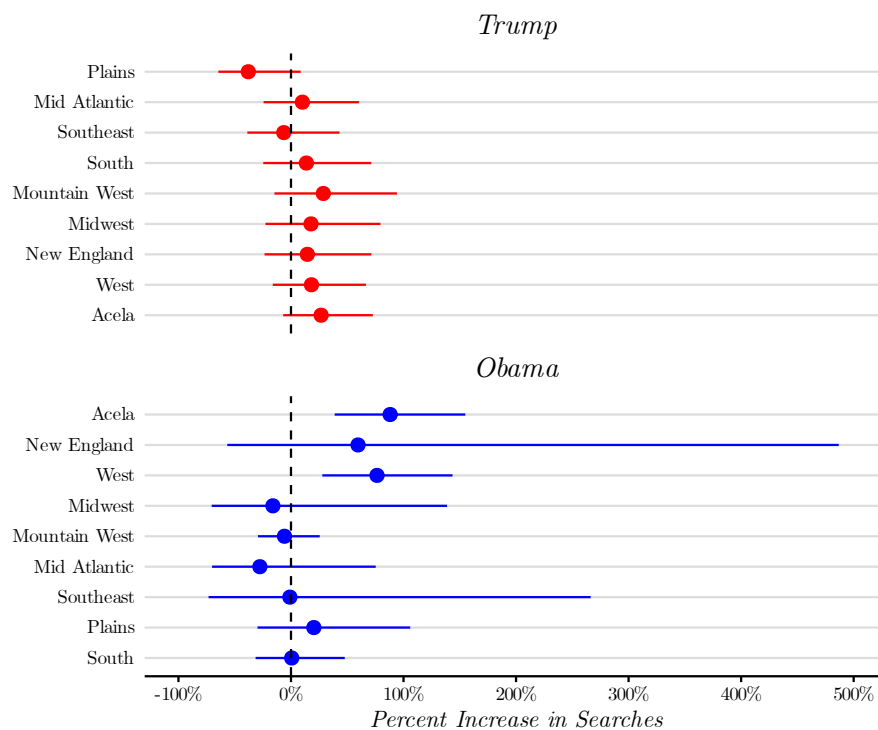
However, this evidence is, on the whole, merely speculative. Many things differ across regions, and the effects are mostly similar. This, of course, does not mean that asymmetric attention effects are not present. It might simply be that our aggregate search traffic data are ill suited to capturing them. Regional partisan lean may simply be too coarse a measure.

What is likely needed is individual-level opinion and web-tracking data.

In summary, we find robust evidence that executive action drives public attention toward the incumbent president, and that this process is mediated by the news. The effects persist beyond the length of an initial news cycle. The evidence is strongest for President Trump, which may be due either to substantive factors unique to him, or to data quality. Moreover, the evidence suggests these shifts are typically national. In short, by taking executive action over this period, President Obama and President Trump had measurable impacts on the information available to the American public, nationwide, as well as their attention as measured by search engine traffic.

Discussion

Scholars have long acknowledged that democracies function well or poorly on the basis of available information. Voters need information to judge the performance of incumbents and hold them accountable at the ballot box. But separation of powers systems complicate this process by fracturing the source of policy. Incumbents are often in a contest to take credit for government action that benefits constituents, and lay blame for things that do not. Our study has made a simple argument: in this contest, all actors are not equally advantaged. In particular, the U.S. president, and chief executives in general, possess tools of the state that allow them to more effectively influence what information is available to voters. That information subsequently centers the political attention of the public on them.

The evidence that supports this argument comes from executive action issued during the presidency of Barack Obama and the first term of President Trump. Actions salient in the news increased subsequent search engine traffic by 46%, on average. Extrapolation beyond these historical periods carries all the risks of out-of-sample prediction. If the differences between Obama and Trump are not an artifact of measurement error, then it is possible earlier presidencies would show less impacts on public attention. Moreover, the second Trump administration has so thoroughly dominated the news cycle, and executive action has occurred

so frequently, that it is possible there would essentially be no control periods. We would have to compare more or less salient actions to each other, and have difficulty recovering the appropriate counterfactual.

Our study also highlights fruitful ground for additional work on public "up-take" of policy information. We study public attention in the aggregate, regional level, not at the individual level. We therefore cannot speak directly to factors like partisanship, ideology, and political knowledge, which might contribute directly to the consumption of news about executive action. In other words, we do not know what segment of the president's constituency is driving these shifts in web attention. But these questions are critical for understanding the impact of executive action on the president's broader accountability relationship.

More generally, our findings suggest scholarship on American democracy and political communication could benefit from attention to institutions and policy outputs. Our evidence suggests that presidents' agenda setting power has important implications for the basic accountability relationship between the state and voters.

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Supplementary Information

Learning About Presidential Power

Benjamin Goehring, Kenneth Lowande, and Yuki Shiraito

A   Collecting Newspaper Coverage Data

A.1   Procedure for collecting coverage

Our primary goal was to generate an index of news coverage of unilateral action that would be broadly representative of print journalism during this period. We first generated a list of the most circulated papers in each state and the District of Columbia using panel data collected by (Gentzkow, Shapiro and Sinkinson, 2011). We then found the paper with the largest circulation in each state that was included in ProQuest's news database. Finally, we added any newspapers in the top 25 publications by national circulation not already included, regardless of state. The result of this inclusion procedure is the outlets listed in Table A.1. Our main concern is that our selection procedure would over-sample newspapers from large cities, and thus, lean Democratic in its endorsements and affiliations. This might lead to coverage differences across presidents attributable to the uniqueness of the sample. However, only 14 of the 51 newspapers have Democratic partisan affiliations (Gentzkow, Shapiro and Sinkinson, 2011).

Our sample does not include a newspaper from 8 states: Idaho, Utah, Alaska, North Dakota, Oklahoma, Arkansas, North Carolina, and Rhode Island. There are two dynamics at play. First, some states' major paper is simply not part of the ProQuest database. Including them would be prohibitively time consuming. This is most common in states where the largest paper in terms of circulation is relatively small in terms of its state readership proportion. Second, during this period, the Washington Post and New York Times had subscriber bases in adjacent states that rivaled or exceeded the major state newspaper. Though we do not investigate this in this study, our time series allow us to examine secular changes in presidential news coverage due, in part, to the nationalization of reporting and the financial success of these major outlets.

Table A.1 – Our Sample of Newspapers is Geographically and Politically Diverse
Lists the newspapers in our sample along with their Democratic (D), Republican (R), or Independent (I) partisan affiliations, as provided by Gentzkow et al (2011). Papers are classified as Republican (Democrat) if they ever declared an affiliation with the party.

State	City	Publication	Partisan Affiliation
AL	Montgomery	Montgomery Advertiser	D
AZ	Phoenix	Arizona Republic	R
CA	Los Angeles	Los Angeles Times	R
CA	San Jose	San Jose Mercury News	NA
CO	Colorado Springs	The Gazette	R
CT	Hartford	Hartford Courant	R
DC	Washington	The Washington Post	I
DE	Wilmington	The News Journal	I
FL	Orlando	Orlando Sentinel	I
FL	Tampa Bay	Tampa Bay Times	D
GA	Atlanta	The Atlanta Journal Constitution	NA
HI	Honolulu	Honolulu Advertiser	R
IA	Des Moines	Des Moines Register	R
IL	Chicago	Chicago Tribune	R
IN	Indianapolis	Indianapolis Star	R
KS	Topeka	Topeka Capital Journal	NA
KY	Louisville	Courier Journal	D
LA	Shreveport	The Times	D
MA	Boston	Boston Globe	I
MD	Baltimore	The Baltimore Sun	I
ME	Portland	Portland Press Herald	R
MI	Detroit	Detroit Free Press	D
MI	Detroit	Detroit News	R
MN	Minneapolis	Star Tribune	I
MO	St. Louis	St Louis Post Dispatch	D
MS	Jackson	The Clarion Ledger	D
MT	Billings	The Billings Gazette	R
NE	Lincoln	Lincoln Journal Star	I
NH	Manchester	The Union Leader	R
NJ	Bergen County	The Record	R
NM	Albuquerque	Albuquerque Journal	I
NV	Las Vegas	Las Vegas Review Journal	D
NY	New York	New York Daily News	I
NY	New York	New York Times	D
NY	New York	Wall Street Journal	NA
OH	Cincinnati	Cincinnati Enquirer	D
OR	Salem	Statesman Journal	I
PA	Philadelphia	Philadelphia Inquirer	R
PA	Pittsburgh	Pittsburgh Post Gazette	R
SC	Charleston	The Post And Courier	I
SD	Sioux Falls	Argus Leader	R
TN	Nashville	The Tennessean	D
TX	Austin	Austin American Statesman	D
VA	Newport News	Daily Press	D
VT	Burlington	The Burlington Free Press	R
WA	Spokane	Spokesman Review	R
WI	Milwaukee	Milwaukee Courier	NA
WI	Milwaukee	Milwaukee Journal Sentinel	I
WV	Charleston	Charleston Gazette Mail	NA
WV	Charleston	The Charleston Gazette	D
WY	Cheyenne	Wyoming Tribune Eagle	NA

A.2 Procedure for coding coverage

Prior to being given complete coding sheets, our researcher assistants attended a 1 hour training and then were assigned to complete a short coding sheet of actions which took roughly 4 hours, on average. After that, they were provided a set of correct coverage answers, and were tasked with going through each action to reconcile differences in their coding and the correct sheet. Any remaining discrepancies were then reviewed in a meeting with the principal investigators. In addition to this initial screening, we monitored inter-coder reliability in real-time, as the coders completed actions. If any significant discrepancies emerged, we examined their work and then met with the research assistant to clarify our coding rules.

