Partisan Selective Engagement: Evidence from Facebook

Marcel Garz, *Jönköping International Business School*
Jil Sörensen, *Hamburg Media School* and *University of Hamburg*
Daniel F. Stone, *Bowdoin College*

May 2020

We thank Maja Adena, Anna Kerkhof, Gregory Martin, Johannes Münster, Gaurav Sood, seminar participants in Hamburg, Jönköping, at the 2018 Leuphana Workshop on Microeconomics, the 2018 Nordic Conference on Behavioral and Experimental Economics, the 2019 Economics of Media Bias Workshop, the 2019 ZEW Conference on the Economics of ICT, and the 2019 CESifo Area Conference on Economics of Digitization for helpful comments and suggestions. We are also grateful to Katharina Brunner and Felix Ebert for sharing their extended results on Facebook users' media preferences. Declarations of interest: none. Corresponding author: Marcel Garz, Jönköping International Business School, P.O Box 1026, SE-551 11 Jönköping. Email: marcel.garz@ju.se

Abstract

This study investigates the effects of variation in "congeniality" of news on Facebook user engagement (likes, shares, and comments). We compile an original data set of Facebook posts by 84 German news outlets on politicians that were investigated for criminal offenses from January 2012 to June 2017. We also construct an index of each outlet's media slant by comparing the language of the outlet with that of the main political parties, which allows us to measure the congeniality of the posts. We find that user engagement with congenial posts is higher than with uncongenial ones, especially in terms of likes. The within-outlet, within-topic design allows us to infer that the greater engagement with congenial news is likely driven by psychological and social factors, rather than a desire for accurate or otherwise instrumental information.

Keywords: filter bubble; media bias; political immunity; social media; polarization

JEL classification: D83; D91; L82

1. Introduction

It is well known that concerns about "echo chambers" and "filter bubbles"—citizens limiting their news consumption to belief-confirming or amplifying sources—have grown rapidly in recent years. The corresponding academic literature has grown as well; see Guess et al. (2018) for a recent review. They conclude that "selective exposure to like-minded political news is less prevalent than you think." Weak evidence for partisan selective exposure undermines the common suspicion that new media may be a primary cause of political polarization (Sunstein, 2017; Bail et al., 2018).

But exposure to news, and how one responds to news, are of course not the same thing. It is entirely possible that politically *congenial* news[1] is not only more likely to be believed by partisan media consumers, but that congeniality could also lead to greater engagement with the news. Consumers may be more likely to endorse, pass on, respond to, or simply pay greater attention to more congenial news. These reactions could ultimately influence one's own political beliefs and actions, and those of fellow citizens, with important welfare effects.

In this paper, we study such *selective engagement* (a term we propose to parallel the already standard term "selective exposure"). We examine how Facebook users' likes, shares, and comments on news posts vary depending on the political congeniality of the post. Selective engagement with congenial news would support those arguing that new media can be a significant factor driving polarization (e.g., Lelkes, Sood, and Iyengar, 2017; Gentzkow, Wong, and Zhang, 2018; Levy, 2019; Schwarz, 2019; Shmargad and Klar, 2020). In addition, it would likely suggest that social motives dominate information motives among users—an aspect emphasized by recent studies that link social media to hate crime (Müller and Schwarz, 2018a; 2018b) and political protests (Acemoglu, Hassan, and Tahoun, 2017; Qin, Strömberg, and Wu, 2017; Enikolopov, Makarin, and Petrova, 2019).

Studying selective engagement is challenging because the nature of most news stories varies in many ways. Both the political congeniality of the story, and other aspects of the story that may affect consumer interest, such as the topic's importance, vary across stories in ways that are typically difficult to observe and measure. We address these challenges by studying variation in engagement

[1] We refer to news that is favorable to one's preferred political party, or unfavorable to the ideologically distant party, as congenial, and to the opposite type of news as uncongenial. This binary notion of congeniality is useful for illustrative purposes and when describing the theoretical background in Section 2. However, our empirical analysis accounts for continuous changes in the degree of congeniality.

with news stories on a fixed topic: the lifting of the immunity of German politicians. Political immunity reduces the risk that members of parliament can be manipulated by the threat of arbitrary prosecution. The requirements to lift a politician's immunity are strictly regulated, and immunity is only lifted when there is strong suspicion of involvement in criminal activity, such as tax evasion, embezzlement, or child pornography. In line with previous evidence[2], we assume that the lifting of immunity for a politician in one's preferred party is bad or uncongenial news, whereas it is good or congenial news when the immunity of an ideologically distant politician is lifted. We verify the validity of this assumption in Section 3.3.

Besides straightforward coding of congeniality, another key advantage of the topic of immunity being lifted is it that these events occur regularly, and are reported on frequently, by many outlets. During our period of investigation (January 2012 to June 2017), we observe 107 cases of German national and state representatives' immunity being lifted. Our sample of Facebook news pages includes 84 outlets, of which several can be classified as mainstream pages with centrist coverage, as well as some at the left and right ends of the political spectrum.

In Section 2, we present a highly stylized model of engagement with political news, to guide the interpretation of our results. We show that if social media users are motivated by the desire to provide Friends with information that is useful for either instrumental or intrinsic reasons, then users should in general be more likely to engage with *uncongenial* news as with congenial news. If users have other motivations—such as expressing how they feel, signaling their party loyalty or the validity of their political views, or wishing to persuade Friends to support one's own preferred party—then users will be more likely to engage with *congenial* news.

Thus, the model clarifies that selective engagement with congenial news is unlikely to be motivated by the desire to share useful information. While intuitive, this point stands in contrast to the substantial strand of the media bias theory literature showing that selective exposure to like-minded news can be driven by rational information-seeking behavior (Gentzkow, Shapiro, and Stone, 2015). We do not model the implications of engagement for the beliefs of a user's Friends. But it is clear that if Friends are generally like-minded and do not fully account for a user's psychological and

[2] A large body of literature suggests that politicians being involved in scandal regularly lose vote shares, refrain from running for reelection, or resign (e.g., Costas-Pérez, Solé-Ollé, and Sorribas-Navarro, 2012; Hirano and Snyder, 2012; Larcinese and Sircar, 2017; Welch and Hibbing, 1997). The negative effects might be even stronger in our setting, as the act of lifting somebody's political immunity requires hard evidence of criminal behavior, whereas political scandals may be simply based on unsubstantiated allegations.

strategic motives for engagement, then engaging more with congenial news will tend to push one's Friends toward being more partisan, while engaging with uncongenial news equally or more than congenial news would have a moderating effect.

In Section 3 we discuss the data and method for constructing a measure of ideological similarity between each outlet and party. We use the Facebook Graph Application Programming Interface (API) to download all 2,042,415 posts by these outlets, including information on the posts' time of publication, content, type, and popularity. We then compare the language in these posts with the language used by the political parties in their election programs. Specifically, we compute the cosine distance between the text vectors for each of the 756 outlet-party combinations in our sample. This measure directly translates into a measure of congeniality in the context of our study: The larger the ideological distance, the more congenial the news about the lifting of immunity to an outlet's average reader. In addition, we develop a search routine that is based on a combination of keywords and time parameters to identify posts about the cases of liftings of immunity.

Our estimation results imply that users do engage more with more congenial stories. Users like, share, and comment posts about liftings of immunity more often when the posts relate to politicians from the opposite political camp, compared to posts about ideologically similar representatives. According to the baseline specification point estimate, an increase in congeniality by one standard deviation raises the average number of likes per post by 89%. The increases in shares and comments are 54% and 29%, respectively. Due to the within-outlet, within-topic research design of our study, these differences can most likely be explained by the psychological and social factors mentioned above, and not due to demand for decision-relevant information or simply the desire to hold accurate beliefs (see Garz et al., 2020).

An important potentially confounding factor is Facebook's news feed algorithm, which is designed to maximize engagement by providing the content that users prefer. The algorithm could select those political immunity stories that users find congenial (e.g., Claussen, Peukert, and Sen, 2019; Shmargad and Klar, 2020), and thus the greater engagement could be exclusively driven by the algorithmic exposure to congenial posts. If so, this would provide indirect evidence of partisan selective engagement. We also investigate this possibility by estimating our model with data from Twitter—when the platform did not have an algorithmically curated timeline—and obtain similar

results. Thus it is unlikely that the greater engagement with congenial posts is completely driven by Facebook's news feed algorithm.

The interpretation of our main finding that users engage more with congenial posts for psychological and social reasons is only valid if the ideology of the outlets approximates the ideology of the users that engaged with the political immunity story posts in our sample. If this assumption is violated and the engagement with these posts is instead driven by users that do not share the outlets' ideology, instrumental or intrinsic motives would likely dominate. However, individual-level data on these users indicate that outlet and user ideologies are sufficiently matched in our context.

Furthermore, to complement the direct analysis of engagement, we compile a case-outlet panel and investigate the supply of posts, and find that supply is approximately unbiased. Thus the outlets do not cater to their readers by overreporting congenial cases, or such attempts are offset by differences in the costs of news production: Ideologically close outlets usually have more background knowledge about and better connections to the politician in question, which makes it cheaper to produce news items and therefore easier to post uncongenial stories here.

Our paper primarily contributes to the literature by shedding light on the mechanisms driving user engagement on social media. Bakshy, Messing, and Adamic (2015) investigate, among other things, the distribution of average self-reported ideologies of users who share a given article. They find that these averages are highly polarized: Most articles are shared by users who are either consistently liberal or conservative. This alone does not imply the sharing of congenial news, but they note other results suggesting this (that Fox News articles are shared by users who are mostly conservative, and Huffington Post articles shared by mostly liberal users). An, Quercia, and Crowcroft (2014) obtain similar results, finding that self-reported partisans are more likely to share news from like-minded sources. Our paper confirms these results, but differs in that we study multiple types of engagement and, perhaps more importantly, that we focus on news on just one topic. Fixing the topic allows us to distinguish between rational-information forces and psychological/social explanations for selective engagement with congenial news. Our paper complements Pogorelskiy and Shum (2018), who study news sharing and voting on an artificial social network. Their experimental set-up allows them to control for the true informational content of news especially cleanly. We confirm their finding that subjects are more likely to share congenial news, but provide evidence based on observational, real-world data.

In addition, we contribute to the literature on measuring media slant. Similar to the method proposed by Gentzkow and Shapiro (2010), we compare the language of the most important parties in Germany with the language in the posts of the news outlets to construct an index of slant. The bias of German media outlets has been investigated before; for instance, based on vocabulary and party mentions (Dallmann et al., 2015), the tonality of reports (Dewenter, Dulleck, and Thomas, 2019), and slant perceptions of readers (Polisphere, 2017). In contrast to these studies, we do not restrict our investigation to a small number of national, leading media but provide a measure of slant for a more comprehensive set of outlets. For instance, our sample covers all types of news media (i.e., online, print, and broadcasting) and includes the most important regional outlets. More importantly, by calculating the ideological congruence between outlets and individual parties, our investigation is not limited to the position of media in the political left-right spectrum. That is, our slant index accounts for all sorts of ideological differences, such as progressive vs. conservative, egalitarian vs. elitist, authoritarian vs. libertarian, or religious vs. secular. Covering these dimensions is an important aspect when investigating multi-party systems.

Finally, our findings contribute to the literature that investigates the role of media for political accountability, especially to research on news coverage about transgressions of politicians (e.g., Ferraz and Finan, 2008; Di Tella and Franceschelli, 2011; Puglisi and Snyder, 2011; Nyhan, 2014; Garz and Sörensen, 2019). In democratic societies, news media are considered crucial watchdogs, allowing voters to make informed decisions. A central question in this literature is how well media transmit politically relevant information. We evaluate this aspect in a social media environment, by studying the supply of news about politicians that are investigated for criminal behavior.

2. Theory and empirical strategy

We use the basic framework of Gentzkow, Shapiro, and Stone (2015). The state of the world is binary, $\theta \in \{L, R\}$, and news is binary as well, $n \in \{n_L, n_R\}$, with $Pr(n_L|L) = Pr(n_R|R) = \pi > 0.5$. Thus n_L (n_R) is evidence that state $L(R)$ is true ($Pr(L|n_L) > Pr(L)$, $Pr(R|n_R) > Pr(R)$). The state could be interpreted as the relative valence of a politician ($\theta = L$ would imply the leftist politician has superior valence to the rightist). News about immunity for a politician is evidence about her/his relative valence. Facebook user i has prior $p_i = Pr(\theta = R)$, then exogenously observes the news, n, and then makes a decision about whether to engage with it on Facebook or not ($e_i = 1$ or

0). We examine several possibilities for the media consumer's objective function to determine basic comparative statics to guide the empirical analysis and interpretation of results. The main goal is to clarify ideas, which is why we keep the model simple and the analysis largely informal. At the end of the section, we summarize the main results, explain how we can use the theory to interpret our empirical findings, and discuss potential differences between likes, shares, and comments.

2.1 Instrumental information

First, suppose the consumer is only interested in instrumental information: information improving the quality of another decision. Let $X_i \in \{X_L, X_R\}$ denote the other decision. This decision could be something as simple as which candidate to support in a public opinion poll. A politician's standing in the polls could affect their "political capital" and consequently real policy outcomes. If the consumer or her Friends were perfectly indifferent between actions prior to news, the news would always provide instrumental information. We focus on other cases in which the consumer has one strictly preferred action prior to observing news; without loss of generality suppose this is X_R.

Specifically, suppose i chooses e_i given n to maximize the expectation of:

$$u_i(X_i, X_{-i}, e_i, \theta|n) = v(X_i, \theta|n) + \sum_{i' \in -i} v(X_{i'}(e_i), \theta|n) - Nce_i, \quad (1)$$

in which $v(X_i, \theta)$ is i's payoff from action X_i in state θ, $-i$ refers to the set of i's N Facebook Friends, $X_{i'}(e_i)$ refers to the action of Friend i' given e_i, and $c > 0$ is a per-user cost of engagement. That is, i cares about her own action given the state, and the actions of those in her network. The cost of engagement may be from an attention cost to others that i internalizes. The cost may also be due to i's concern about bothering Friends, losing credibility with Friends, or Friends paying less attention to i's engagements. There can also be a fixed cost related to clicking the like/share button or writing a comment, without loss of generality. Assume, for simplicity, that i believes that i's Friends are only exposed to n due to i's engagement. This assumption is most appropriate for shares, but loosely applies to likes and comments, since these actions could attract attention to posts.

If the action matches the state, then $v(X_i, \theta) = 1$, and $v(X_i, \theta) = 0$ otherwise. It is then optimal for i to choose X_L given n if $Pr_i(L|n) > 0.5$ and X_R if $Pr_i(R|n) > 0.5$.[3] We say that n has instrumental value for i if n causes i to change her action from her ex ante optimal choice.[4] Thus, if $p_i > 0.5$ and so X_R is ex ante (prior to news) optimal, then $n = n_R$ has no instrumental value, and it is straightforward to show that $n = n_L$ has instrumental value if $\pi > p_i$.