We provided the following instructions to undergraduate research assistants:

"The csv contains a list of executive actions. We want to know how the media covered these cases. You will use the ProQuest database to pull newspaper coverage. Read these instructions in their entirety before proceeding. If you have any questions, contact (blinded for peer review).

What are you looking for?

We are looking for U.S. news coverage (excluding opinion and reprint pieces) of executive action. What does this mean? U.S. presidents routinely sign documents that we call "directives" (like executive orders, memoranda, proclamations, etc.) that are formal actions that do not require approval from Congress. These directives do all kinds of things, like build border walls, establish commissions, raise tariffs, and create national monuments. We want to find the news stories that cover or mention these executive actions. These are distinct from news stories that mention legislation in Congress, speeches, meetings with international leaders, or the president's generic position on some topic.

Examples of what counts as relevant coverage:

The action is the main subject of the story. Suppose you were to collect articles about the unilateral action titled "Memorandum on Extension of Benefits to Same-Sex Domestic Partners of Federal Employees." In O'Keefe (2010) in the Washington Post, the action is the main subject of the story. The explicit attribution of the memorandum comes in the second paragraph: "The policy change, published in Monday's Federal Register, is part of reforms ordered last year by President Obama when he extended fringe benefits to the same-sex partners of gay federal workers. . . " Note, it does not explicitly say "memorandum" – but we know because of the timing and content that this is what the news story is referring to.

The action is not the main subject, but appears in the text somewhere after the lede. The document itself is mentioned. Suppose you were to collect articles about the unilateral action titled "Memorandum on Speeding Infrastructure Development Through More Efficient and Effective Permitting." In Dresser (2011) in The Baltimore Sun, the memo is not the main subject, but it is mentioned explicitly toward the end of the article: "The announcement follows a memorandum President Barack Obama signed in August directing federal agencies to expedite environmental reviews and permit decisions for projects..."

The action is not the main subject, but appears in the text somewhere after the lede. The document itself is not mentioned. Suppose you were to collect articles about the unilateral action titled "Proclamation 9298-Establishment of the Berryessa Snow Mountain National Monument." In Tilove (2015) in the Austin-American Statesmen, Obama's designation of Berryessa Snow

Mountain is mentioned, even though the article is about the Waco Mammoth Site. It reads: "It was one of three new national monuments created Friday by the president. The other two are Berryessa Snow Mountain in California, a landscape containing..." Notice, the article does not mention a proclamation specifically, but it counts as coverage because the thing the proclamation did – create the specific national monument – is mentioned.

The action is not the main subject, but appears in the text somewhere after the lede. The document itself is not mentioned because the story appears before it was signed. Suppose you were to collect articles about an executive order that made the head of the CIA more prominent in the NSC. In Priest and Pincus (2004) in the Washington Post, the executive order and what it does is referenced vaguely because it had not yet been signed. The article reads: "President Bush, at his ranch in Crawford, Tex., held another video conference yesterday with his national security advisers to discuss a set of executive orders he plans to issue next week..." If you think you have a case like this, you can double check this by looking at the date of the directive and the date of the article.

Examples of what does not count as relevant coverage:

The article references a different directive on the same topic. Suppose you were to collect coverage of the unilateral action titled "Memorandum on Speeding Infrastructure Development Through More Efficient and Effective Permitting." In Nakamura (2013) in the Washington Post, a different memo on a similar topic is mentioned: "In Baltimore, he announced that he had signed a memorandum to speed up permits for infrastructure projects, which he said would help get more unemployed workers back on the job." The telltale sign is that this language mentions a memo signed within the last week, but this article was published two years after the memorandum you're looking for coverage of. This is another example of how the timing of the action can be a guide for whether the coverage is relevant.

The article references the same topic, but not the action the president took. Suppose you were to collect coverage of the Presidential Review Directive titled "U.S. Environmental policy in Latin America and the Caribbean." In Deans (1997) in the Pittsburgh Post-Gazette, the President's meetings, policies and positions on the environment and Latin America are mentioned, but this directive is not. There is no mention of an order, or a review directive. This is not relevant coverage because it is not a news story about the president's specific action in the Presidential Review Directive.

The article references the action but does not attribute it to the President or his administration. Suppose you were to collect coverage of the memorandum titled "Memorandum on Implementation of Revised Air Quality Standard for Ozone and Particulate Matter." The memo asks the EPA to implement stricter particular matter rules. Press (2000) mentions that a lower court overturned the EPA's stricter particular matter rules, but it attributes this policy failure to the EPA, not the president or his administration. This is not relevant because it does not connect the failure to the unilateral action taken by Clinton.

Search Procedures:

Each row in the csv file pertains to a different presidential action. The first 13 variables are already filled in and contain information to help you identify the action and search for it in ProQuest. Do not replace or alter any of this information. You are going to use the advanced

search function to see if any newspaper articles cover the relevant action.

1. Access the ProQuest database using your U-M credentials.

2. If it is not already, sort the spreadsheet by date (year, month, day), this will make adjusting the publication dates for the advanced searches easier.

3. Adapt the advance search for coverage of particular action:

   - Publication date: Specific date range (three months before the action was issued) to (last day president in office, January 20 XXXX)
   - Main search line: Copy and paste the search syntax provided. If this syntax isn't exact, the search will be wrong.
   - Limit to: Full text
   - Sort results by: "Relevance"
   - Exclude duplicate documents.

4. Input the total number of results in the total search results field, which is named 'no.results' in the spreadsheet.

5. Select "Get Search Link" and copy/paste this link in the search link field, which is named 'search.link' in the spreadsheet.

6. Place check marks on all relevant articles.

   - First look at the one sentence summary of the action, as well as the directive type. These will guide you as you examine the coverage returned by the advanced search.
   - To identify relevant articles:
     - . Click on each entry and examine the full text.
     - Control-F the words "president," "administration," and the president's name (e.g., Obama).
     - An entry is relevant if it mentions the directive. Note:
       * See the examples. It may or may not explicitly mention the document. But it must mention the president or his administration and the specific action.
       * Articles published outside the US are not relevant. The Times of London (a UK publication) and the Gazette (published in Montreal) will occasionally appear in search results.
   - Opinion pieces or letters to the editor are not relevant. Do not check them. (Sometimes you can only tell if an article is an opinion piece by reading the introduction or conclusion for any supportive/unsupportive language.)
   - In the case of articles published before the issuance of the action, look to see if the article mentions the upcoming order or discussions about the order. (e.g. "A source in the Bush administration says that the president will impose steel tariffs next week.")
   - Transcripts of speeches are not relevant.

- Other helpful tips:
  - If the first 10 entries do not reference the action, it is very unlikely any others will.
  - Documents with the "Federation of American Scientists" source are very unlikely to have received coverage. These documents are generally top secret upon issuance, and news outlets only learn of their existence long after the fact.
  - To limit number of search results:
    * Check all duplicate publications with the same title, which are usually local news articles reprinting national news providers.
    * Do not check duplicate entries within the same news source.
    * Do not check REPRINTING coverage. These are entries that simply reprint the government document in full, without commentary.

7. If there is no relevant coverage, enter 0 in the coverage field and move on to the next document, otherwise, enter a 1.

8. Export the results to an .xls file.

  - Click "XX selected articles" link at the top of the page.
  - Select "All save options" in the upper right corner.
  - Select "Download XLS"
  - Save the file as a .csv in the "coverage/lastname" folder with the following naming convention: "uid.csv"

9. Uncheck all checked articles before proceeding to the next case."

We randomly selected roughly 1 of every 3 actions to be coded be two coders. In general, agreement and reliability for whether there was coverage of a particular action was very high, with 94% agreement and a Krippendorf's alpha of .87.

A.3   Compiling Coverage Data

We compiled the coverage data iteratively in order to check our coders' work and catch mistakes early. Since our data included double-coding and opportunities for disagreement among coders, we had to make a few decisions regarding how best to clean the coverage data. First, for actions that were double-coded, we only included them in our final dataset if the coders were in agreement that the action did or did not receive coverage. This resulted in dropping 64 actions from our final dataset. Second, if two coders agreed that coverage existed for an action but disagreed on the number of articles providing coverage, we set the amount of coverage equal to the larger of the two numbers. We opted to use the larger of the two values since it is conservative relative to our main argument.