Suppose all of i's Friends had the same prior. Then it is clear that $v(X_{i'}(e_i), \theta|n)$ is unaffected by whether $e_i = 0$ or $e_i = 1$ if $n = n_R$ since $X_{i'} = X_R$ for all i' regardless. Thus if $n = n_R$, then $e_i = 1$ imposes a cost and no benefit, and so $e_i = 0$ is i's optimal choice. If $n = n_L$, then $e_i = 1$ is optimal if $(1/N)\sum_{i' \in -i}[E_i(v(X_{i'}(e_i = 1, \theta|n_L))) - E_i(v(X_{i'}(e_i = 0, \theta|n_L)))] > c$. This condition requires that the expected benefit from providing instrumental information to a Friend (information that causes her optimal action to change) exceeds the cost of engagement, which is very plausible, so we assume that this condition holds.

Suppose i's network is now heterogeneous. For simplicity, assume: $p_{i'} \in \{p_i, 1 - p_i\}$. That is, some of i's Friends have priors favoring L symmetrically to those that favor R. Let $f = Pr(p_{i'} = p_i)$, i.e., the fraction of i's Friends who are like-minded. In this case, n_R has instrumental value for i's left-leaning Friends, and n_L has instrumental value for right-leaning Friends. Due to the symmetry assumption, this value is the same for any given individual. Let α denote this value for an individual, which is equal to $E_i(v(X_{i'}(e_i = 1, \theta|n))) - E_i(v(X_{i'}(e_i = 0, \theta|n)))$ given that n has instrumental value for i'.

Engaging with news creates the same cost for each Friend, and an average benefit of $f\alpha$ if the news has instrumental value for right-leaning Friends, and an average benefit of $(1 - f)\alpha$ if the news has instrumental value for left-leaning Friends. Thus, writing the engagement choice as a function of the news realization, $e_i(n_L) = 1$ is now optimal if $f\alpha > c$, i.e. $f > c/\alpha$, and $e_i(n_R) = 1$ is optimal if $(1 - f)\alpha > c$, i.e., $(\alpha - c)/\alpha > f$. Ignoring knife-edge cases, there are now four possibilities:

1) i engages with all news ($(\alpha - c)/\alpha > f > c/\alpha$);
2) i engages with no news ($c/\alpha > f > (\alpha - c)/\alpha$);
3) i engages with n_L only ($f > max\{c/\alpha, (\alpha - c)/\alpha\}$);

[3] All results, except those of Section 2.2, are equivalent if consumers have heterogeneous tastes rather than priors.
[4] The usage of the term here, referring to the realization of n, varies slightly from the more standard usage referring to the value of n ex ante, but is similar in spirit.

4) i engages with n_R only ($f < min\{c/\alpha\,, (\alpha - c)/\alpha\}$).

It is natural to think that f is greater than 0.5, given the prevalence of homophily (e.g., Bakshy, Messing, and Adamic, 2015; Halberstam and Knight, 2016). Making this assumption rules out case 4, since $min\{c/\alpha\,, (\alpha - c)/\alpha\} \leq 0.5$. Thus, even allowing for heterogeneous Friends, right-leaning consumers are not more likely to engage with n_R rather than n_L.

Three additional points are worth noting before proceeding. First, if a user's political preferences or beliefs are sufficiently strong, then uncongenial information would be less likely to have instrumental value for the user, but may still be instrumental for like-minded Friends with weaker preferences. Users might be less likely to share uncongenial information for strategic reasons in this case. Second, if the set of actions were larger, then it would be more likely that sharing congenial information with like-minded Friends would have instrumental value. For example, if the action set included a middle option ("to abstain"), and like-minded Friends prefer this option ex ante, then sharing congenial news would be more likely since this could persuade Friends to take the right-leaning action.[5] However, in general with richer action spaces, uncongenial news would likely continue to have just as much, or more, instrumental value, for the same reason that this is true for the binary case (uncongenial information would be more likely to change a user's optimal action). Third, if users take into account that Friends may see other Friends' engagement for the same news, each user could be less likely to engage with any given post, knowing that other Friends may also engage with it. The equilibrium might change to mixed strategies, but the sign of the relationship between congeniality and engagement would be the same. In addition, for users with the same priors, the most natural equilibrium would still be symmetric.

2.2 Intrinsic information

Another possibility is that the Facebook user's objective is a function of information for intrinsic and not instrumental reasons. That is, it is possible that users want to hold beliefs that are as accurate as possible, and want their Friends to do so as well. The form of the objective function in Equation (1) could still be applied in this case, with X_i now denoting i's posterior probability that state R is

[5] There may even be some special cases for parameter values and model assumptions in which congenial news offered more instrumental value than uncongenial news.

true, and the states L and R correspond to θ taking values of 0 and 1, with $v(.)$ denoting a loss function that increases in the distance between X_i and θ. In this case, the benefit of news, which is the impact on accuracy of beliefs, would be greater when the news conflicts with priors. This is because given a prior that favors R, beliefs change more after n_L rather than n_R.[6] Hence, again i would be more likely to engage with n_L so long as a majority of Friends have like-minded priors favoring R. Thus engagement with uncongenial news (n_L) seems equally or more likely than engagement with congenial news. Engagement with congenial and uncongenial news would be equally likely for this case if Facebook users were heterogeneous due to differences in tastes rather than differences in priors.

2.3 Psychological utility, persuasion, and signaling

Next, we consider several cases in which i's objective does not depend on the accuracy of i's Friends' beliefs. The implications for engagement in each of these cases are straightforward, so we omit mathematical analysis and simply discuss the effects that seem most plausible.

First, assume that user i does not gain utility from news informing an action or accuracy of beliefs, but instead i's news utility increases when the news confirms i's priors or supports an outcome that i hopes will occur, perhaps creating anticipation utility. Gentzkow, Shapiro, and Stone (2015) refer to this case as psychological utility. Clearly in this case i would be more likely to engage in the form of liking more congenial news, if i has any preference for the honest expression of this psychological utility, which is plausible (Brennan and Hamlin, 1998; Abeler, Nosenzo, and Raymond, 2016). Similarly, if i internalized the psychological utility of like-minded Friends, i would be more likely to engage with more congenial news to draw Friends' attention to this news.

Another reason for engaging with news unrelated to the desire for others to be well-informed about the state is that i may wish to use the news to persuade others to take a particular view about the state. If i is, for example, a committed rightist, i may wish to maximize the beliefs of others that $\theta = R$ independent of the realization of n. In this case, clearly it is optimal to share $n = n_R$ only.

[6] The difference between the prior and posterior after prior-confirming news, $\Pr(\theta = R|n_R) - p$, is less than that after prior-opposing news, $p - \Pr(\theta = R|n_L)$, given $p > 0.5$. The latter difference minus the former reduces to $p(1-p)(2\pi - 1)\left(\frac{1}{(1-\pi)p+\pi(1-p)} - \frac{1}{\pi p+(1-\pi)(1-p)}\right)$, which is unambiguously positive.

This case could easily be formalized by making u_i a function of Friends' beliefs that $\theta = R$. This case would be even more relevant when i's Friends are more diverse or even left-leaning. This mechanism is perhaps also most relevant to news stories being shared.

Another mechanism that may drive engagement orthogonal to the desire to provide useful information is signaling. One thing i may wish to signal to like-minded Friends in her network is that i is a strong partisan (to show loyalty, similarity, etc.). Choosing $e_i(n_R) = 1$ and $e_i(n_L) = 0$ would be an informative signal of gaining psychological utility from $n = n_R$ and sharing this for expressive value. This case could be formalized by making i's type ("partisanship", e.g., strength of prior favoring R) uncertain, assuming that more partisan types are more interested in persuasion or the psychological utility of themselves or others, and that less partisan types get utility from a reputation term that increases in Friends' beliefs of that type being more partisan. This case is more likely to be relevant when homophily is more common (when i's Friends are largely politically like-minded).

An additional signaling possibility is the following. Suppose i may have processed some information inaccurately in arriving at i's current belief p_i and i cares about her reputation with her Friends for processing information accurately. News of n_R would be positive evidence in support of prior accuracy of interpretation by i, and n_L would be negative evidence. Thus, again i would be more likely to engage with n_R, and again this is easily formalized with a reputation term (this time, representing Friends' beliefs about i's information processing ability, which would increase in consistency of new information with how i processed past information). This case is perhaps more likely to occur when i's Friends are diverse since non-like-minded Friends are more likely to need convincing that $p_i > 0.5$ is a positive signal about i's ability. Both signaling cases are more likely for the more noticeable types of engagement, shares, and perhaps also comments, but could also explain "liking" engagement.

2.4 Connection between theory and empirical approach

A summary of these results is as follows. Assuming that there is at least some homophily (more of a user's Friends are politically like-minded than not):

1) Social media users are in general more likely to engage with uncongenial news if engagement is motivated by providing typically like-minded Friends with intrinsically or instrumentally useful information.
2) If engagement is motivated by other factors (expressive or anticipation utility, persuasion, or signaling), then users are more likely to engage with news that is more congenial.

Both ideas refer to the relationship between user engagement and congeniality at the *individual level*, describing a situation where the message of a post is in line with the views of an individual user. However, our empirical analyses in Section 4 relate to congeniality at the *outlet level*, evaluating if the news is compatible with the outlet's ideology. That is, in our main estimating Equation (7), the dependent variable is the user engagement with the political immunity story post published by outlet n on case c, and the key explanatory variable is the ideological distance between outlet n and party p of the politician in question (and hence, the congeniality of that post).

It is crucial to consider different scenarios when interpreting the empirical outlet-level results in light of the individual-level theory. A first scenario is that the user engages with a post from a like-minded outlet followed by this user (i.e., a "subscribed" outlet that shares the user's ideology). In this case, the ideological distance between outlet n and party p is a good proxy for the ideological distance between the user and the party involved in the political immunity story. Second, the user may also follow the Facebook page of an outlet with a different ideology. In this scenario, the outlet-level congeniality of the post does not capture the congeniality of that post for the user, because outlet and user ideologies are not matched. Third, the user engages with a post shared by a Friend or recommended by Facebook. If this post is from an outlet with a similar ideology as the user, the outlet-level measure of congeniality is again a good proxy for the congeniality of the post from the user's perspective. Fourth, a post shared by a Friend or recommended by Facebook is from an outlet with a different ideology than the user, in which case congeniality at the outlet-level differs from the congeniality for that user. This fourth scenario could be particularly relevant if the user's network of Friends is more heterogenous.

Given that our empirical approach investigates congeniality at the outlet level, any results would be misleading if the second and/or fourth scenarios dominate in practice. Thus, to link the theoretical considerations to the empirical analyses, we need to make the assumption that the outlet's ideology is the same as the ideology of the users engaging with the political immunity story posts published

by that outlet. Previous empirical evidence from US newspapers supports this assumption, showing that the average slant of a paper usually matches the ideology of the consumers in its area of circulation (e.g., Gentzkow and Shapiro, 2010; Puglisi and Snyder, 2015).

How plausible is it that outlet and reader ideologies are matched in our context? It is arguably much easier for online users than newspaper readers to switch between outlets with different ideologies. Thus it is not sufficient to test if the ideology of the average reader matches that of the outlet, but we need to verify that those users who actually engaged with a political immunity story post share the ideology of the outlet publishing it. Similar to Bond and Messing (2015), we examine these users' like profiles to determine if they are "fans" of the Facebook pages of the political party involved in the post. We describe the procedure at the beginning of Appendix C in detail. We do not use the individual-level data in our main specifications because some users do not have their like profiles public, which may introduce selection bias. The data are nonetheless useful to compare the outlets' average slant with the ideology of the relevant users. According to Figure C1, users that engaged with a political immunity story post are more likely to be "fans" of the involved party if the outlet is on average slanted towards that party. Thus the figure suggests that the engagement with the posts in question primarily comes from users that share the ideology of the publishing outlet, which allows us to rule out that the second and fourth scenarios described in the previous paragraph play an important role here. With congruent ideologies, we are therefore able to use our main theoretical predications about individual motivations for engagement with (un-)congenial posts to interpret the empirical outlet-level results.

Note that congeniality can be empirically measured in two ways, by looking at (a) bad news for an ideologically distant party and (b) good news for a close party. Higher engagement with either type of news is likely an indication that psychological and social factors matter, since both types are congenial to partisans. However, investigating good news for a close party would be less clean-cut, as motivations for intrinsic or instrumental information might also be at play here, at least in the context of a multi-party system. The reason is that ideological differences between parties are sometimes small (e.g., there have been political overlaps between the Greens ("Grüne") and the Left Party ("Linke"), or between the Christian ("CDU") and Free Democrats ("FDP")), and voters in multi-party systems often have a small set of close parties they consider. Thus engagement with good news for a close party could be an indication that users seek information to decide which party

exactly to vote for. Focusing on political immunity stories avoids this kind of confounding, as these stories fall in the category of bad news for an ideologically distant party.

2.5 Types of engagement

So far, we have talked about Facebook user engagement mostly in general terms, but likes, shares, and comments can be expected to vary in how strongly they respond to the congeniality of the content, if the engagement is motivated by expressive or anticipation utility, persuasion, or signaling. When a user likes a post, this action is visible below the post itself. There is a relatively low probability that Facebook will select the action of liking into Friends' news feeds, unless they are followers of the publishing outlet. The cost of engagement is low, because liking is done with one click and only some Friends' attention is drawn.

Sharing a post implies that the content will be reposted on the user's timeline. The likelihood that Facebook selects this action into Friends' news feeds is comparatively high. Thus the cost of engagement is higher than in the case of likes, even though sharing also requires just one click.

Commenting is an action that becomes visible below a post and also has a relatively high probability of appearing in Friends' news feeds. This type of engagement certainly has the highest cost of engagement, because the user needs to write something rather than just click a button, in addition to the internalized attention costs of Friends. Comments are used to add information to a post, and since this information could be either critical or confirmatory, this behavior could occur whether the post is congenial or not.

If engagement is motivated by social or psychological factors, we therefore expect liking to be most strongly associated with the congeniality of a post. The relationship between congeniality and sharing is presumably less strong, due to the higher cost of engagement. Commenting involves the highest cost and might not necessarily be used to confirm a post message, which is why we expect the weakest and perhaps most ambiguous relationship here.

3. Data

Our data cover the time from January 2012 to June 2017. Before 2012, we do not observe much activity on the Facebook pages of the outlets in our sample. In fact, many outlets did not have an official Facebook page before 2012. Our period of investigation ends in June 2017, shortly before we started collecting the data.

3.1 Politicians under criminal investigation

In Germany, members of the national and state parliaments are generally protected from judicial and police measures. Unless apprehended while committing an offense, a representative can only be prosecuted or arrested if the parliament grants authorization. A few parliaments adopt lists of cases in which prosecution is possible without an explicit approval of the committee in charge; the authorities merely have to notify the parliament 48 hours before taking action. However, in most cases, judicial or police measures have to be authorized. Usually, the act of liftings somebody's immunity consists of two procedural steps. The parliamentary committee in charge first issues a formal request, after which the final decision on the lifting of immunity is made by parliament. Both steps might take place at the same day, but in many cases several days pass between the request and the decision.

Lifting somebody's immunity implies that the prosecution has sufficient evidence to initiate criminal proceedings. Some proceedings relate to minor transgressions (e.g., defamation, driving under the influence), whereas others pertain to severe felonies (e.g., child pornography). The prominence of the politicians varies as well, ranging from ordinary members of state parliaments to former Federal President Christian Wulff. In addition to the legal consequences that are associated with a lifting of immunity, such as indictment and conviction, public approval and intra-party support often decline. In some cases, politicians under investigation are excluded from their party or have to step down.

Most information on cases of liftings of immunity come from official parliamentary records. In a few cases, we complement missing data by publicly available information from other sources (e.g., press archives and search engines); see Garz and Sörensen (2017) for further details on collecting the data. Between January 2012 and June 2017, there are 107 cases pertaining to 80 politicians that belong to 9 different parties, after excluding six cases of politicians without party affiliation.

3.2 Facebook news pages and posts

Newspapers, news magazines, and newscasts nowadays provide access to their content online, often complementing their traditional ways of distributing information. Similar to pure Internet news portals, these outlets have Facebook representations which they use to post content. A Facebook post is an individual entry in a page's feed. In addition to its message, a post may include a photo, a video, or a link to external content. News outlets are usually interested in getting Facebook users exposed to and engage with their posts. User engagement refers to liking, sharing, and commenting the post, as well as clicking on external links. In the case of news pages, these links usually redirect the user to full articles on the outlets' websites.

Our selection of outlets is guided by audience reach and the goal to fully cover the political left-right spectrum. To construct a sample that fulfills these criteria, we include all media outlets that focus on general or politics news, have an official Facebook page, and are listed in at least one of the following rankings: (a) the 75 most visited news websites according to the German audit bureau of circulation (Informationsgesellschaft zur Feststellung der Verbreitung von Werbeträgern, *IVW*), (b) the 75 most popular outlets on Facebook and Twitter according to the social media monitoring project *10000 Flies* (http://www.10000flies.de/), or (c) the *Süddeutsche* ranking of the most-liked Facebook pages by politically interested users (https://bit.ly/2COYrAV). The *IVW* is one of Germany's most established provider of audience reach data. Its ranking is based on the number of page impressions of news websites in June 2017. Thus, it does not specifically reflect the popularity of outlets on Facebook but more generally online. The *10000 Flies* ranking also refers to June 2017, but it is based on the number of likes, reactions, shares and comments on Facebook, as well as the number of likes and retweets on Twitter, generated by websites with their content. The ranking by *Süddeutsche* is the most specific one to the context of this study. Referring to the time from October 2016 to March 2017, their ranking lists the 100 Facebook pages most often liked by politically interested Facebook users; it consists of a separate list for each of the six most popular German parties these users also like. Based on these criteria, our sample consists of 84 Facebook news pages (many outlets appear in all three rankings). The selection includes Facebook representations of all national newspapers, all national news magazines, the most important regional newspapers, the most important national newscasts, and the largest online news outlets. The sample also comprises known

left- and right-wing outlets, such as *Compact-Magazin*, *Junge Freiheit*, *Junge Welt*, *PI-News*, and *taz* (Die Tageszeitung). See Table A1 for a full list of outlets.

We use the Facebook Graph API to download the entire content of these pages, including all 2,042,415 posts. The number of posts varies across outlets, with a minimum of 2,154 (*Monitor*) and a maximum of 92,955 (*N24*). Given these quantities, we have a sufficiently large sample to accurately estimate each outlet's ideology, even for those outlets that were less active on Facebook. For each post, we record the date and time of publication, the message text, the type (i.e., link, status, photo, video, or event), the link to the underlying news article, the link to a possible picture, as well as the number of likes, shares, and comments.[7] We download the data in the second half of August 2017—at least six weeks after the most recent posts—to guarantee that we register the "final" engagement measures (99.9% of user engagement takes place in the 15 days after a post is published; see Lee, Hosanagar, and Nair, 2018).

3.3 Retrieval of political immunity story posts

We are interested in retrieving those posts that address an imminent, requested, or realized lifting of immunity. It is not difficult to find many of these posts because there are no synonyms for the German word "Immunität". In addition, the term is always used as a noun or compound noun (e.g., "Immunitätsaufhebung") and there are no word corruptions. Thus, the term "Immunität" (truncated at the end) is a very sharp and effective keyword in this context. We focus on the post message, which has a similar function as the headline or sub header of a traditional news article. Journalists include buzzwords in the post message to signal its topic to the reader. The underlying news article very likely addresses the lifting of somebody's immunity if the word immunity is included in this message.[8] In addition, there are posts that address the lifting of somebody's immunity without explicitly using the word "Immunität". Such posts are usually published around the date of the request or decision to lift the immunity, discussing the intentions of the prosecution to open criminal proceedings, the particularities of the transgression, and potential or actual consequences of the case. It

[7] In 2016, Facebook equipped the like button with further options to react to content, such as "love", "wow", and "angry". Because of their novelty, we do not consider these reactions in our analyses.
[8] We also check other related search terms, including synonyms and word corruptions, such as "Staatsanwalt" (prosecutor), "Ermittlung" (investigation), and "Strafverfahren" (criminal procedure), but using these terms barely leads to the retrieval of true positives, while substantially increasing the number of false positives.

is also straightforward to retrieve these kinds of posts by searching for the name of the politician in question and comparing the date of the post with the date of the lifting of immunity. To not omit many true positives, we do not initially restrict the search to posts that contain both the first name and the last name, because the media often only uses the last name of the politician. An exception are German last names that are very common (e.g., Beck, Müller) or are also used as other words, such as "Mächtig" (powerful) or "Junge" (boy), which is when the media usually uses the full name to avoid misunderstandings. In these cases, we retrieve only those posts that contain the first name and the last name.

Based on these considerations, we develop a simple routine to search the downloaded page data for posts that are likely about liftings of immunity. The routine identifies all posts that (a) contain the name of the politician in question and the German word for immunity (truncated at the end) in their message text, article link, or picture link, or (b) only include the name but are published within seven days before and after the date of the request or decision to lift this politician's immunity. This search procedure retrieves 1,291 posts. Manually removing a few false positives—which are mostly due to homonymy—decreases this number to 1,115 posts. Figure A1 in Online Appendix A shows the distribution of these posts across outlets. Five outlets never posted about a political immunity story (*Lausitzer Rundschau*, *MAZ*, *Neue Westfälische*, *Südwest Presse*, and *WDR*), whereas the television news channel *N24* had a record number of 88 posts. Importantly, about half of the outlets in our sample had more than 10 posts, which implies that we can estimate the relationship between the congeniality of news and user engagement based on a large number of diverse outlets.

Table 1, Panel B, provides further summary statistics. On average, a post receives about 84.1 likes, 16.9 shares, and 56.4 comments. Most of the posts simply include a link (81.2%), followed by status updates (11.0%). Few posts include a photo (6.9%) and even less a video (0.8%).

We assume that the content of the retrieved posts is bad news for the accused politician. Allegations of criminal behavior are usually associated with losses in vote shares (e.g., Welch and Hibbing, 1997; Costas-Pérez, Solé-Ollé, and Sorribas-Navarro, 2012; Hirano and Snyder, 2012). In some cases, such accusations cause politicians to refrain from running for reelection or to resign prematurely (Garz and Sörensen, 2017; Larcinese and Sircar, 2017). The language used in the political immunity story posts reflects the detrimental implications of the act. Applying Rauh's (2018) sentiment dictionary for German political language suggests that these posts are disproportionately

negative. On average, the post messages contain 1.09 positively but 2.05 negatively connotated terms. Reports about a lifting of immunity always provide "actual news", even if the public has heard rumors about the criminal behavior before. The act of lifting somebody's political immunity implies that the prosecution has collected hard evidence that is likely sufficient for a conviction (about 50% of these cases result in a guilty verdict; see Garz and Sörensen, 2017). Thus it is plausible to assume that political immunity stories are negative publicity for the politician in question, and by extension, for the politician's party and supporters.

However, it is conceivable that the outlets could attempt to defend the (criminal) behavior of an ideologically close politician, especially when the transgression is politically motivated. As a consequence, readers of these outlets might not perceive such posts as uncongenial. We manually identify all posts that defend the accused politician and verify that these posts do not pose a problem to our approach of measuring congeniality (see robustness checks in Online Appendices B and C). Specifically, we tag all posts that clearly (a) solidarize with the accused, (b) deplore the behavior of prosecuting authorities and parliamentary committees, or (c) contest the meaningfulness of prevailing law.[9] We also consider but do not pursue the option to tag these posts by using an automated approach. On the one hand, we are not aware of an automated procedure that could accurately evaluate these criteria. It is possible to measure the sentiment of the posts, as mentioned in the previous paragraph, but it would be a stretch to assume that a post would defend the accused politician if there was a positive sentiment. On the other hand, the number of posts that need to be evaluated is small enough for a manual approach to be feasible. There are 69 posts that meet at least one of the above-mentioned criteria (ca. 6.2% of all retrieved posts). In most cases, these posts pertain to left-wing and Green politicians that were accused of violating the right of free assembly, either by participating in anti-Nazi demonstrations or anti-nuclear movements.

[9] We do not explicitly consider the linked news article, because its content likely correlates with the content of the post message. In addition, in most cases users engage with a post without reading the underlying story (Gabielkov et al., 2016).

3.4 Media slant

3.4.1 Similarity between outlets and parties

We use an approach similar to that proposed by Gentzkow and Shapiro (2010) to construct our measure of media slant. Specifically, we compare the language in the outlets' Facebook posts[10] with the language used by the parties in their election programs. Before an election, German parties usually publish a document that provides details on their goals for the upcoming legislative session. These documents are a central element of the campaigns and thus widely discussed in the public. They circulate under the label election program or, in some cases, election platform, party program, party manifesto, or government program. We use all programs pertaining to the two national elections during our period of investigation (2013 and 2017), as well as the available state-level programs in that time.

The election programs are used to identify characteristic terms that are typically used by the parties. With an average of 295,971 words per party, the documents provide a sufficient amount of text. We clean the texts (i.e., lower case transformation, word stemming, as well as removal of punctuation, numbers, stop words, formatting, and party references) and generate a matrix representation of the processed terms. We evaluate the importance of these terms by computing the product of the relative term frequency and the inverse document frequency (TF-IDF), which is a standard statistic in information retrieval for this kind of task (e.g., Jurafsky and Martin, 2008). Simply put, the TF-IDF is largest for terms that are often used by one but not the other parties; i.e., terms that appear frequently and uniquely in the parties' election programs. The exact formula is in the notes to Table A2; the table itself shows each party's 20 highest ranked terms to illustrate the approach. For instance, characteristic terms of the Left Party (Linke) are "erwerbslos" (unemployed), "superreich" (super-rich), and "neoliberal" (neoliberal), whereas typical terms by the right-wing party NPD are "Vaterland" (fatherland), "Massenzuwanderung" (mass immigration), and "Ausländerkriminalität" (crime committed by foreigners). The Greens (Grüne) emphasize "Kohleausstieg" (fossil fuel phase-out), "Klimakrise" (climate crisis), and "Atomausstieg" (nuclear phase-out); and characteristic terms of

[10] Our measure of media slant is exclusively based on the outlets' Facebook posts for two reasons. First, our approach to measure congeniality of political immunity story posts on Facebook requires a measure of slant on Facebook. Other forms of news output by the outlets (e.g., their print versions, broadcasts, or websites) could by characterized by a different slant, since audiences on Facebook and outside likely differ. Second, there would be data availability issues for a large fraction of the outlets in our sample, as the entirety of the news output outside of Facebook often cannot be accessed.

the market-liberal FDP are "Vertragsfreiheit" (freedom of contract), "Schulfreiheitsgesetz" (autonomy education act), and "Träume" (dreams). These examples also show that it is not necessary to compute the TF-IDF for two- or three-word phrases because of the common usage of compound nouns in the German language.

Next, we concatenate the 2,042,415 Facebook posts by the outlets in our sample and clean the message texts in the same way as the election programs. We compare the language of the outlets with the language of the parties by computing the cosine similarity (cp. Jurafsky and Martin, 2008) between the cleaned post messages and the most characteristic terms of the parties:

$$sim_{n,p} = \frac{\sum_{t=1}^{T} x_{t,n} y_{t,p}}{\sqrt{\sum_{t=1}^{T} {x_{t,n}}^2} \sqrt{\sum_{t=1}^{T} {y_{t,p}}^2}} \quad (2)$$

Based on terms t, we compute this statistic for each of the 756 outlet-party combinations. The term vector x represents the post messages of outlet n, whereas y captures the language used by party p. Since we are interested in those terms that are highly characteristic for the language of each party, we focus on terms with particularly high TF-IDF values. Specifically, we only use the top 0.1% of each party's characteristic terms, according to the TF-IDF statistic. Selecting this cut-off is arbitrary and subject to a trade-off.[11] Using only few party-specific terms increases the chances that we treat posts as neutral even if they are actually biased, as we might exclude terms that are indicative of a party's ideology. An overly generous cut-off decreases the differences between the parties, because it involves including terms that are not often used, that are simultaneously used by the other parties, or both. Inspection of the retained terms suggests that the top 0.1% of the distribution of TF-IDF values balances the trade-off well. This cut-off selects between 48 (AfD, NPD) and 86 (FDP, SPD) terms per party, or a total of 582 expressions. These differences between parties reflect the uniqueness and length of the election programs. Thus parties with a broader range of unique topics have a greater weight when constructing the slant index.

We plot levels of slant by outlet and party in Figures A2 and A3. The graphs indicate that the outlets generally vary in their tendency to use ideologically relevant terms. For instance, we observe the

[11] An alternative strategy would be to evaluate the outlets' use of all terms included in the election programs, while applying the TF-IDF values as weights of "keyness". Unfortunately, this strategy is computationally not feasible, given the size of the Facebook corpus. Tables B1, B2, C1, and C2 present robustness checks when using higher and lower cut-offs.

lowest tendency to use terms for the regional outlet *Badische Zeitung* (cosine similarity cumulated over parties = 0.0034). The socio-critical blog *Nachdenkseiten*, for which we measure the highest cumulated cosine similarity (0.0399) exceeds this value by a factor of 10. However, there are also differences in the extent of bias towards individual parties. For example, we observe outlets devoting between 4.1% (*Osthessen News*) and 23.4% (*Zeit*) of their overall bias to the green party (Grüne), and between 0% (multiple outlets) and 10.9% (*Compact-Magazin*) to the far-right NPD.