B   Salience Model Diagnostics

Figure B.1 – $\hat{R}$ **Values Show High Degree of Convergence.** Shows the distributions of the potential scale reduction factors for the w, omega^2, beta, and alpha parameters.
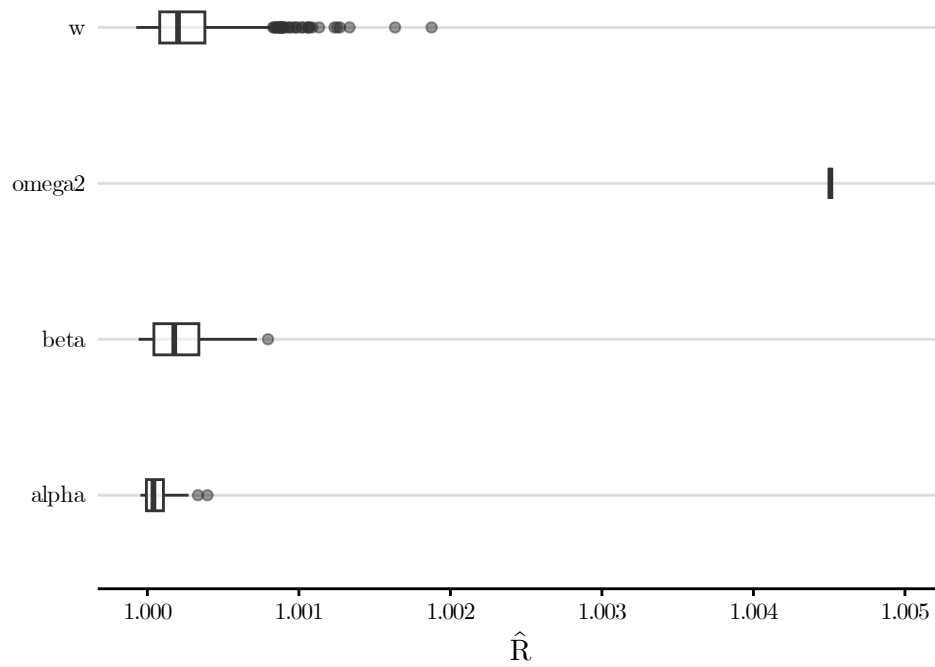
Figure B.2 – Difficulty Parameters. Plots the difficulty parameters from the IRT model.
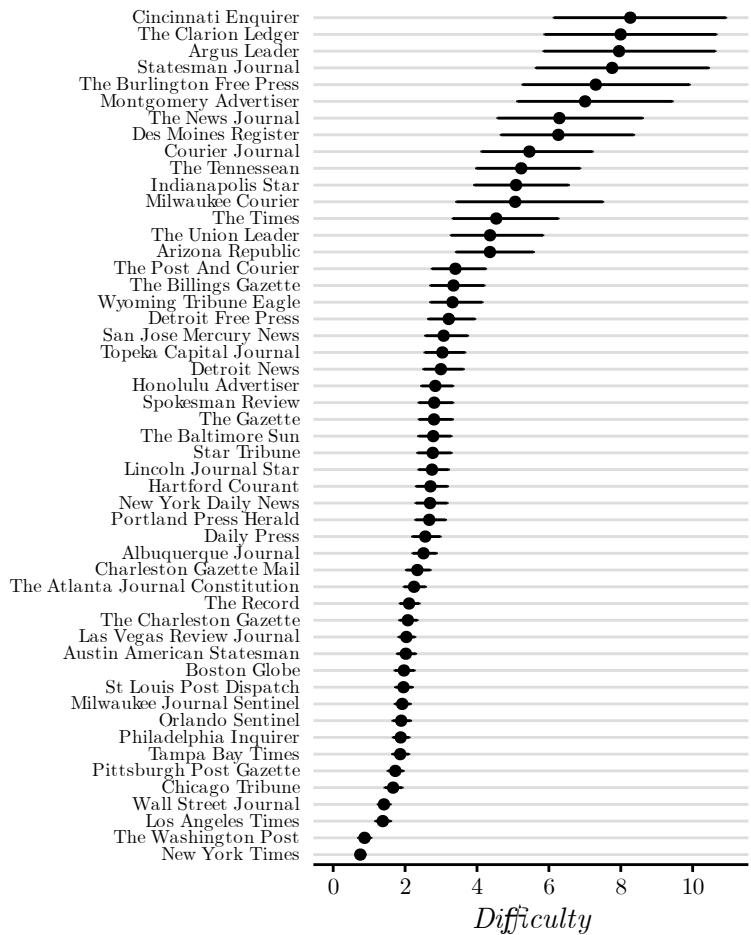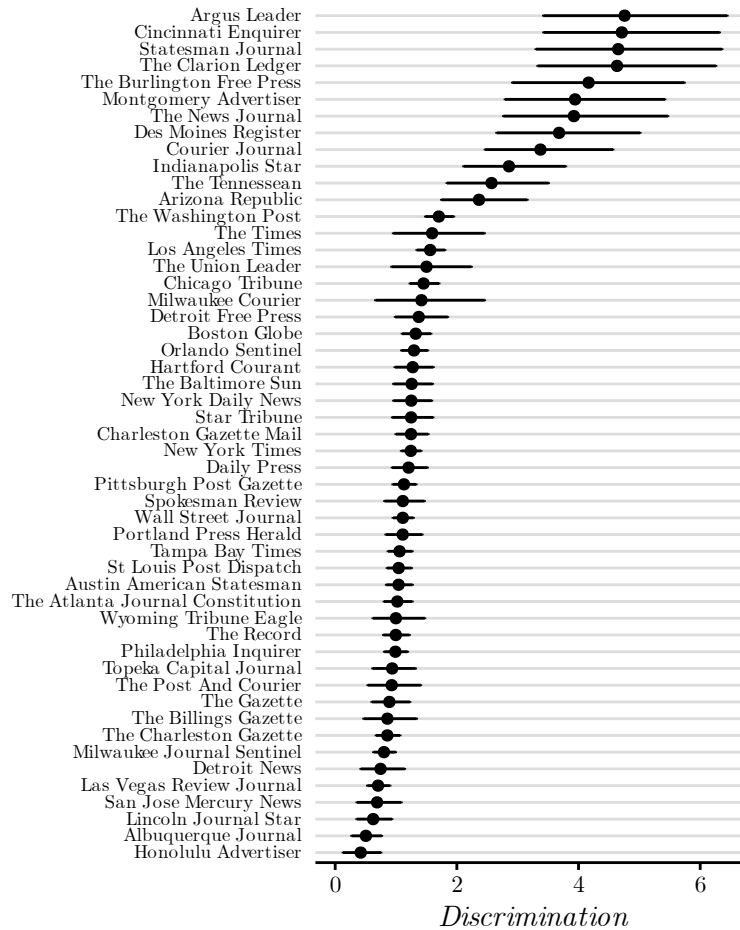
Figure B.3 – Discrimination Parameters. Plots the discrimination parameters from the IRT model.

C   Google Trends

We estimate regional and national day-level search results for "President Obama" and "President Trump" using the following steps:

- Using SerpAPI, download Google Trends search results for "President Obama" and "President Trump" at daily-, weekly-, and monthly-intervals in each state and nationwide. The data are downloaded in overlapping intervals:

  1. Daily data are downloaded in 6-month chunks. Adjacent chunks have 5 months of overlapping data. For instance, the first chunk of Obama searches include January 20, 2009 through July 20, 2009. The next chunk covers February 20, 2009 through August 20, 2009.

  2. Weekly data are downloaded in 24-month chunks, except when they go up to the end of a president's term in which case they encompass a longer period. Adjacent chunks have 12 months of overlapping data. For instance, the first chunk of weekly

searches for Trump cover January 27, 2017 through January 20, 2019 and the second chunk encompasses January 20, 2018 through January 19, 2021.

3. Monthly data can be extracted on a consistent scale for any time period over 5 years. Therefore, it is only available for Obama.

- For state-level data, aggregate searches up to the regional level (See Figure 1). For the states within each region, calculate the mean number of searches for the time period weighted by the state's population size.

- Truncate data to exclude periods of consistent zero hits as this effectively breaks the imputation algorithm. Keep all weekly data up to an instance of three straight weeks of zero searches. Keep all daily data up to an instance of 60 straight days of zero search results. If a region has less than 40 days or weeks with any searches it is completely dropped.

- Run the imputation algorithm defined in the main text in Equation 4 within each geographical region or nationwide.

- Sum up the number of imputed daily hits within the 3-, 5-, or 7-day interval defined before/after unilateral actions and their control dates.