In the regressions, our measure of congeniality is the cosine distance between an outlet and a party (i.e., $dist_{n,p} = 1 - sim_{n,p}$).[12] To ease the interpretation of the results, we rescale the cosine similarity using its empirical minimum and maximum before computing the distance:

$$dist_{n,p} = 1 - \frac{sim_{n,p} - \min(sim)}{\max(sim) - \min(sim)} \quad (3)$$

The resulting measure varies between 0 and 1, with 1 reflecting the greatest observed ideological distance between an outlet and a party, and 0 indicating the greatest similarity. The empirical distribution of this distance measure (cp. Figure A4) implies that there is much variation in the congeniality of political immunity story posts, which is useful when estimating the effects on user engagement.

3.4.2 Score in the political left-right spectrum

To illustrate the outcome of the computations, we rank the outlets in the political left-right spectrum. For that purpose, we use left-right scores of Germany's political parties provided by the Manifesto Project (Volkens et al., 2019). These scores are based on content analyses of the parties' 2013 and 2017 election programs, following a standardized procedure that allows comparisons over time and across countries. As shown in Figure 1, the Pirate Party (Piraten), the Greens (Grüne), the Social Democratic Party (SPD), and the Left Party (Linke) can be found left of the mean score, whereas

[12] We also explore the possibility to measure slant at the level of individual posts, in an attempt to capture congeniality in a particularly detailed way. We discard this possibility because there would be endogeneity problems, as the slant of individual posts might directly affect user engagement. Measuring congeniality at the outlet level minimizes these problems. In addition, it would be practically infeasible to analyze post-level slant, because over 90% of the posts do not contain any ideologically relevant terms. Thus there would be hardly any variation to analyze, considering that our sample consists of 1,115 political immunity story posts.

the Union parties (CDU/CSU), the Free Democratic Party (FDP), and the newly founded Alternative for Germany (AfD) are right of the center.

Next, we regress the cosine similarity between outlet n and party p on a constant and outlet and party fixed effects μ_n and θ_p:

$$sim_{n,p} = a + \mu_n + \theta_p + \varepsilon_{n,p} \tag{4}$$

The posts of some outlets are generally more similar to the parties' election programs than the posts of other outlets; and the election programs of some parties are generally closer to the outlets' posts than those of other parties. Using the residuals $\varepsilon_{n,p}$ from Equation (4) accounts for these differences. Our measure of an outlet's position in the left-right spectrum is the sum of the outlet's similarity residuals $\varepsilon_{n,p}$ weighted by the parties' $score_p$ on the left-right scale (as shown in Figure 1):

$$score_n = \sum_{p=1}^{P} \varepsilon_{n,p} score_p \tag{5}$$

By construction, the outlets' left-right $score_n$ is bounded between -1 and 1. Negative values suggest that an outlet's post messages are slanted towards the parties left of the population mean, whereas positive values indicate slant towards the right side of the spectrum.

In Figure 2, we compare the resulting left-right score of the national outlets with the popularity of their Facebook pages. The distribution of these outlets resembles a bell curve. The graph suggests that the most popular outlets—such as *Bild*, *Spiegel Online*, and *Tagesschau*—are fairly balanced; i.e., have left-right scores close to zero. Outlets at the left and right ends of the spectrum are less popular on Facebook. We do not find such a pattern when looking at the regional outlets in Figure 3.[13] This is plausible because regional outlets usually cater to the views of consumers in local news markets (Gentzkow and Shapiro, 2010). These markets vary in size, which is a main factor of the regional outlets' popularity on Facebook. In addition, the newspaper versions of the regional outlets are often local monopolists; as such they have incentives to cater to a broad ideological spectrum rather than a single ideology (Gentzkow, Shapiro, and Stone, 2015). The regional outlets also have

[13] The distinction between national and regional outlets is based on the outlets' self-description. Almost all regional outlets in our sample include a reference to some locality in their name. They differ from national outlets in that they offer local news on top of national and foreign news. Traditionally, printed copies of these outlets could be purchased at the newsstands in a certain area only, or reception of their terrestrial transmission was limited to some region.

a smaller range of left-right scores, which implies that their Facebook pages are ideologically more balanced than the national ones, as can be expected in locally concentrated news markets. Note, however, that we compute and display the left-right scores only for illustrative purposes, mainly to validate that our approach of measuring ideology yields plausible results. Our main explanatory variable—the ideological distance shown in Equation (3)—has very similar means and standard deviations when comparing national and regional media. Thus we use variation in ideology from both types of outlets when estimating the relationship between congeniality and user engagement.

It might seem puzzling that Facebook pages belonging to the same brand (i.e., *Spiegel* and *Spiegel Online*, as well as *Zeit* and *Zeit Online*) have slightly different left-right scores. Using different pages operated by different social media editors is most likely part of product differentiation strategies that allow media companies to target different audiences (e.g., Anand, Di Tella, and Galetovic, 2007; Gal-Or, Geylani, and Yildirim, 2012). Thus it is not implausible for these outlets to have different left-right scores.

Overall, the positions of the outlets in the left-right spectrum shown in Figures 2 and 3 concur with their reputations.[14] For example, we obtain large positive scores for the right-wing outlets *Junge Freiheit*, *PI-News*, and *Compact*, whereas the socialist newspaper *Neues Deutschland*, the socio-critical blog *Nachdenkseiten*, and the cooperative-owned *taz* (Die Tageszeitung) exhibit large negative scores. Comparing our left-right score with existing measures of slant further confirms our approach.[15] There is a bivariate correlation of 0.80 when we compare our left-right score with the index of perceived slant by Polisphere (2017); see Figure A7.

[14] Note that the outlets' left-right scores are calculated without accounting for the right-wing NPD. The Manifesto Project data do include information about this party, given its low vote shares in recent elections (1.3% in 2013 and 1.0% in 2017). To verify that omitting the NPD does not distort our ranking, we compute another version of $score_n$ by replacing the Manifesto Project scores with survey-based left-right values collected by the 2016 Politbarometer surveys (N = 17,556). The data capture respondents' perceptions of the parties' positions in left-right spectrum, including the NPD. Figures A5 and A6 show the resulting ranking of outlets, which does not substantially differ from the baseline approach. However, the Politbarometer data have the disadvantage that survey responses can be subject to social desirability bias, which is why we relegate these figures to the appendix.

[15] Since previous slant indices for German media outlets only refer to the political left-right dimension, we cannot benchmark our measure for other ideological differences (e.g., nationalist vs. integrationist, religious vs. secular, or urban vs. rural). However, the left-right dimension is a very important aspect of parties' ideology that likely correlates with other dimensions.

4. Results

4.1 Supply of posts

To begin, we investigate the supply of posts, given the availability of news material. For that purpose, we estimate the effect of the congeniality of the case on the number of $posts$ on a given case, by a given outlet:

$$posts_{n,c} = b_1 + b_2 dist_{n,p} + \mu_n + \varphi_c + \varepsilon_{n,c} \quad (6)$$

where $dist$ is the cosine distance between outlet n and party p of the politician involved in case c, as calculated in Equation (3). Note that the congeniality of the case derives from the ideological congruence between the outlet and the party affiliation of the politician in question: Cases in which an outlet is slanted towards the party of the politician are uncongenial, because the lifting of immunity is bad news for the average reader of this outlet. In contrast, cases are congenial if an outlet is ideologically different from the party of the politician. Thus, high values of $dist$ reflect congenial constellations, whereas small values indicate uncongenial cases. We estimate this effect conditional on outlet and case fixed effects. The outlet fixed effect μ_n captures unobserved differences across outlets; for example, due to popularity, social media strategy, or affinity for the topic. The case fixed effect φ_c accounts for the particularities of the case, such as the point of time of the lifting of immunity, the severity of the transgression, the party of the suspect, or the reputation of the politician, which might all result in differences in news value. We compute two-way clustered standard errors by outlet and case.

We use different versions of the dependent variable when estimating Equation (6). The basic version simply counts all posts per outlet and case. In the second version, we exclude posts that refer to multiple issues (i.e., posts also addressing other topics than the lifting of somebody's immunity). For instance, the Facebook pages of newscasts sometimes use a post to list the main topics of their upcoming show. The third version excludes posts related to multiple politicians from different parties. The outlets sometimes report on multiple politicians simultaneously, because the cases occur at the same time or to compare a case with a previous lifting of immunity.

It would be optimal to use estimation procedures that account for the distributional characteristics of these count variables, such as Poisson or negative binomial models. We use OLS to estimate Equation (6) though, because maximum likelihood estimators are biased when modeling panel data

with (two-way) fixed effects; see Greene (2004) on the incidental parameters problem. In fact, maximum likelihood estimates often fail to converge with the data at hand, because there are many outlet-case combinations without any variation in the amount of posts.

Results are summarized in Table 2. All specifications indicate a negative relationship between the ideological distance and the supply of posts. Thus the number of posts slightly decreases when the congeniality of the case to the outlet's average reader increases. However, the estimated coefficients are statistically insignificant and imply very small effect sizes. For example, the coefficient of -0.412 in Column (1) indicates that a one standard deviation increase in distance (0.193) decreases the number of posts by 0.079. This decrease corresponds to approximately 7.1% of the standard deviation of the amount of posts.

Figure B1 supports the interpretation that the congeniality of the case does not affect the number of posts related to that case. To rule out that this finding is caused by our specific approach of capturing congeniality, we evaluate the robustness of the estimates when we construct the distance measure in a different way. We obtain similar results when using alternative TF-IDF cut-offs to construct this measure (Tables B1 and B2) and when we use a measure of congeniality based on the Polisphere (2017) index of slant (Table B3). As discussed in Section 3.3, a small fraction of posts defends the accused. These posts might have a different congeniality, but our estimates do not substantially differ when we distinguish between these posts and "ordinary" political immunity stories (Table B4). To rule out that our results are driven by outliers, we exclude the most active outlets (Table B5) and drop the most prominent cases (Table B6). Excluding outlets and cases with zero posts does not affect the results either (Table B7). Another concern is that OLS estimates are biased when the dependent variables are count variables. However, we obtain qualitatively similar results when we estimate linear probability models with binary dependent variables that indicate whether the outlet posted about a case or not (Table B8). Another possibility is that only certain outlets adjust their supply of posts to the congeniality of the case, but we do not find any differences between left- and right-leaning or between centered and more extreme outlets (Table B9). It is also conceivable that outlets do not adjust the number of posts but change certain qualitative elements. For instance, outlets could be more inclined to include a call to action in a post when the case is more congenial. This is not the case though (Table B10). In addition, there is no evidence that the congeniality of the case affects the characteristics of the posts, such as the length of the post message, the usage of photos and videos, and the share of posts published on Sundays or at night (Table B11).

In conclusion, there is no evidence that outlets cater to the preferences of users by posting more about more congenial cases. Absence of evidence is not necessarily evidence of absence though. It is possible that attempts by outlets to satisfy consumer demand for congenial posts are offset by other factors. For instance, cost advantages could make it attractive to post about less congenial cases: Outlets that are ideologically close to a party likely have more background knowledge about and better connections to politicians from that party, which implies lower costs of producing news items about them. In contrast, it might be more difficult for outlets to obtain certain information when politicians from ideologically distant parties are involved. Such cost differences influence the supply of news items, which in turn affects the activity of outlets on Facebook.

4.2 User engagement

4.2.1 Estimation and results

We estimate versions of the following model to explore the effect of the congeniality of posts on users:

$$engagement_{i,n,c} = c_1 + c_2 dist_{n,p,c} + c_3 X_{i,n,c} + \mu_n + \varphi_c + \varepsilon_{i,n,c} \quad (7)$$

in which we use each of our three measures of user $engagement$ (likes, shares, and comments) related to post i, published by outlet n on case c as left-hand side variables.[16] Again, $dist$ captures the ideological distance between the outlet and party p of the politician in question (and hence, the congeniality of a story on lifting immunity). The outlet and case fixed effects, μ_n and φ_c, account for unobserved outlet- and case-specific characteristics. The variable vector X includes controls for the type of the post (i.e., link, photo, video, status, and event), the length of the post message (number of characters), and a dummy variable to capture posts that refer to multiple politicians of different parties. Another binary variable captures posts that cover multiple topics because user reactions to

[16] It would be possible to analyze the sentiment of the comments related to the political immunity story posts. However, we do not believe that content analyses would be particularly informative in the context of our study, because negative or positive sentiment does not necessarily correspond to the congeniality of a post. For example, if users express that they are sad when the immunity of a politician from their preferred political camp is lifted, those comments would be characterized by a negative sentiment. If instead the immunity of an ideologically distant politician is lifted, users might express anger, which would also be registered as negative sentiment. Thus the sentiment of the comments is unlikely to reflect a post's congeniality.

such posts do not necessarily refer to the lifting of somebody's immunity. In addition, dummy variable sets account for the hour of the day and the day of the week, because the timing of publication likely affects user engagement as well. We also include the number of days since the first post on a case, as well as the overall and the outlet-specific number of previous posts on the same case to capture variation due to potential effects of the news cycle. Finally, we include the outlets' average monthly number of likes over all published posts to account for differences in popularity over time and across outlets. Again, we cluster standard errors by outlet and case. Here the effective numbers of outlets and cases are 79 and 49, respectively: Some outlets never posted about a political immunity story, and various cases did not receive any posts.

Technically, it would be possible to include month and year fixed effects, as well as a time trend polynomial to account for general, time-related patterns. However, such patterns are almost entirely absorbed by the case fixed effects because most posts are published at the time of the lifting of immunity. Including these variables does not affect the results but leads to extremely large variance inflation factors due to multicollinearity, which is why we prefer to omit the additional controls.

Table 3 shows the results of estimating Equation (7). In general, the estimates do not substantially differ for the models with (Columns 4 to 6) and without (Columns 1 to 3) control variables. Throughout, the coefficient of the distance variable has a positive sign. Thus the estimates suggest that users engage more with posts, the greater the level of congeniality of the posts. Assuming that outlet and user ideologies are approximately matched (cp. Figure C1), the positive relationship implies that the users' engagement is likely motivated by psychological and social factors, as discussed in Section 2. According to Columns (4) to (6), a one standard deviation increase in distance (0.193) raises user engagement by approximately 74.4 likes, 9.2 shares, and 16.4 comments. In relative terms, likes, shares, and comments increase by 88.5%, 54.3%, and 29.1%, respectively. The coefficients are significant at the 5% and 10% level in the case of likes and shares, and insignificant for comments. Both the size of the coefficients and their significance levels are compatible with the theoretical expectations formulated in Section 2.5. That is, we observe the strongest association for likes, which involve the lowest costs of engagement. The relationship is slightly weaker for shares, presumably because of the somewhat higher engagement cost. The low correlation between comments and engagement can likely be explained by the relatively high engagement cost and the fact that comments are not necessarily used to endorse the content.

Graphical evidence confirms the positive relationship between the congeniality of the posts and user engagement (see Figure C2). A series of robustness checks suggests that our results are not substantially affected by specific choices made when constructing our measure of congeniality. Specifically, we obtain qualitatively similar results when we use alternative TF-IDF cut-offs to select ideologically relevant expressions (Tables C1 and C2), construct a measure of congeniality based on differences in the left-right spectrum (Table C3), or create a distance measure based on the Polisphere (2017) ranking of outlets (Table C4). We evaluate if posts that defend the accused affect the results, which is not the case (Table C5). We also verify that our results are not driven by outliers in the engagement variables (Figure C3), particularly prominent cases (Table C6), or two outlets with extreme left-right scores (Table C7). The user engagement could be driven by posts including a call to action (e.g., "What do you think about the accusations?"), but removing these posts does not change the results either (Table C8).

Overall, the robustness checks confirm the results of the baseline specification, but the level of the robustness varies over the different engagement measures. We find the most robust effects for likes. The evidence is slightly less robust for shares, and most specifications do not indicate significant effects for comments. Again, this pattern matches the theoretical predictions discussed in Section 2.5.

As discussed in Section 2, the findings can be best explained by psychological and social factors. It "feels good" to encounter congenial news, whereas it "feels bad" to receive uncongenial information. The instrumental information concept used in many theoretical models of demand-driven media bias is not compatible with the result that consumers prefer congenial information within the same outlet. If consumers were behaving rationally and were seeking information with instrumental value, we should find either (a) no within-outlet relationship between congeniality and user engagement or (b) users to be more engaging with uncongenial posts. This is not the case though. The absence of such a finding does not necessarily imply that the effect it not present, but it could mean that psychological and social factors are dominant.

4.2.2 Alternative explanations

The positive relationship between the congeniality of posts and user engagement could be subject to reverse causality if ideologically motivated social media editors exploit certain features of Facebook to advocate their own or the outlet's political agenda. There are several ways in which outlets can promote individual posts to increase the chances that these posts appear in users' news feeds, which in turn increases the chances of engagement. Outlets can pay Facebook to "boost" posts, they can pay click farms to influence organic exposure, they can use social bots, they can pay influencers to spread the word (e.g., celebrities), and they can slant message texts. Editors could systematically promote those posts that support the outlet's ideological goals and disregard the posts that contradict these goals. Specifically, outlets could use these tools to sway audiences with a different ideology. We cannot conclusively rule out this kind of behavior, but various pieces of evidence contradict the hypothesis that outlets attempt to persuade users on a large and successful scale. First, our finding that the supply of posts is approximately unbiased does not support this kind of behavior. Second, as discussed in Appendix B, we do not find that the outlets manipulate the salience of posts in congenial cases by changing post characteristics (i.e., length, duration of coverage, and use of photos/videos) and the timing of publication (i.e., weekdays vs. weekends, night vs. day). If the actions of the editors were driven by ideological goals, we should already observe a bias at this stage. Third, persuasion would imply that outlets target partisan or uncommitted users with content that is not congenial to them, in which case we would not observe a positive relationship between congeniality and user engagement in the data. While not impossible, it is therefore unlikely that our results are driven by an ideologically motivated promotion of posts.

It is also conceivable that other actors could attempt to persuade audiences by using bots, fake accounts, or trolling. This kind of influence is mostly known in the context of elections and politically motivated disinformation campaigns. We cannot rule out that political immunity stories are used to manipulate Facebook audiences. However, the posts in our sample often relate to low-level politicians and are published outside of election times, so it is unclear if there is enough at stake for disinformation campaigns to influence our results at a large scale. The robustness checks that exclude the most prominent cases offer some reassurance here (cp. Table C6). In addition, bots and trolls tend to share content from dubious sources, but the vast majority of posts in our sample were

published by legacy media. Our heterogeneity analyses indicate that the relationship between congeniality and user engagement is mostly driven by centered outlets (cp. Table C9, Columns 4 to 6), which also suggests that political bots are unlikely to be a big factor here.

Another alternative explanation relates to Facebook's news feed algorithm, which predominantly selects congenial content into users' news feeds. The algorithm likely predicts the affinity of users to certain outlets, parties, and politicians, as well as preferences for news categories (e.g., politics vs. sports) and topics within news categories (e.g., posts about transgressions of politicians vs. posts about policy making). It might also be possible that the algorithm distinguishes between congenial and uncongenial news within the same outlet in the specific context of liftings of immunity. However, as Bakshy, Messing, and Adamic (2015) show, the algorithmic selection has a smaller effect on exposure to congenial content than individuals' choices. To evaluate the role of the algorithm, we collect data on engagement with political immunity stories on Twitter (see Appendix C for details). In contrast to Facebook, Twitter did not use an algorithm to expose users to tweets until January 2016. The platform only began to test an algorithmically curated timeline in February 2016. Before that, tweets were simply shown in reverse chronological order to users.[17] As Table C10 shows, Twitter users did engage more with more congenial political immunity stories prior to February 2016, despite the lack of algorithmic exposure. However, we also find that the liking of congenial tweets has increased afterwards, whereas we do not observe significant changes for retweets and replies. Thus the algorithmic content selection might amplify user engagement with congenial content, but it is unlikely that our Facebook results are exclusively driven by the news feed algorithm. Unfortunately, we cannot quantify how much of the effect estimated in Equation (7) is driven by the news feed, since the Facebook and Twitter algorithms differ in certain details.

A related possibility is that social media editors exploit tools (e.g., paid reach, influencers) to raise the chances that users are exposed to congenial content. Outlets could steer different posts to different audiences, depending on the content. For instance, an outlet might explicitly target right-leaning users with political immunity stories about left-wing politicians, whereas left-leaning users could be targeted with posts about right-wing politicians. This kind of strategy would aim to maximize engagement by catering to user preferences. As with Facebook's news feed algorithm, editor-driven

[17] See https://blog.twitter.com/official/en_us/a/2016/never-miss-important-tweets-from-people-you-follow.html.

exposure could amplify the positive relationship between congeniality and user engagement. Similarly, outlets could take direct measures to increase engagement metrics (e.g., social bots, engagement baiting). Checking the political immunity story posts in our sample, we find that a small fraction of posts (4.8%) include calls to action (e.g., "What do you think about this?"). Excluding these posts does not change our results though (Table C8). We also check if there are other forms of engagement baiting (e.g., "Tag a friend that…", "Like this if you think that…", "Share with 10 friends if you…") but do not find any in our sample of political immunity story posts.

5. Conclusion

We investigate the effect of variation in congeniality in Facebook posts on user engagement. Using data on posts about the lifting of politicians' immunity allows us to distinguish between messages that confirm and contradict the beliefs of the average readers of 84 German news outlets on Facebook. Our results indicate that the supply of posts is approximately unbiased, whereas we find systematic differences in user engagement. Posts with congenial messages receive substantially more likes than uncongenial messages. To lesser degree, this also applies to shares, but not necessarily to comments. These differences across the engagement metrics match our theoretical predictions.

It would be optimal to explicitly account for potential supply-side factors that affect users' exposure to posts, such as ideologically motivated social media editors or Facebook's news feed algorithm. However, it is unlikely for such factors to be large confounders in our within-outlet, within-topic approach, because exposure only translates into engagement if user preferences are compatible. Another limitation of our research design is the specific kind of news that we investigate. It is unclear whether our findings can be generalized to other contexts than transgressions of politicians. Regardless, the results have important theoretical implications. We show that psychological and social factors play a major role in shaping user engagement. However, many models of demand-driven media bias do not account for such factors (e.g., Burke, 2008; Chan and Suen, 2008; Sobbrio, 2014; Oliveros and Várdy, 2015; Fang, 2016). This is problematic because these models lead to different conclusions about the welfare implications of media bias than models that do account for psychological factors (e.g., Mullainathan and Shleifer, 2005; Gentzkow and Shapiro, 2006; Bernhardt, Krasa, and Polborn, 2008; Stone, 2011): If preferences for congenial news are driven by the desire

to hold accurate or otherwise instrumental information, the proliferation of ideologically diverse media is relatively likely to cause consumers to be better informed. If preferences for congenial news are based on psychological and social factors, as our paper suggests, concerns about filter bubbles leading to biased beliefs are more justified.

References

Abeler, J., Nosenzo, D., & Raymond, C. (2016). Preferences for Truth-Telling. *Econometrica*, 87, 1115–1153.

Acemoglu, D., Hassan, T. A., & Tahoun, A. (2018). The Power of the Street: Evidence from Egypt's Arab Spring. *Review of Financial Studies*, 31, 1–42.

An, J., Quercia, D., & Crowcroft, J. (2014). Partisan Sharing: Facebook Evidence and Societal Consequences. Proceedings of the 2nd ACM Conference on Online Social Networks, 13–24.

Anand, B., Di Tella, R., & Galetovic, A. (2007). Information or Opinion? Media Bias as Product Differentiation. *Journal of Economics & Management Strategy*, 16, 635–682.

Bail, C. A., Argyle, L. P., Brown, T. W., Bumpus, J. P., Chen, H., Hunzaker, M. B. F., Lee, J., Mann, M., Merhout, F., & Volfovsky, A. (2018). Exposure to Opposing Views on Social Media Can Increase Political Polarization. *PNAS*, 115, 9216–9221.

Bakshy, E., Messing, S., & Adamic, L. A. (2015). Exposure to Ideologically Diverse News and Opinion on Facebook. *Science*, 348, 1130–1132.

Bernhardt, D., Krasa, S., & Polborn, M. (2008). Political Polarization and the Electoral Effects of Media Bias. *Journal of Public Economics*, 92, 1092–1104.

Bond, R., & Messing, S. (2015). Quantifying Social Media's Political Space: Estimating Ideology from Publicly Revealed Preferences on Facebook. *American Political Science Review*, 109, 62–78.

Brennan, G., & Hamlin, A. (1998). Expressive Voting and Electoral Equilibrium. *Public Choice*, 95, 149–175.

Burke, J. (2008). Primetime Spin: Media Bias and Belief Confirming Information. *Journal of Economics & Management Strategy*, 17, 633–665.

Chan, J., & Suen, W. (2008). A Spatial Theory of News Consumption and Electoral Competition. *Review of Economic Studies*, 75, 699–728.

Chase, J. (2017). German and American Political Parties: A Comparison. Deutsche Welle, 24 Sep 2017, URL: https://www.dw.com/en/german-and-american-political-parties-a-comparison/a-38454970.

Claussen, J., Peukert, C., & Sen, A. (2019). The Editor vs. the Algorithm: Economic Returns to Data and Externalities in Online News. Working Paper.

Costas-Pérez, E., Solé-Ollé, A., & Sorribas-Navarro, P. (2012). Corruption Scandals, Voter Information, and Accountability. *European Journal of Political Economy*, 28, 469–484.

Dallmann, A., Lemmerich, F., Zoller, D. & Hotho, A. (2015). Media Bias in German Online Newspapers. Proceedings of the 26th ACM Conference on Hypertext & Social Media, 133–137.

Dewenter, R., Dulleck, U., & Thomas, T. (2019). Does the 4th Estate Deliver? The Political Coverage Index and Its Application to Media Capture. *Constitutional Political Economy*, forthcoming.

Di Tella, R., & Franceschelli, I. (2011). Government Advertising and Media Coverage of Corruption Scandals. *American Economic Journal: Applied Economics*, 3, 119–151.

Enikolopov, R., Makarin, A., & Petrova, M. (2019). Social Media and Protest Participation: Evidence from Russia. *Econometrica*, forthcoming.

Fang, R. Y. (2016). Profit-Maximizing Media Bias. Working Paper.

Ferraz, C., & Finan, F. (2008). Exposing Corrupt Politicians: The Effects of Brazil's Publicly Released Audits on Electoral Outcomes. *Quarterly Journal of Economics*, 123, 703–745.

Flaxman, S., Goel, S., & Rao, J. M. (2016). Filter Bubbles, Echo Chambers, and Online News Consumption. *Public Opinion Quarterly*, 80, 298–320.

Gabielkov, M., Ramachandran, A., Chaintreau, A., & Legout, A. (2016). Social Clicks: What and Who Gets Read on Twitter? ACM SIGMETRICS / IFIP Performance 2016, Antibes Juan-les-Pins, France.

Gal-Or, E., Geylani, T., & Yildirim, T. P. (2012). The Impact of Advertising on Media Bias. *Journal of Marketing Research*, 49, 92 –99.

Garz, M., & Sörensen, J. (2017). Politicians Under Investigation – The News Media's Effect on the Likelihood of Resignation. *Journal of Public Economics*, 153, 82–91.

Garz, M., & Sörensen, J. (2019). Political Scandals, Newspapers, and the Election Cycle. *Political Behavior*, forthcoming.

Garz, M., Sood, G., Stone, D. F., & Wallace, J. (2020). The Supply of Media Slant across Outlets and Demand for Slant within Outlets: Evidence from US Presidential Campaign News. *European Journal of Political Economy*, forthcoming.

Gentzkow, M., & Shapiro, J. M. (2006). Media Bias and Reputation. *Journal of Political Economy*, 114, 280–316.

Gentzkow, M., & Shapiro, J. M. (2010). What Drives Media Slant? Evidence from U.S. Daily Newspapers. *Econometrica*, 78, 35–71.

Gentzkow, M., Shapiro, J. M., & Stone, D. F. (2015). Media Bias in the Marketplace: Theory. In S. Anderson, D. Strömberg, & J. Waldfogel (eds.): *Handbook of Media Economics*. North Holland, pp. 623–645.

Gentzkow, M., Wong, M. B., & Zhang, A. T. (2018). Ideological Bias and Trust in Information Sources. Working Paper.

Greene, W. (2004). The Behaviour of the Maximum Likelihood Estimator of Limited Dependent Variable Models in the Presence of Fixed Effects. *Econometrics Journal*, 7, 98–119.

Guess, A., Lyons, B., Nyhan, B., & Reifler, J. (2018). Avoiding the Echo Chamber about Echo Chambers: Why Selective Exposure to Like-minded Political News is Less Prevalent than you Think. Knight Foundation White Paper.

Halberstam, Y., & Knight, B. (2016). Homophily, Group Size, and the Diffusion of Political Information in Social Networks: Evidence from Twitter. *Journal of Public Economics*, 143, 73–88.

Hirano, S., & Snyder Jr., J. M. (2012). What Happens to Incumbents in Scandals? *Quarterly Journal of Political Science*, 7, 447–456.

Jurafsky, D., & Martin, J. H. (2008). *Speech and Language Processing*. 2nd edition, Prentice Hall.

Larcinese, V., & Sircar, I. (2017). Crime and Punishment the British Way: Accountability Channels Following the MPs' Expenses Scandal. *European Journal of Political Economy*, 47, 75–99.