Figure C.1 – Google Searches for Presidents Obama and Trump (Alternative Algorithm). Shows Google searches for "President Obama" and "President Trump" during their respective terms on a common scale. Search counts cannot be compared across presidents. Counts are national and calculated using the smoothing algorithm run from the earliest to the most recent period.
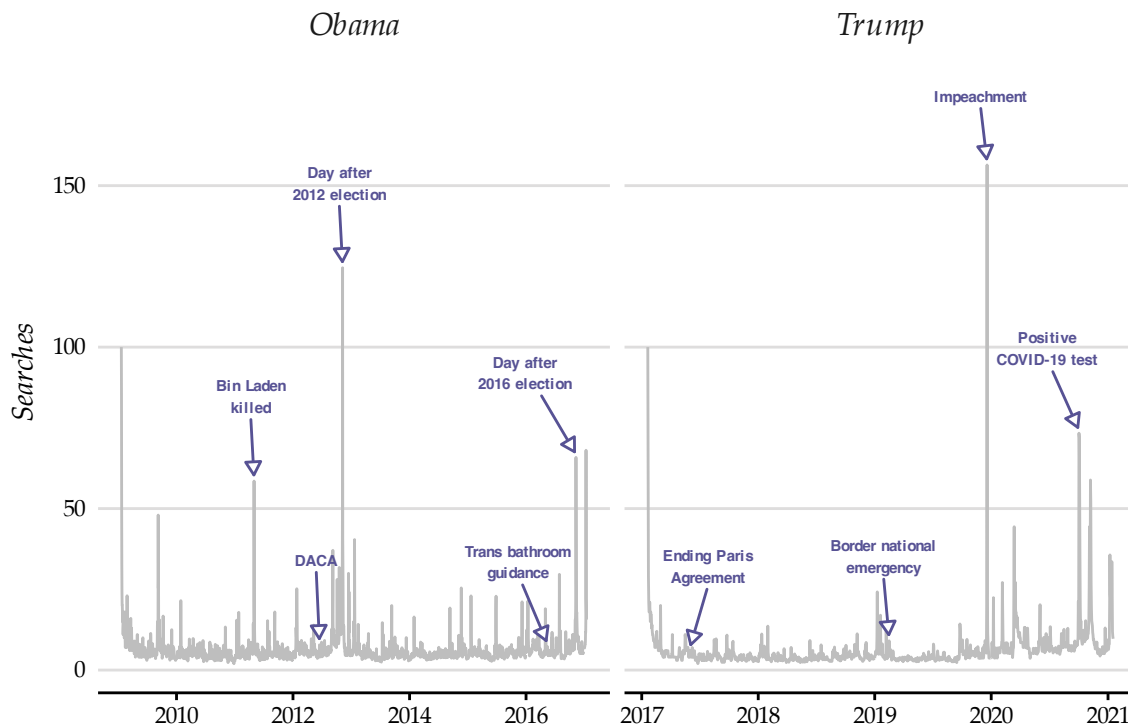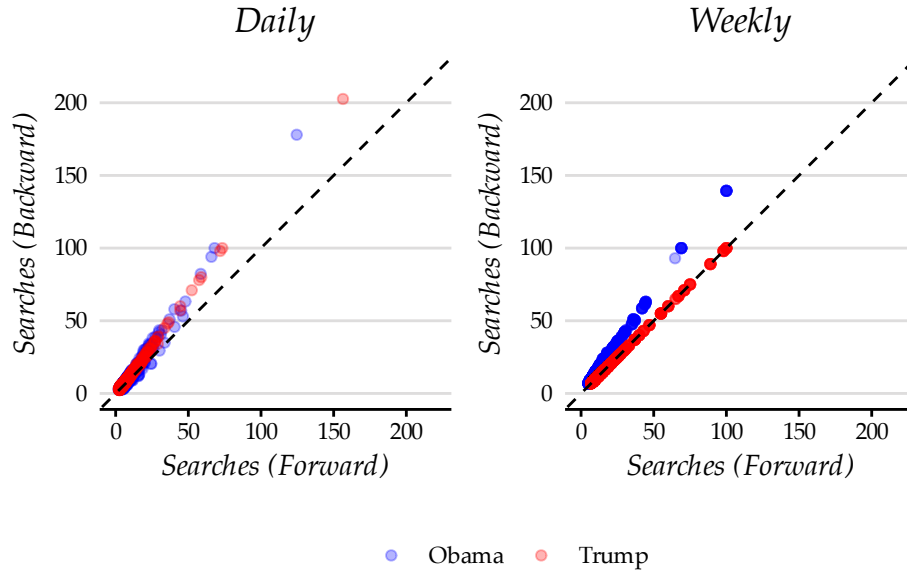
Figure C.2 – Correlation Between Imputation Algorithms. Plots the daily and weekly search results using the algorithm run from the most recent period to the earliest (backward) and earliest period to most recent (forward). The correlation between the daily search results is 1.32 (R^2 = 0.98) and the correlation between the weekly search results is 1.08 (R^2 = 0.92).

D   Analysis Diagnostics

We match control periods to unilateral actions using the following algorithm. For simplicity, we walk through an example of finding all control periods for President Obama's DACA order, which was issued on 6-15-2012. The pre/post periods are set to 3 and i days, respectively (where i is either 3, 5, or 7 days).

1. Define the set of possible control periods by first finding all dates from 6-15-2012 to 1-20-2017 at $i + 3$ day intervals and 6-15-2012 to 1-20-2009 at $-(i + 3)$ day intervals. The unique concatenation of these dates form the beginning of each control period. The center of the potential control periods equals the beginning dates plus 3 days and the end boundary dates equal the beginning dates plus $i + 3 - 1$ days. For instance, one possible control period is comprised of the beginning, center, and end dates of 10-21-2012, 10-24-2012, and 10-28-2012.

2. Define the beginning, center, and end dates of all unilateral actions issued by the given president. The center date is the date each action was issued. The beginning date is 3 days prior and the end date is $i - 1$ days after.

3. Using the set of possible control periods and the set of action periods, find all control periods that do not overlap with any action periods. In R, this is done with the chunk of code below, where `control_intervals` is a dataframe containing the pre, center, and post dates of each potential control period; `action_intervals` is a dataframe containing the pre, center, and post dates of each unilateral action issued by Obama; and `control_pre`, `control_post`, and `action_post` are the pre/post boundary date variables in, respectively, `control_intervals` and `action_intervals`.

```
anti_join(control_intervals,
          action_intervals,
          join_by(overlaps(control_pre,
                           control_post,
                           action_pre,
                           action_post,
                           bounds = "[]")))
```

4. Since DACA was issued in a re-election year, remove any remaining control periods with central dates not in 2012.[14] The remaining control periods comprise the set of matched control periods for DACA using a post-treatment window of i days.

5. Sum the number of day-level Google Trends searches within the pre/post interval for the treatment and control periods. The pre interval includes all days up to but not including the central date. The post interval includes the central date up to and including the post boundary date.

This process is then repeated for all other unilateral actions in our dataset. The following figures show the distribution of the number of matched control periods by region, nationally, and nationally by president. The horizontal axis denotes the number of control periods a particular action was matched to, while the vertical axis indicates the frequency (i.e., the number of unilateral actions matched to x number of control periods). Figures D.6 and D.7 show the share of unilateral actions in our dataset successfully matched to at least one control period over time.

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[14]Actions issued in 2020 receive a similar treatment. Actions issued in Obama's first (second) term are also only matched to control periods in his first (second) term.

Figure D.1 – Number of Matched Control Units (National Models). Plots the number of control units matched to unilateral actions using post-treatment windows of 3, 5, and 7 days. The pre-treatment interval is 3 days. Control units computed using national-level Google Trends search results. The bin width is set to 2.
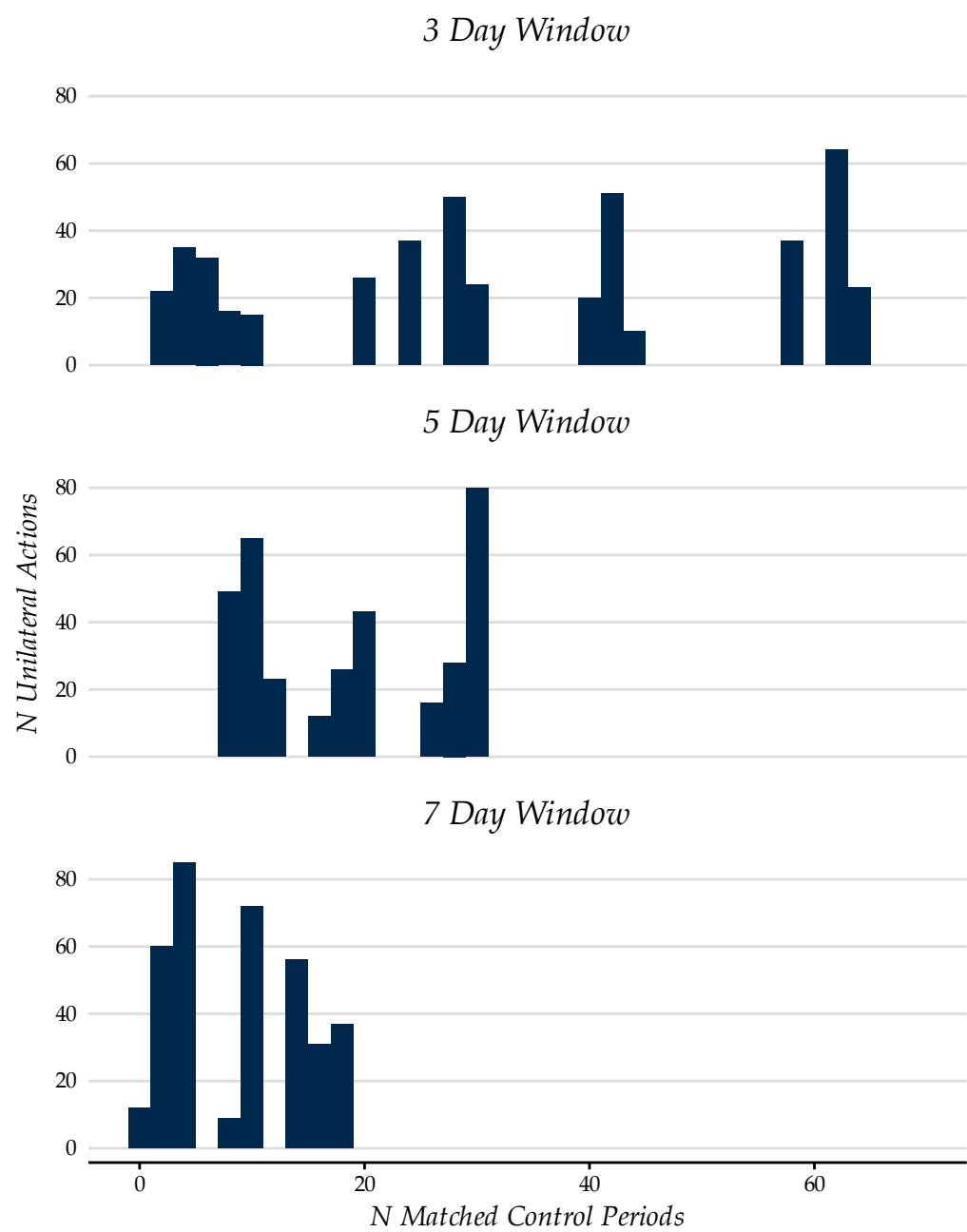
Figure D.2 – Number of Matched Control Units, by President (National Models).
Plots the number of control units matched to unilateral actions using post-treatment
windows of 3, 5, and 7 days. The pre-treatment interval is 3 days. Control units
computed using national-level Google Trends search results. The bin width is set to
2.