Lee, D., Hosanagar, K., & Nair, H. S. (2018). Advertising Content and Consumer Engagement on Social Media: Evidence from Facebook. *Management Science*, 64, 5105–5131.

Lelkes, Y., Sood, G., & Iyengar, S. (2017). The Hostile Audience: The Effect of Access to Broadband Internet on Partisan Affect. *American Journal of Political Science*, 61, 5–20.

Levy, R. (2019). Social Media, News Consumption, and Polarization: Evidence from a Field Experiment. Working Paper.

Müller, K., & Schwarz, C. (2018a). Fanning the Flames of Hate: Social Media and Hate Crime. Working Paper.

Müller, K., & Schwarz, C. (2018b). Making America Hate Again? Twitter and Hate Crime under Trump. Working Paper.

Mullainathan, S., & Shleifer, A. (2005). The Market for News. *American Economic Review*, 95, 1031–1053.

Nyhan, B. (2014). Scandal Potential: How Political Context and News Congestion Affect the President's Vulnerability to Media Scandal. *British Journal of Political Science*, 45, 435–466.

Oliveros, S., & Várdy, F. (2015). Demand for Slant: How Abstention Shapes Voters' Choice of News Media. *Economic Journal*, 125, 1327–1368.

Pogorelskiy, K., & Shum, M. (2018). News We Like to Share: How News Sharing on Social Networks Influences Voting Outcomes. Working Paper.

Polisphere (2017). Die deutsche Medienlandschaft in einer Karte. URL: http://www.polisphere.eu/blog/die-deutsche-medienlandschaft-in-einer-karte/.

Puglisi, R., & Snyder Jr., J. M. (2011). Newspaper Coverage of Political Scandals. *Journal of Politics*, 73, 931–950.

Puglisi, R., & Snyder Jr., J. M. (2011). The Balanced US Press. *Journal of the European Economic Association*, 13, 240–264.

Qin, B., Strömberg, D., & Wu, Y. (2017). Why Does China Allow Freer Social Media? Protests versus Surveillance and Propaganda. *Journal of Economic Perspectives*, 31, 117–140.

Rauh, C. (2018). Validating a Sentiment Dictionary for German Political Language: A Workbench Note. *Journal of Information Technology & Politics*, 15, 319–343.

Schwarz, M. A. (2019). The Impact of Social Media on Belief Formation. Working Paper.

Shmargad, Y., & Klar, S. (2020). Sorting the News: How Ranking by Popularity Polarizes Our Politics. *Political Communication*, forthcoming.

Sobbrio, F. (2014). Citizen-Editors' Endogenous Information Acquisition and News Accuracy. *Journal of Public Economics*, 113, 43–53.

Stone, D. F. (2011). Ideological Media Bias. *Journal of Economic Behavior & Organization*, 78, 256–271.

Sunstein, C. R. (2017). *#Republic: Divided Democracy in the Age of Social Media*. Princeton University Press.

Volkens, A., Krause, W., Lehmann, P., Matthieß, T., Merz, N., Regel, S., & Weßels, B. (2019). The Manifesto Data Collection. Manifesto Project (MRG/CMP/MARPOR). Version 2019b. Berlin: Wissenschaftszentrum Berlin für Sozialforschung (WZB). https://doi.org/10.25522/manifesto.mpds.2019b

Welch, S., & Hibbing, J. R. (1997). The Effects of Charges of Corruption on Voting Behavior in Congressional Elections, 1982-1990. *Journal of Politics*, 59, 226–239.

Tables and Figures

Table 1: Summary of the data

	Mean	SD	Min.	Max.
Panel A: Case-level variables (N = 8,988)				
Ideological distance ($dist$)	0.805	0.193	0.000	1.000
Posts				
-count	0.124	1.109	0.000	36.000
-count, excluding multiple-topic posts	0.120	1.075	0.000	36.000
-count, excluding multiple-politician posts	0.107	0.907	0.000	30.000
Panel B: Post-level variables (N = 1,115)				
Ideological distance ($dist$)	0.624	0.193	0.000	0.998
Engagement (amount)				
-likes	84.079	294.562	0.000	6912.000
-shares	16.935	46.198	0.000	623.000
-comments	56.375	106.375	0.000	1862.000
Type of post (share)				
-link	0.812	0.391	0.000	1.000
-photo	0.069	0.254	0.000	1.000
-status	0.110	0.313	0.000	1.000
-video	0.008	0.090	0.000	1.000
Party affiliation of politician (share)				
-AfD	0.061	0.239	0.000	1.000
-CDU	0.273	0.446	0.000	1.000
-CSU	0.104	0.305	0.000	1.000
-Grüne	0.050	0.219	0.000	1.000
-Linke	0.065	0.246	0.000	1.000
-NPD	0.001	0.030	0.000	1.000
-Piraten	0.002	0.042	0.000	1.000
-SPD	0.445	0.497	0.000	1.000

Table 2: Supply of political immunity story posts and congeniality of cases

	(1) # Posts	(2) # Posts, excluding multiple-topic posts	(3) # Posts, excluding multiple-politician posts
Ideological distance	-0.412	-0.393	-0.296
	(0.342)	(0.327)	(0.234)
R^2	0.283	0.278	0.263

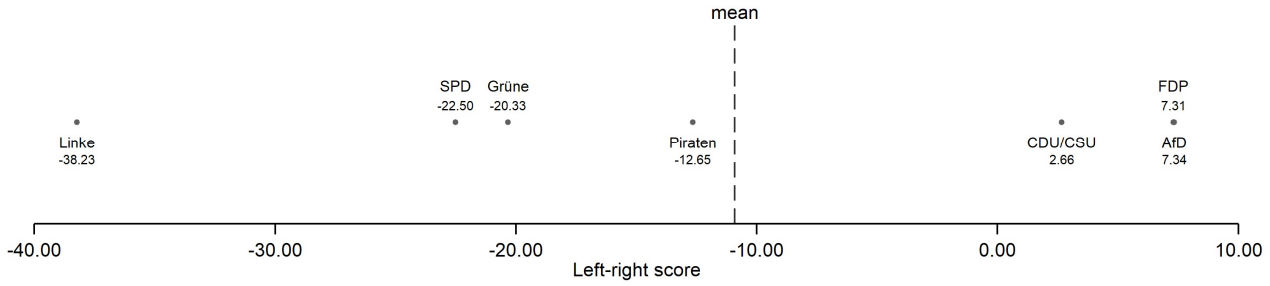
Notes: N = 8,988 (107 cases, 84 outlets). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table 3: User engagement and congeniality of posts

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	434.1*	56.53*	96.90	387.8**	48.15*	85.51
	(237.9)	(33.55)	(66.36)	(195.4)	(28.28)	(53.25)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.269	0.485	0.494	0.333	0.520	0.526

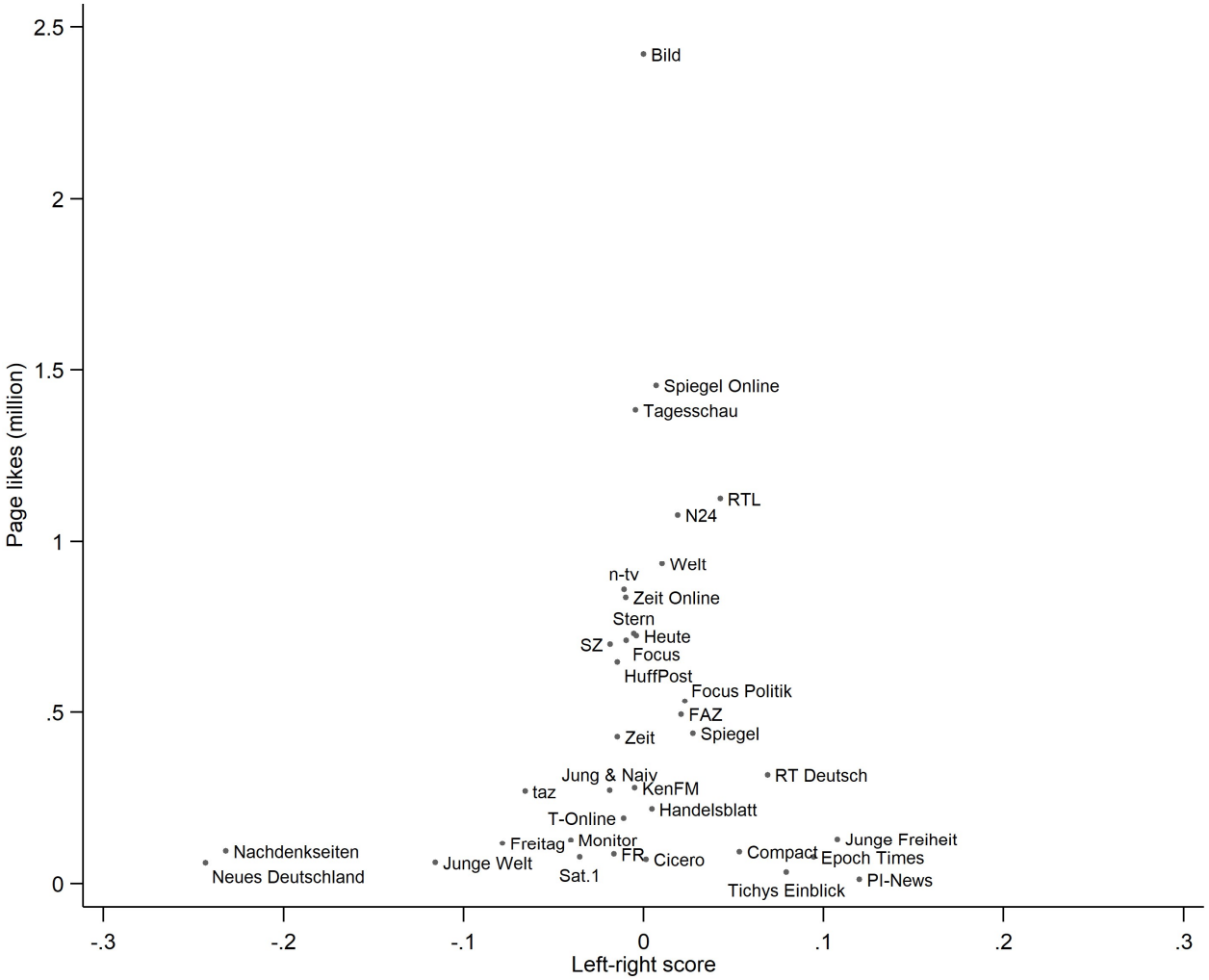
Notes: N = 1,115. OLS estimates. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Figure 1: Left-right scores of political parties



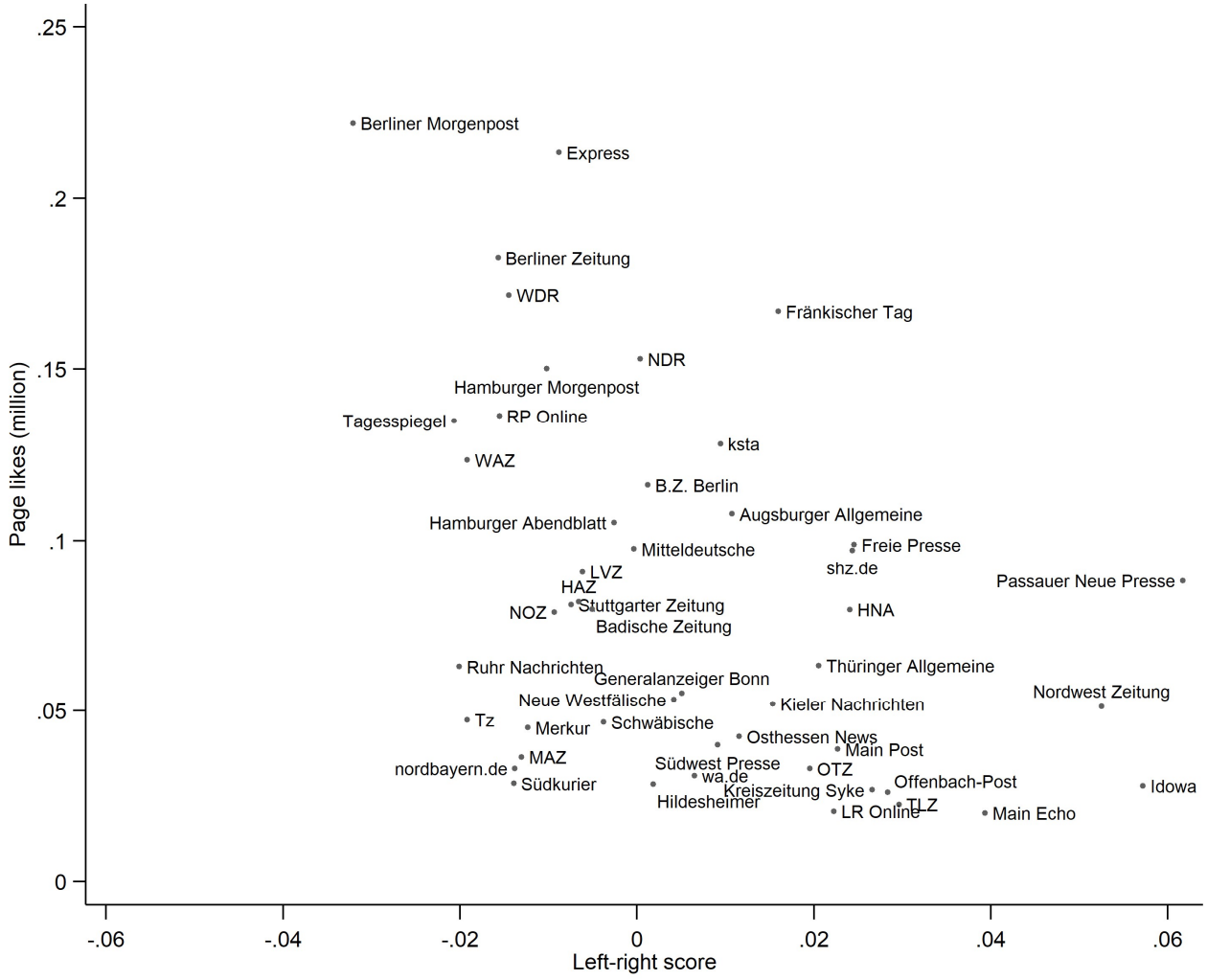
Notes: The figure shows left-right scores of Germany's main political parties, based on data from the Manifesto Project (Volkens et al., 2019). The Manifesto Project derived theses scores by analyzing the content of the parties' 2013 and 2017 election programs. More negative values indicate stronger leanings to the left, whereas more positive values imply stronger leanings to the right. For comparison, the Democratic and Republican parties in the US scored -20.58 and 32.97, respectively, on the same Manifesto Project scale (pertaining to the 2016 US presidential elections). For a recent journalistic comparison of German and US political parties see Chase (2017).