Figure D.3 – Number of Matched Control Units, by Region (3 days post). Shows
the distribution of control units by region. Control units are windows of ± 3 days
during a president's term where no action was issued. The bin width is set to 2.
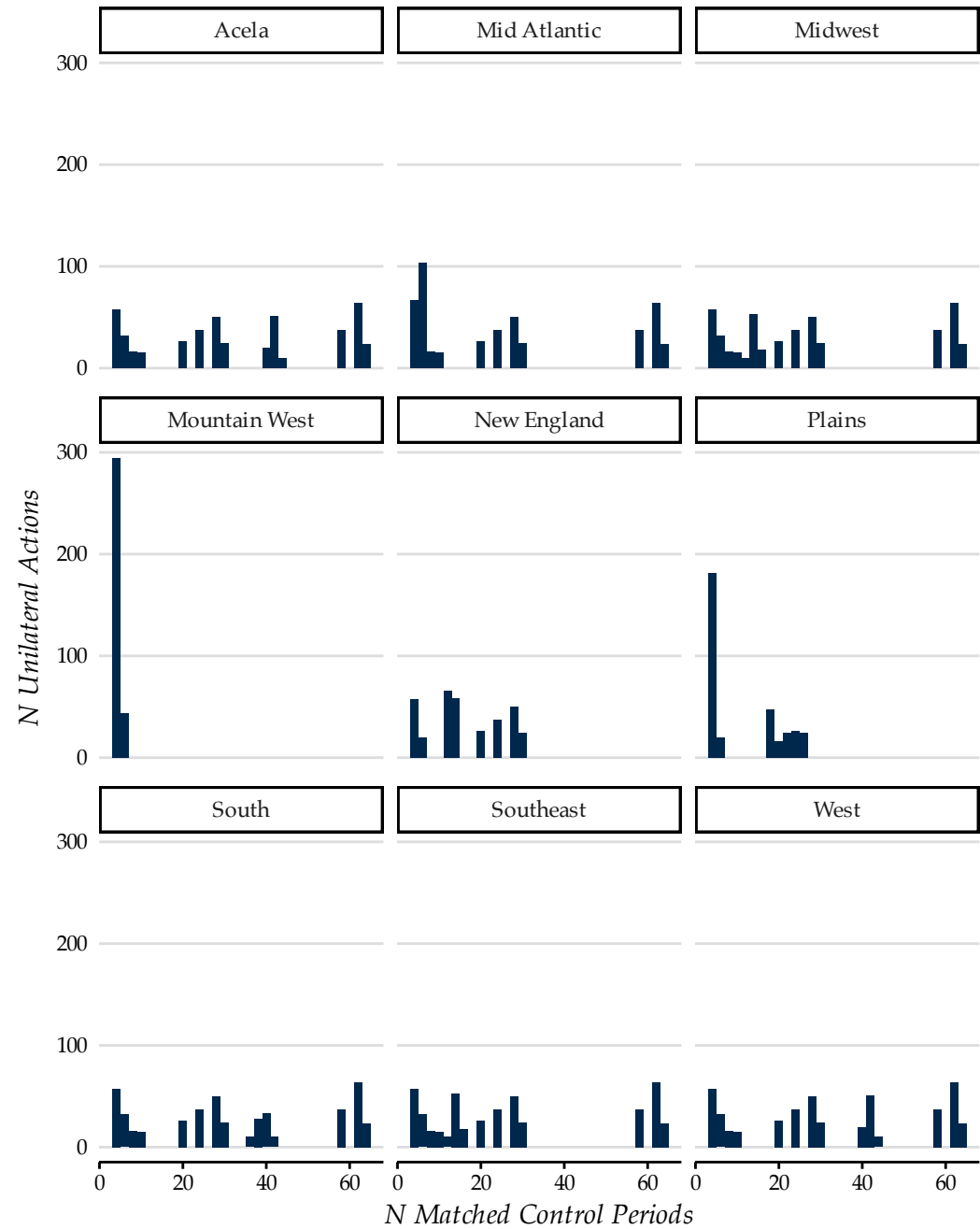
Figure D.4 – Number of Matched Control Units, by Region (5 days post). Shows the distribution of control units by region. Control units are windows of 8 days during a president's term where no action was issued.

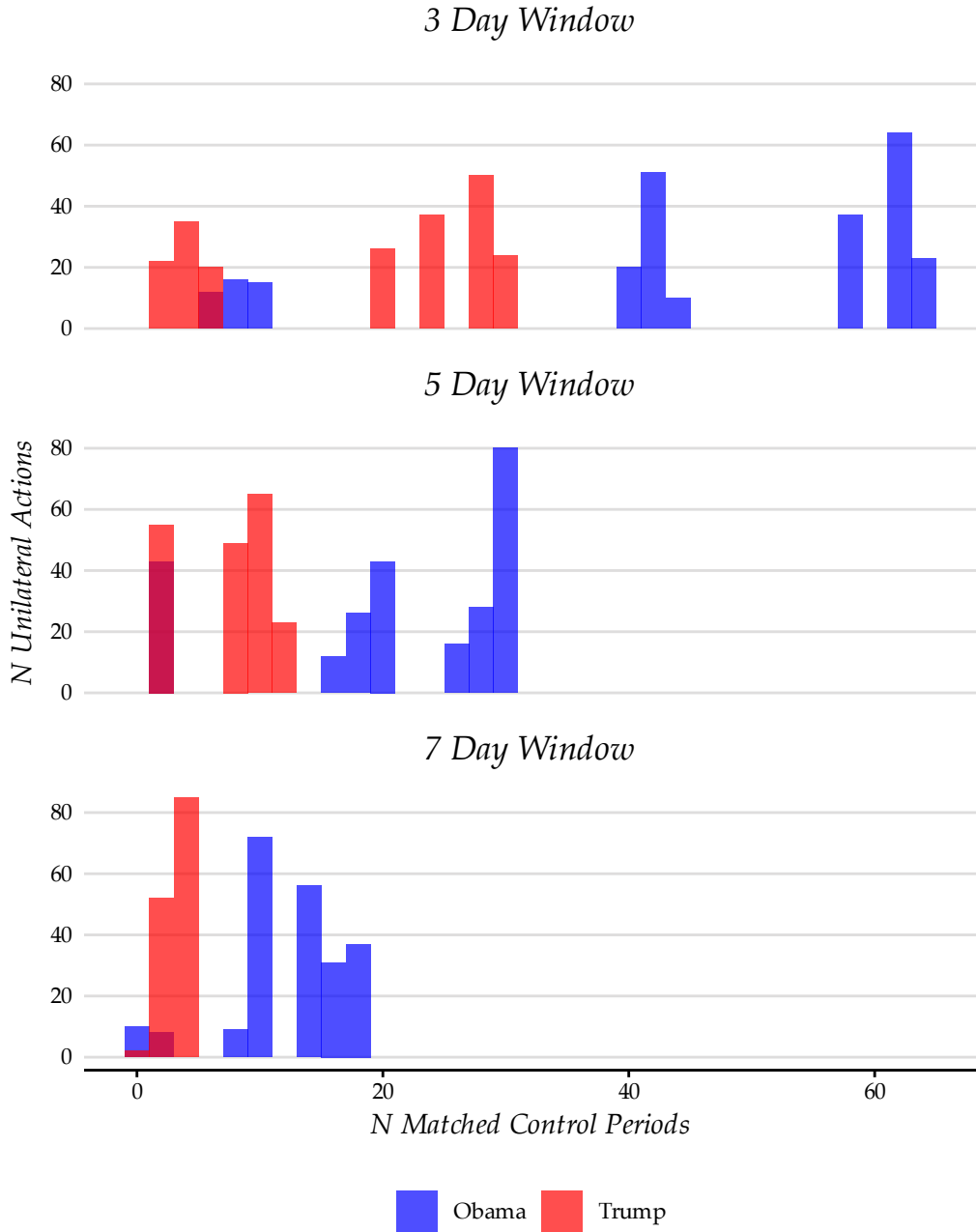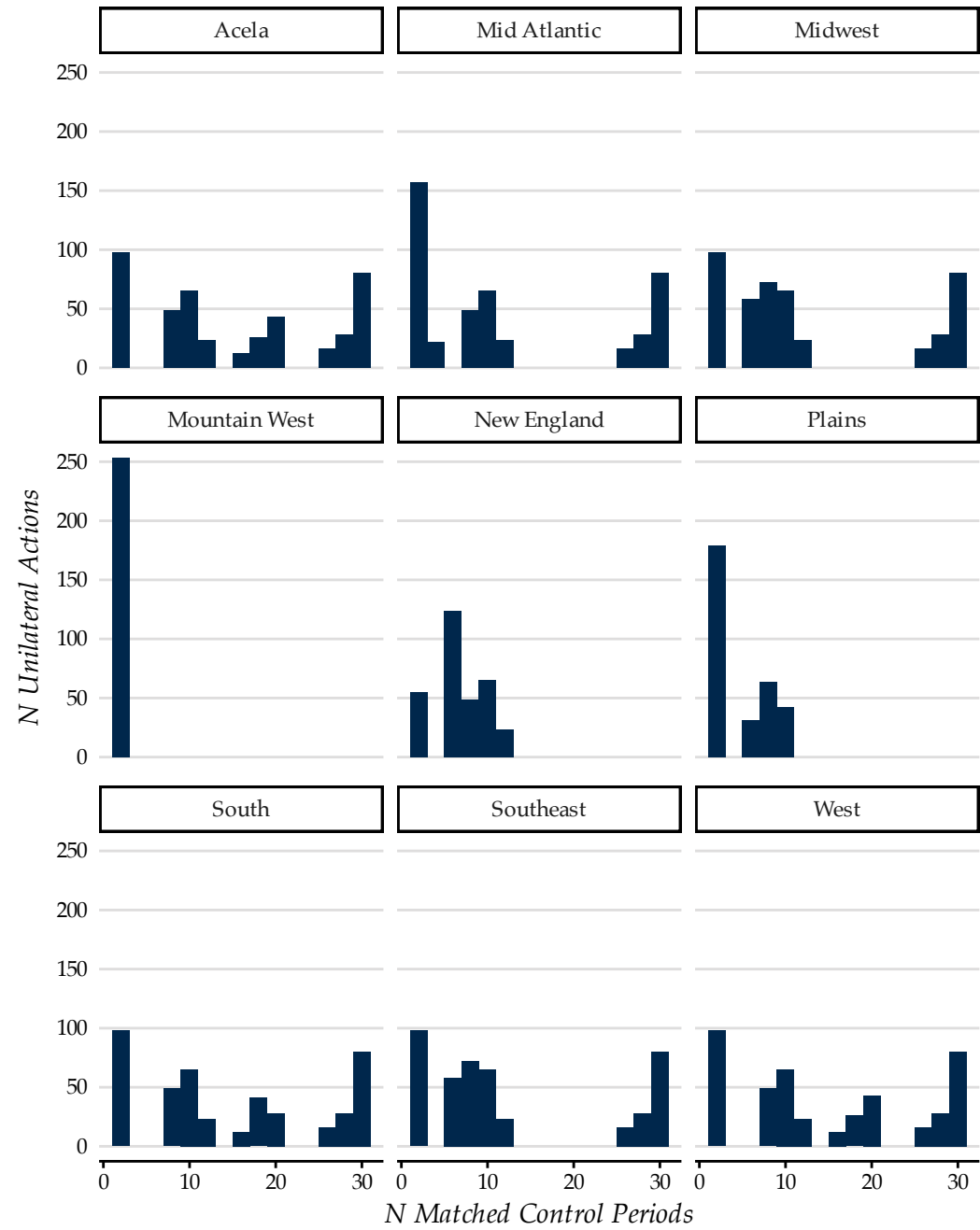**Figure D.5 – Number of Matched Control Units, by Region (7 days post).** Shows the distribution of control units by region. Control units are windows of 10 days during a president's term where no action was issued. The bin width is set to 2.
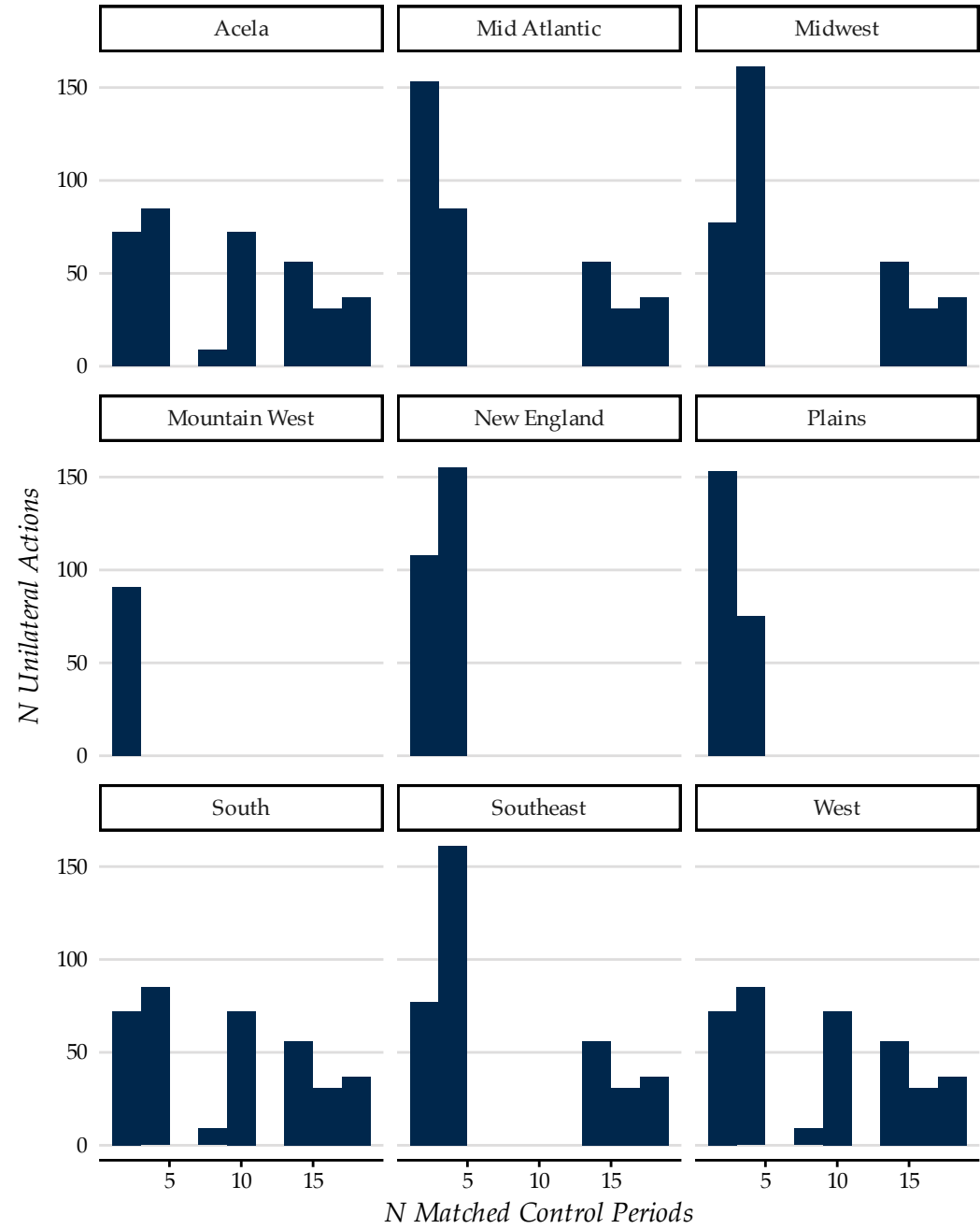
Figure D.6 – Share of Actions Matched by Year. Shows the share of unilateral actions in our dataset successfully matched to at least one control period per year. Actions unable to be matched to a control period or unable to be matched to a control period with any national search results comprise the remainder. Blue shading indicates Obama presidency and the red shading denotes Trump's first term.
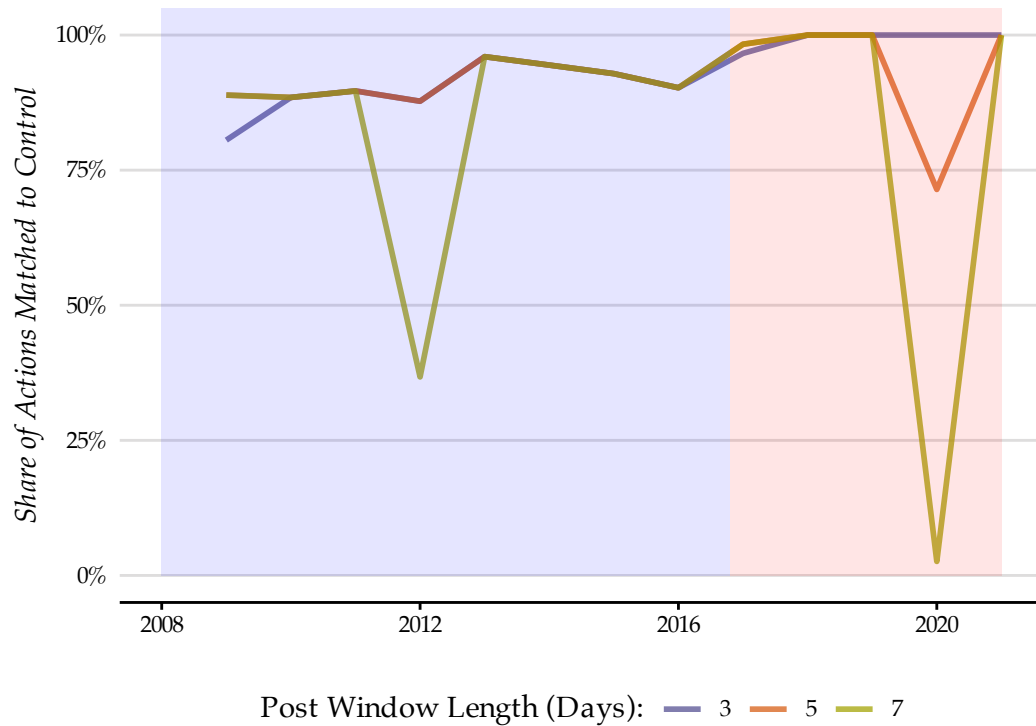
Figure D.7 – Share of Actions Matched, by Region and Year. Shows the share of unilateral actions in our dataset successfully matched to at least one control period per year and region. Actions unable to be matched to a control period or unable to be matched to a control period with any national search results comprise the remainder.
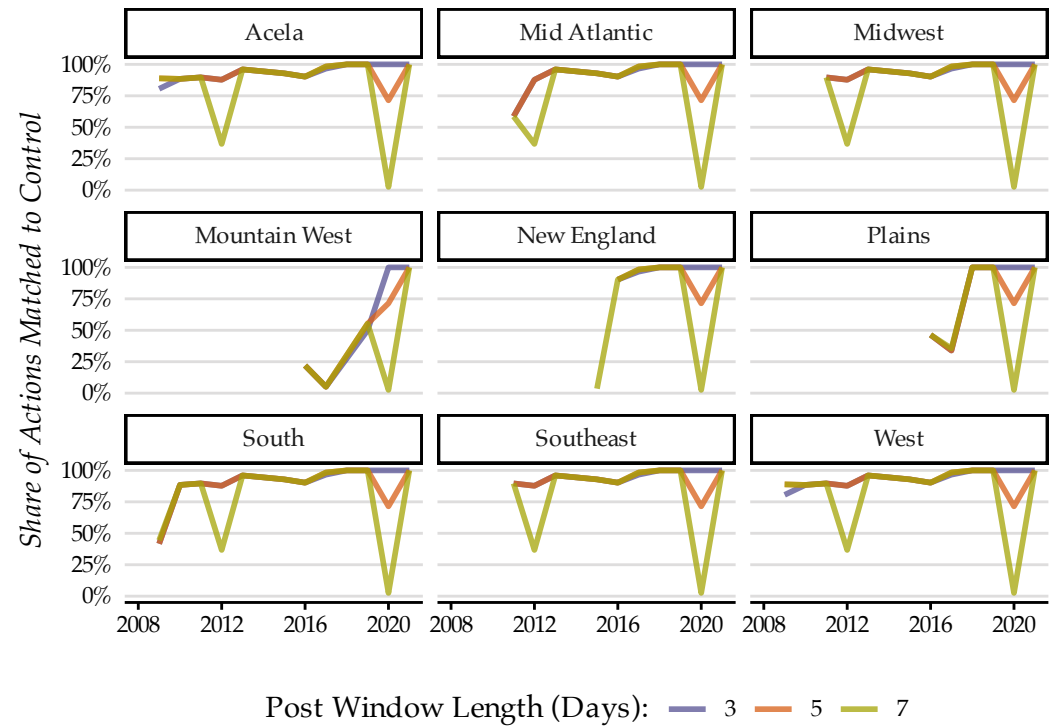
E   Additional Results