Figure 2: Popularity and slant of Facebook news pages, national outlets



Notes: The page likes refer to August 2017. The score on the x axis is computed by mapping language similarities between outlets and parties to left-right scores of the parties provided by the Manifesto Project (see Section 3.4 for details).

Figure 3: Popularity and slant of Facebook news pages, regional outlets



Notes: The page likes refer to August 2017. The score on the x axis is computed by mapping language similarities between outlets and parties to left-right scores of the parties provided by the Manifesto Project (see Section 3.4 for details).

Online Appendix A: Further information on outlets and parties

Table A1: Sample of news outlets

Outlet	Facebook domain	Total likes	Main owner
Hamburger Abendblatt	abendblatt	105,294	Funke Mediengruppe
Augsburger Allgemeine	AugsburgerAllgemeine	107,793	Mediengruppe Pressedruck
Badische Zeitung	badischezeitung.de	79,717	Badisches Pressehaus
Berliner Morgenpost	morgenpost	222,188	Funke Mediengruppe
Berliner Zeitung	berlinerzeitung	182,601	DuMont Mediengruppe
Bild	bild	2,421,363	Axel Springer
B.Z.	B.Z.Berlin	116,138	Axel Springer
Cicero	CiceroMagazin	71,002	Res Publica
Compact	Compact.Magazin	92,914	Compact-Magazin GmbH
Epoch Times	epochtimes.deutsch	77,541	Epoch Times Europe GmbH
Express	EXPRESS.Koeln	213,365	DuMont Mediengruppe
Frankfurter Allgemeine Zeitung	faz	494,080	Frankfurter Allgemeine Zeitung
Focus	focus.de	710,333	Hubert Burda Media
Focus Politik	FOCUSOnlinePolitik	533,093	Hubert Burda Media
Frankfurter Rundschau	FrankfurterRundschau	86,480	Ippen
Freie Presse	freiepresse	98,810	Chemnitzer Verlag und Druck
der Freitag	derfreitag	119,017	der Freitag Mediengesellschaft
General-Anzeiger	gaonline	55,144	Rheinische Post Mediengruppe
Handelsblatt	handelsblatt	218,853	DvH Medien
Hannoversche Allgemeine Zeitung	HannoverscheAllgemeine	81,976	Madsack Mediengruppe
heute	ZDFheute	723,537	ZDF (public service broadcaster)
Hildesheimer Allgemeine Zeitung	hinews	28,567	Gerstenberg Verlag
Hessische/Niedersächsische	HNA	79,705	Ippen
Huffpost	huffpostde	647,886	AOL
idowa	idowa	28,147	Mediengruppe Straubinger Tagblatt
inFranken.de	inFranken	166,703	Mediengruppe Oberfranken
Jung & Naiv	jungundnaiv	274,017	Tilo Jung
Junge Freiheit	jungefreiheit	130,884	Junge Freiheit Verlag
Junge Welt	junge.welt	61,791	Verlag 8. Mai
KenFM	kenfm.de	280,763	Ken Jebsen
Kieler Nachrichten	kielernachrichten	51,965	Kieler Zeitung Verlags
Kreiszeitung Syke	kreiszeitung.de	26,963	Ippen
Kölner Stadt-Anzeiger	ksta.fb	128,168	DuMont Mediengruppe
Lausitzer Rundschau	lausitzerrundschau	20,761	Neue Pressegesellschaft
Leipziger Volkszeitung	lvzonline	90,762	Madsack Mediengruppe
Main-Echo	mainecho	20,250	Verlag und Druckerei Main-Echo
Main-Post	mainpost	38,759	Mediengruppe Pressedruck
Märkische Allgemeine	MAZonline	36,489	Madsack Mediengruppe
Münchner Merkur	merkuronline	45,074	Ippen
Mitteldeutsche Zeitung	mzwebde	97,607	DuMont Mediengruppe
Monitor	monitor.wdr	128,867	ARD (public service broadcaster)
MOPO	hamburgermorgenpost	150,097	DuMont Mediengruppe

Table A1 (continued)

Outlet	Domain	Total likes	Owner
n24	n24	1,076,015	Axel Springer
NachDenkSeiten	NachDenkSeiten	95,031	Albrecht Müller
Norddeutscher Rundfunk	NDR.de	152,938	NDR (public service broadcaster)
Neue Westfälische	NeueWestfaelische	53,288	SPD-Medienholding
Neues Deutschland	neuesdeutschland	60,598	Die Linke/Communio
nordbayern.de	nordbayern.de	33,189	Verlag Nürnberger Presse
Nordwest-Zeitung	nwzonline	51,261	Nordwest Medien
Neue Osnabrücker Zeitung	neueoz	78,946	Neue Osnabrücker Zeitung
n-tv	ntvNachrichten	858,392	RTL Group
Offenbach-Post	oponline.de	26,271	Ippen
Osthessen-News	osthessennews	42,468	Medienkontor M. Angelstein
Ostthüringer Zeitung	otz.de	33,136	Funke Mediengruppe
Passauer Neue Presse	pnp.de	88,167	Verlagsgruppe Passau
PI-News	PINEWSNET	12,393	Stefan Herre
Rheinische Post	rponline	136,312	Rheinische Post Mediengruppe
RT Deutsch	rtdeutsch	318,272	Rossija Sewodnja
RTL aktuell	RTLaktuell	1,123,276	RTL Group
Ruhr Nachrichten	RuhrNachrichten	62,998	Lensing Media
SAT.1 Nachrichten	Sat.1Nachrichten	77,315	ProSiebenSat.1 Media
Schwäbische Zeitung	schwaebische.de	46,645	Schwäbisch Media
shz.de	shzonline	97,113	Neue Osnabrücker Zeitung
Der Spiegel	DerSpiegel	438,871	Spiegel-Verlag
SPIEGEL ONLINE	spiegelonline	1,454,841	Spiegel-Verlag
Stern	stern	730,027	Gruner + Jahr
Stuttgarter Zeitung	stuttgarterzeitung	81,085	Stuttgarter Zeitung Verlagsgesellschaft
Südkurier	Suedkurier.News	28,781	Mediengruppe Pressedruck
Südwest Presse	swp.de	40,007	Neue Pressegesellschaft
Süddeutsche Zeitung	ihre.sz	698,695	Südwestdeutsche Medien Holding
tagesschau	tagesschau	1,382,819	ARD (public service broadcaster)
Der Tagesspiegel	Tagesspiegel	134,908	DvH Medien
Die Tageszeitung	taz.kommune	271,001	Taz Verlagsgenossenschaft
Thüringische Landeszeitung	tlz.de	22,711	Funke Mediengruppe
Thüringer Allgemeine	thueringerallgemeine	63,298	Funke Mediengruppe
Tichys Einblick	tichyseinblick	34,082	Roland Tichy
t-online.de	tonline.de	192,722	Ströer Media
tz	tzmuenchen	47,308	Ippen
Westfälische Anzeiger	westfaelischer.anzeiger	31,065	Ippen
Westdeutsche Allgemeine Zeitung	waz	123,443	Funke Mediengruppe
Westdeutscher Rundfunk	WDR	171,469	WDR (public service broadcaster)
Die Welt	welt	933,445	Axel Springer
Die Zeit	diezeit	428,543	DvH Medien
Zeitonline	zeitonline	835,239	DvH Medien

Notes: The domain denotes the URL of the outlet's Facebook page (www.facebook.com/.../). The total number of page likes refers to August 2017. This number is usually very similar to the number of followers of a page.

Table A2: Most characteristic terms in parties' election programs (top 20)

Linke (left party)		Grüne (green party)	
mindestsicherung	minimum income	garantierent	guaranteed retirement benefits
demokratisierung	democratization	einmischen	intervene
profit	profit	wählt	vote
gesundheitsversicherung	health insurance	verbraucherinnen	female consumers
streitet	quarrel	urheberinnen	female originators
gewoba	gewoba	klimakris	climate crisis
superreichen	super-rich	schlüsselprojekt	key project
neoliberal	neoliberal	teilhab	Participation
sozialökologischen	socio-ecological	familienbudget	family budget
erwerbslos	unemployed	geschlechtergerecht	gender-neutral
militarisierung	militarization	menschenrechtlichen	human right
rüstungsforschung	research on armament	kohleausstieg	fossil fuel phase-out
einwohnerinnen	female inhabitants	handwerkerinnen	female craftspeople
kapitalismus	capitalism	klimastadtwerk	green municipal utilities
erwerbslosen	unemployed	fair	fair
sozialökologisch	socio-ecological	geflüchtet	refugees
rüstungsprodukt	armaments	chancen	opportunities
teilhab	participation	atomausstieg	nuclear phase-out
mieterinnen	female tenants	kindergrundsicherung	children's minimum income
arbeitszeitverkürzung	reduction of working hours	eier	eggs

Piraten (pirate party)		SPD (social democrats)	
grundeinkommen	basic income	teilhab	participation
sockeleinkommen	minimum income	staatsregierung	state government
überwachungssoftwar	monitoring software	chancen	opportunities
ezigaretten	e-cigarettes	arbeitnehmerinnen	female employees
bge	bge	digitalisierung	digitization
programmpunkt	item on the agenda	solidarrent	solidary retirement benefits
suchtpolitik	addicition policy	qualität	quality
esport	e-sports	weiterentwickeln	advance
meldedaten	registration data	verbraucherinnen	female consumers
dateiform	file format	familienarbeitszeit	family working time
abgeordnetengesetz	law pertaining to MPs	umsetzung	implementation
jmstv	jmstv	fortsetzen	continue
ermittlungsschwerpunkt	focus of investigation	bürgerinnenprojekt	female civil project
liquid	liquid	bürgerkonv	civil convention
nutzung	usage	verlässlich	reliable
psychiatrischen	psychiatric	beratung	consultation
naturressourcen	natural resources	jugendlichen	juvenile
beimengungen	addition	jugendlich	juvenile
sonderregelung	special rule	jugendarbeit	youth work
bedingungslosen	unconditional	studierenden	students

Table A2 (continued)

FDP (free democrats/liberals)		CDU/CSU (Christian democrats/conservatives)	
weltbest	world's best	schöpfung	creation
chancen	opportunities	aussiedl	resettler
bildungsgutschein	education voucher	chancen	opportunities
bürgergeld	citizen's dividend	umsetzung	implementation
verantwortungsgemeinschaft	civil union	bevölkerungswandel	demographic change
digitalisierung	digitization	spätaussiedl	late repatriate
stabilitätsunion	stability union	digitalisierung	digitization
vorankommen	advance	christdemokraten	chrisian democrats
vorsorgekonto	retirement benefits account	qualität	quality
studierenden	students	feuerwehrleut	firefighter
vertragsfreiheit	freedom of contract	verlässlich	reliable
weinbau	viticulture	unterstützt	supports
istbesteuerung	actual receipts taxation	zukünftig	prospective
entwicklungszusammenarbeit	development assistance	weiterentwickeln	advance
qualität	quality	ideen	ideas
träume	dreams	schulvorbereitung	pre-school
geldwertstabilität	monetary stability	imker	beekeeper
schulfreiheitsgesetz	autonomy education act	landeskompetenzzentren	state competence center
bildungssparen	education saving	ehrenamt	volunteer work
hebesätz	tax factor	jugendlich	juvenile

AfD (right-wing party)		NPD (far-right party)	
altparteien	old parties	nationaldemokraten	national democrats
massenzuwanderung	mass immigration	volksgemeinschaft	ethnic community
genderideologi	gender ideology	nationaldemokratisch	national democratic
mainstreaming	mainstreaming	massenzuwanderung	mass immigration
frühsexualisierung	early sexualization	müttergehalt	maternal salary
magist	magister	überfremdung	foreign domination
schächten	kosher butchering	produktivvermögen	productive assets
gender	gender	generalstab	general staff
steuerverschwendung	tax misspending	rußland	russia
deutschtürkisch	german-turkish	ausländerkriminalität	crime by foreigners
sozialversicherungsabkommen	social security agreement	vaterland	fatherland
eurorettungspolitik	euro salvation policy	nationalstaat	national state
schulkleidung	School uniform	raumorientiert	territorially oriented
volkssouveränität	popular sovereignty	zuteil	bestow
handlungsschwerpunkt	field of action	islamisierung	islamization
multikulturalismus	multiculturalism	mißbrauch	abuse
erstarrt	frozen	mitbeteiligung	workers' participation
schwerstkriminalität	serious crime	solidarprinzip	principle of solidarity
tatverdächtig	suspected	sozialversicherungswesen	social security
wirtschaftssanktionen	economic sanctions	beitragsgerecht	social contribution act

Notes: The table shows the terms with the highest term frequency-inverse document frequency (TF-IDF) values, based on all national- and available state-level election programs between 2012 and 2017. The TF-IDF is computed as $f_{t,p}/F_p \times \log(P/pf_t)$, where f denotes the frequency of term t in the election programs of the parties p, F_p is the total number of words per party, $P = 8$ refers to the number of parties, and pf counts the number of election programs containing term t.