Figure E.1 – Effects of Unilateral Actions Isolated to Actions Covered by Newspapers. Shows the results of an alternative set of tests where the treatment variable is whether the unilateral action received any coverage by a newspaper. Full results in Tables E.9, E.10, and E.11.

Table E.1 – Effect of Unilateral Action on National Searches for President (3 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of national Google searches for the given president in a 3 day period.

	Pooled	Trump	Obama
Post	-0.40***	-0.37***	-0.41***
	(0.00)	(0.01)	(0.00)
Treatment	0.18**	0.32**	0.08
	(0.06)	(0.11)	(0.08)
Post*Treatment	0.30***	0.20	0.34**
	(0.08)	(0.15)	(0.11)
Action FE	✓	✓	✓
N Actions	462	214	248
R^2	0.31	0.27	0.32
Adj. R^2	0.30	0.25	0.32
Num. obs.	31574	8224	23350

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$

Table E.2 – Effect of Unilateral Action on National Searches for President (5 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of national Google searches for the given president in a 5 day period.

	Pooled	Trump	Obama
Post	0.29***	0.27***	0.29***
	(0.00)	(0.01)	(0.01)
Treatment	0.21***	0.28**	0.14*
	(0.05)	(0.09)	(0.07)
Post*Treatment	0.26***	0.36**	0.19*
	(0.07)	(0.13)	(0.09)
Action FE	✓	✓	✓
N Actions	440	192	248
R^2	0.29	0.33	0.27
Adj. R^2	0.27	0.29	0.25
Num. obs.	14538	3361	11177

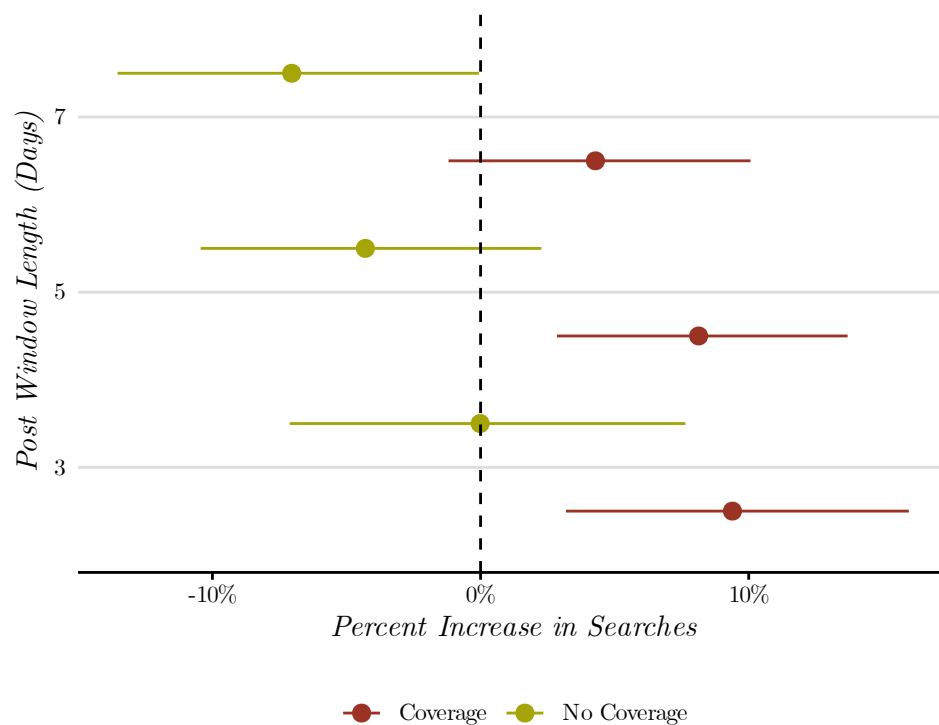***$p < 0.001$; **$p < 0.01$; *$p < 0.05$

Table E.3 – Effect of Unilateral Action on National Searches for President (7 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of national Google searches for the given president in a 7 day period.

	Pooled	Trump	Obama
Post	0.71***	0.76***	0.70***
	(0.01)	(0.03)	(0.01)
Treatment	0.18***	0.23	0.17**
	(0.05)	(0.13)	(0.06)
Post*Treatment	0.17*	0.01	0.23**
	(0.07)	(0.17)	(0.09)
Action FE	✓	✓	✓
N Actions	362	139	223
R^2	0.65	0.51	0.69
Adj. R^2	0.63	0.44	0.68
Num. obs.	7380	1223	6157

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$

Table E.4 – Effect of Unilateral Actions on Searches for the President (3 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 3 day period. Regions are defined using custom divisions (N = 9). Control periods with an insufficient number of search results are set to the minimum number of searches for the given president. Unilateral action and regional fixed effects are included.

	Pooled	Trump	Obama
Post	−0.29***	−0.33***	−0.28***
	(0.01)	(0.01)	(0.01)
Treatment	−0.05	−0.01	−0.13
	(0.14)	(0.06)	(0.19)
Post*Treatment	0.24	0.19*	0.33
	(0.19)	(0.08)	(0.26)
Action FE	✓	✓	✓
Division FE	✓	✓	✓
N Region-Action Obs	4158	1926	2232
R^2	0.66	0.63	0.72
Adj. R^2	0.66	0.63	0.72
Num. obs.	284238	74034	210204

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$

Table E.5 – Effect of Unilateral Actions on Searches for the President (5 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 5 day period. Regions are defined using custom divisions (N = 9). Control periods with an insufficient number of search results are set to the minimum number of searches for the given president. Unilateral action and regional fixed effects are included.

	Pooled	Trump	Obama
Post	0.23***	0.26***	0.22***
	(0.01)	(0.01)	(0.01)
Treatment	−0.01	−0.01	0.02
	(0.11)	(0.05)	(0.14)
Post*Treatment	0.36*	0.40***	0.26
	(0.15)	(0.07)	(0.20)
Action FE	✓	✓	✓
Division FE	✓	✓	✓
N Region-Action Obs	3960	1728	2232
R^2	0.69	0.71	0.74
Adj. R^2	0.69	0.71	0.74
Num. obs.	130878	30258	100620

$^{***}p < 0.001; ^{**}p < 0.01; ^{*}p < 0.05$

Table E.6 – Effect of Unilateral Actions on Searches for the President (5 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 5 day period. Regions are defined using custom divisions (N = 9). Control periods with an insufficient number of search results are dropped from the analysis. Unilateral action and regional fixed effects are included.

	Pooled	Trump	Obama
Post	0.33***	0.29***	0.34***
	(0.01)	(0.01)	(0.01)
Treatment	0.43***	0.23***	0.72***
	(0.08)	(0.04)	(0.14)
Post*Treatment	0.31**	0.37***	0.31
	(0.11)	(0.06)	(0.19)
Action FE	✓	✓	✓
Division FE	✓	✓	✓
N Region-Action Obs	2952	1581	1371
R^2	0.25	0.53	0.29
Adj. R^2	0.24	0.52	0.28
Num. obs.	89862	27213	62649

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

Table E.7 – Effect of Unilateral Actions on Searches for the President (7 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 7 day period. Regions are defined using custom divisions (N = 9). Control periods with an insufficient number of search results are set to the minimum number of searches for the given president. Unilateral action and regional fixed effects are included.

	Pooled	Trump	Obama
Post	0.51***	0.67***	0.48***
	(0.01)	(0.01)	(0.01)
Treatment	−0.04	−0.09	0.11
	(0.09)	(0.05)	(0.12)
Post*Treatment	0.25*	0.07	0.15
	(0.12)	(0.07)	(0.16)
Action FE	✓	✓	✓
Division FE	✓	✓	✓
N Region-Action Obs	3258	1251	2007
R^2	0.71	0.76	0.74
Adj. R^2	0.71	0.76	0.74
Num. obs.	66456	11016	55440

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

Table E.8 – Effect of Unilateral Actions on Searches for the President (7 day interval). Displays the results of three OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 7 day period. Regions are defined using custom divisions (N = 9). Control periods with an insufficient number of search results are dropped from the analysis. Unilateral action and regional fixed effects are included.

	Pooled	Trump	Obama
Post	0.75***	0.76***	0.75***
	(0.01)	(0.01)	(0.01)
Treatment	0.44***	0.10*	0.75***
	(0.07)	(0.05)	(0.11)
Post*Treatment	0.16	0.05	0.26
	(0.10)	(0.07)	(0.16)
Action FE	✓	✓	✓
Division FE	✓	✓	✓
N Region-Action Obs	2328	1105	1223
R^2	0.37	0.56	0.38
Adj. R^2	0.36	0.56	0.38
Num. obs.	44408	9752	34656

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$

Table E.9 – Effect of Unilateral Actions on National Searches for the President, by Coverage Status (3 day window). Displays the results of six OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 3 day period. Unilateral action fixed effects are included.

	Pooled		Trump		Obama	
	Coverage	No coverage	Coverage	No coverage	Coverage	No coverage
Post	−0.40***	−0.41***	−0.37***	−0.38***	−0.41***	−0.41***
	(0.00)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Treatment	0.06**	0.11***	0.09*	0.10	0.04	0.13***
	(0.02)	(0.03)	(0.04)	(0.05)	(0.03)	(0.03)
Post*Treatment	0.09**	−0.00	0.04	0.03	0.12***	−0.04
	(0.03)	(0.04)	(0.05)	(0.07)	(0.04)	(0.05)
Action FE	✓	✓	✓	✓	✓	✓
N Actions	287	175	139	75	148	100
R^2	0.30	0.33	0.24	0.33	0.33	0.32
Adj. R^2	0.29	0.32	0.22	0.31	0.32	0.31
Num. obs.	20134	11440	5670	2554	14464	8886

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$

Table E.10 – Effect of Unilateral Actions on National Searches for the President, by Coverage Status (5 day window). Displays the results of six OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 5 day period. Unilateral action fixed effects are included.

	Pooled		Trump		Obama	
	Coverage	No coverage	Coverage	No coverage	Coverage	No coverage
Post	0.29***	0.29***	0.28***	0.26***	0.29***	0.30***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)
Treatment	0.07***	0.13***	0.08*	0.11*	0.06*	0.15***
	(0.02)	(0.02)	(0.03)	(0.05)	(0.02)	(0.03)
Post*Treatment	0.08**	−0.04	0.11*	0.04	0.06	−0.09*
	(0.03)	(0.03)	(0.05)	(0.07)	(0.03)	(0.04)
Action FE	✓	✓	✓	✓	✓	✓
N Actions	276	164	128	64	148	100
R^2	0.28	0.30	0.30	0.38	0.27	0.27
Adj. R^2	0.26	0.28	0.26	0.33	0.25	0.25
Num. obs.	9306	5232	2317	1044	6989	4188

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

Table E.11 – Effect of Unilateral Actions on National Searches for the President, by Coverage Status (7 day window). Displays the results of six OLS models implementing our matched difference-in-differences design. The outcome variable is the logged number of Google searches for the given president in a 7 day period. Unilateral action fixed effects are included.

	Pooled		Trump		Obama	
	Coverage	No coverage	Coverage	No coverage	Coverage	No coverage
Post	0.72***	0.71***	0.78***	0.76***	0.70***	0.71***
	(0.01)	(0.01)	(0.03)	(0.05)	(0.01)	(0.01)
Treatment	0.05**	0.11***	0.05	0.07	0.07**	0.13***
	(0.02)	(0.03)	(0.05)	(0.07)	(0.02)	(0.03)
Post*Treatment	0.04	−0.07*	−0.03	−0.10	0.06	−0.08
	(0.03)	(0.04)	(0.07)	(0.10)	(0.03)	(0.04)
Action FE	✓	✓	✓	✓	✓	✓
N Actions	235	127	98	41	137	86
R^2	0.65	0.64	0.50	0.50	0.70	0.68
Adj. R^2	0.63	0.63	0.44	0.44	0.69	0.67
Num. obs.	4696	2684	851	372	3845	2312

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

Figure E.2 – National Results (Forward Imputation of Search Results). Replicates the results of our main analysis in Figure 5 using forward-imputed Google Trends search results.
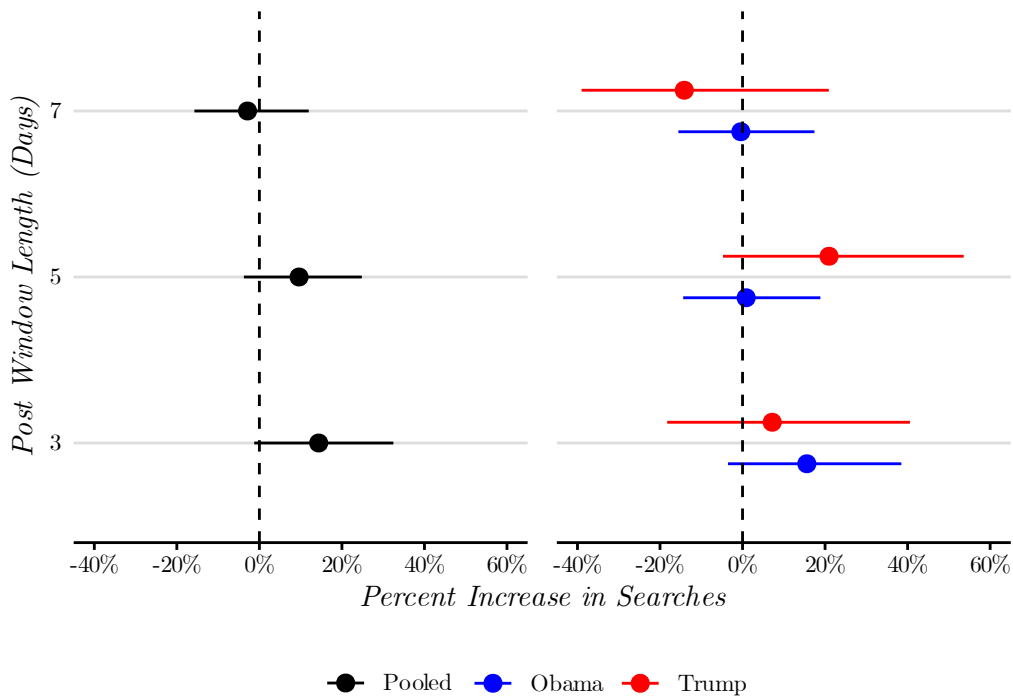
Figure E.3 – National Results, Excluding Actions Issued in 1st Month (Forward Imputation of Search Results). Replicates the results of our main analysis in Figure 5 using forward-imputed Google Trends search results. Unlike Figure E.2, actions issued in the first month of the Obama and Trump administrations are dropped.