Figure A1: Distribution of immunity story posts across outlets

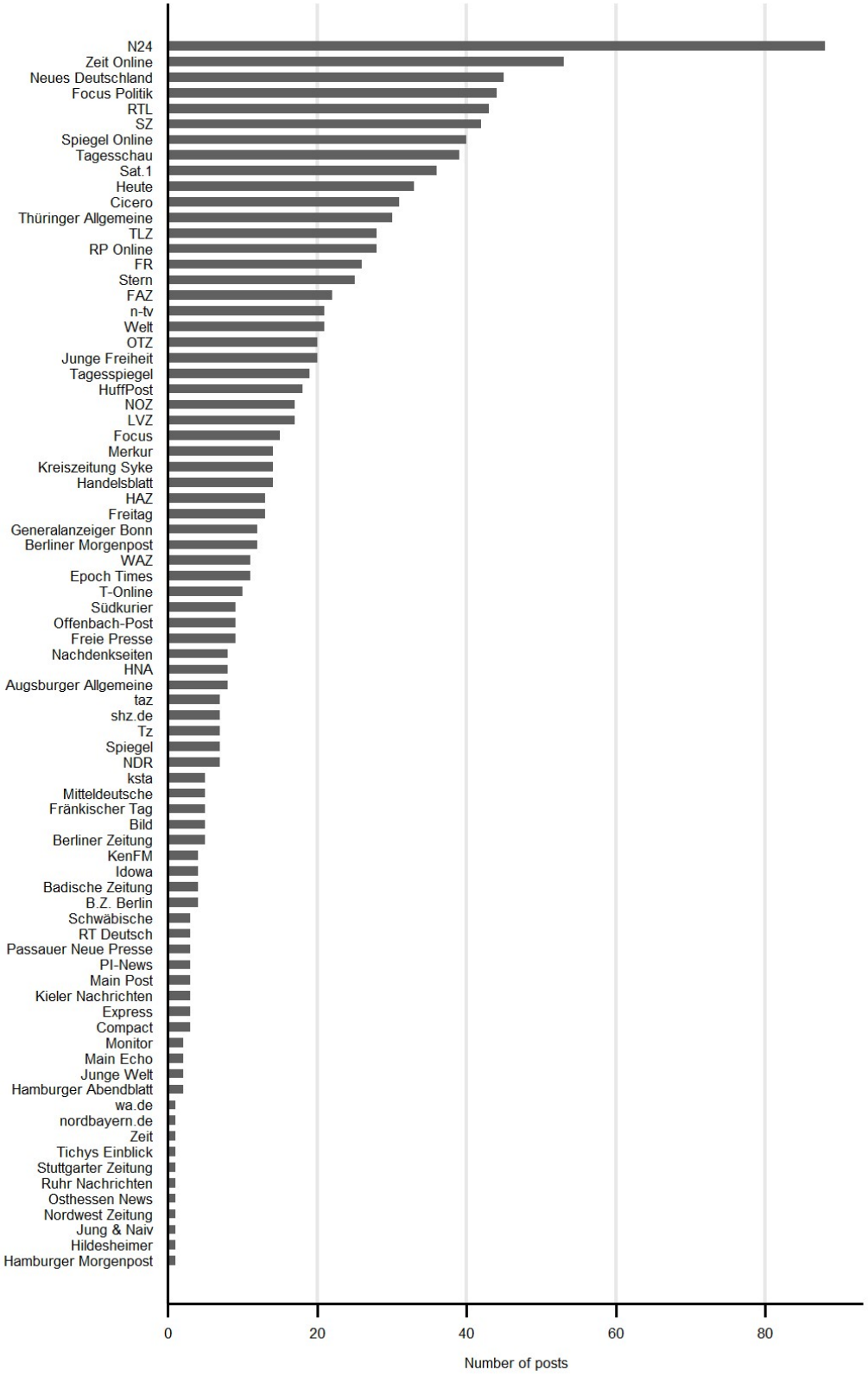
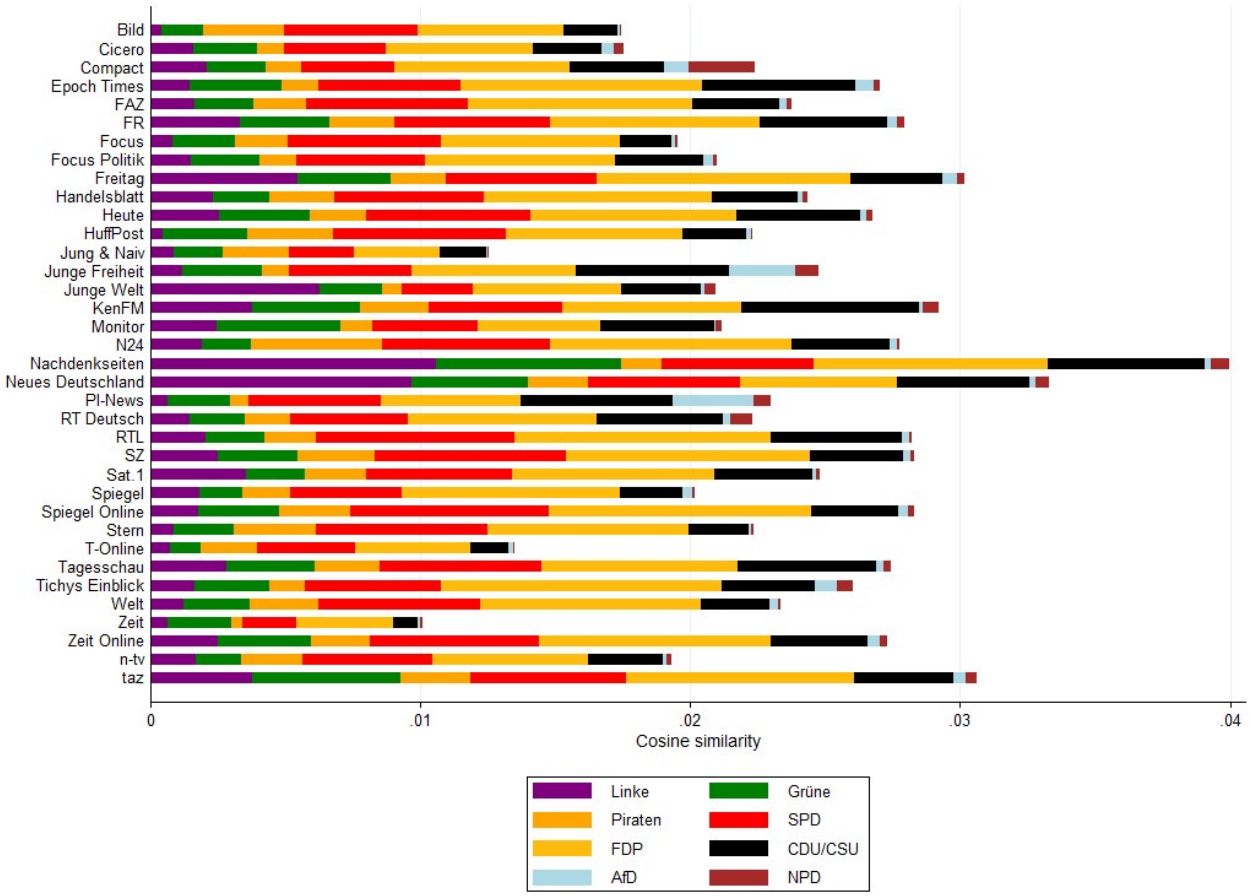
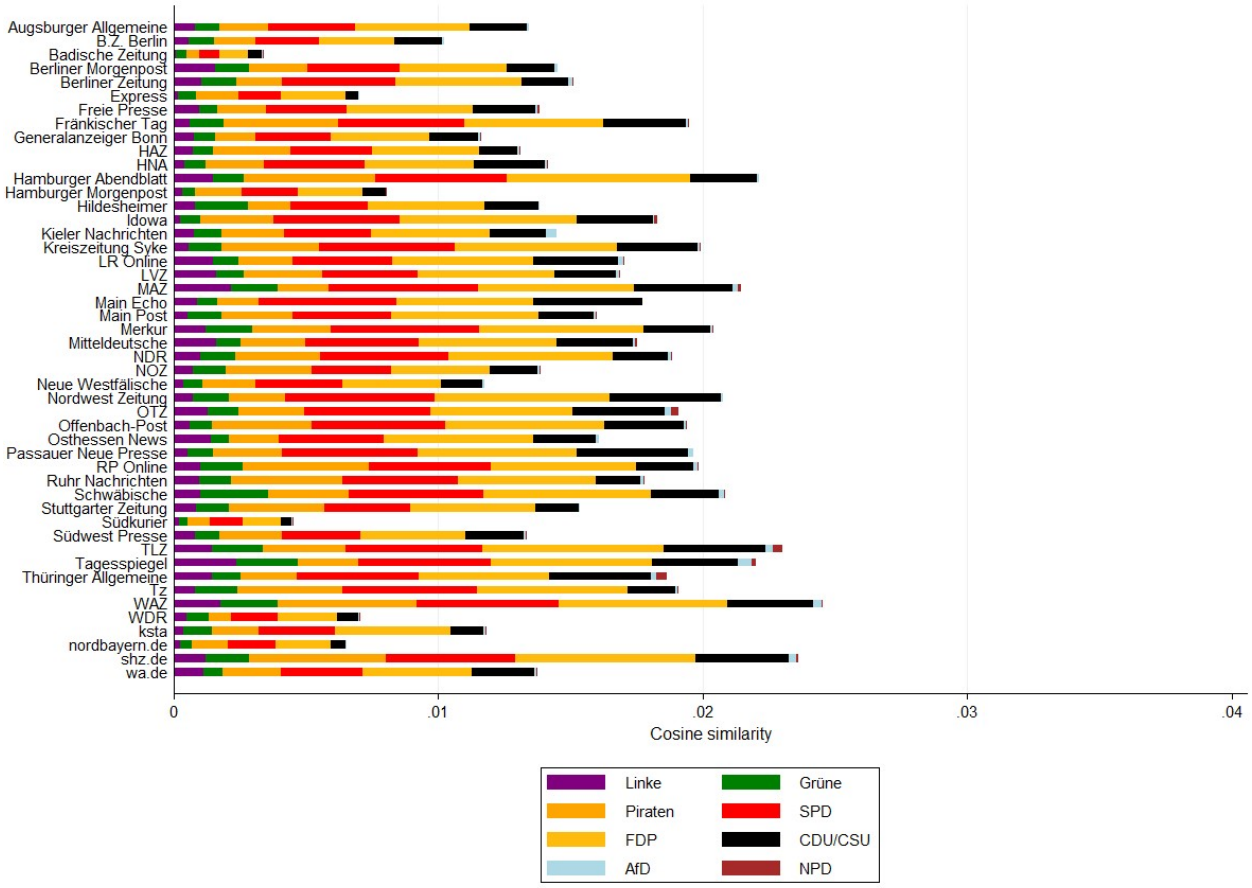


Figure A2: Levels of slant, by outlet and party (national outlets)



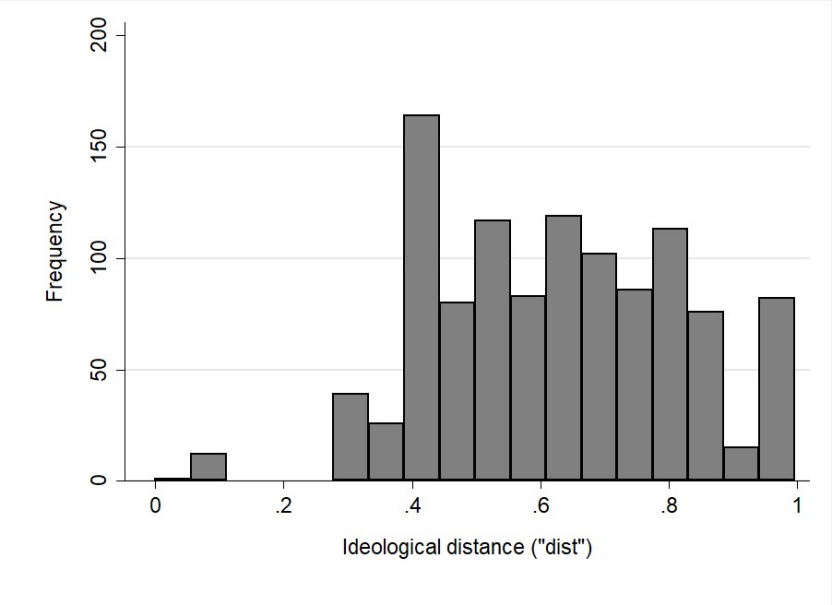
Notes: The x axis refers to the cosine similarity as calculated in Equation (2) in the main text.

Figure A3: Levels of slant, by outlet and party (regional outlets)



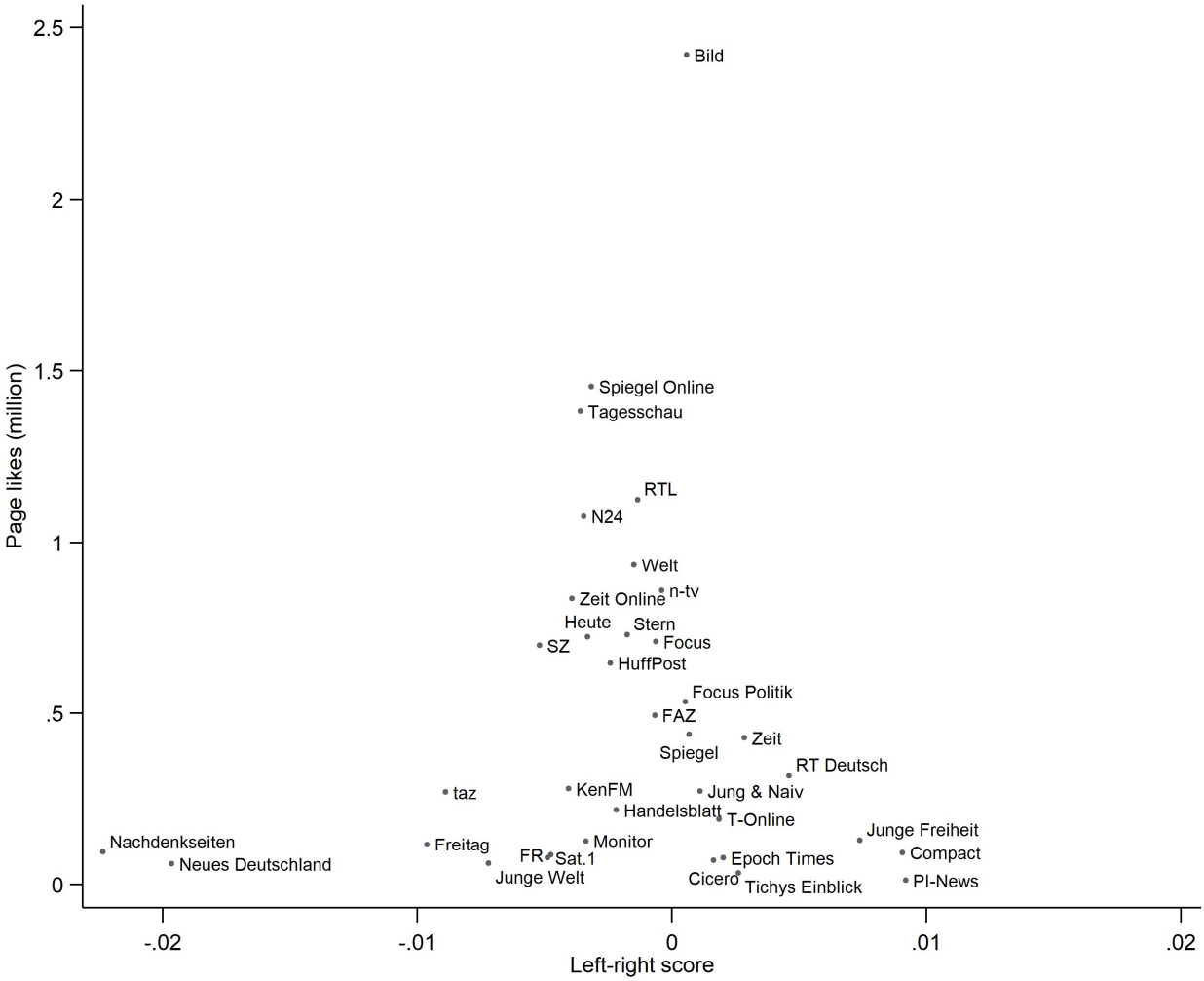
Notes: The x axis refers to the cosine similarity as calculated in Equation (2) in the main text.

Figure A4: Ideological distances between outlets and parties



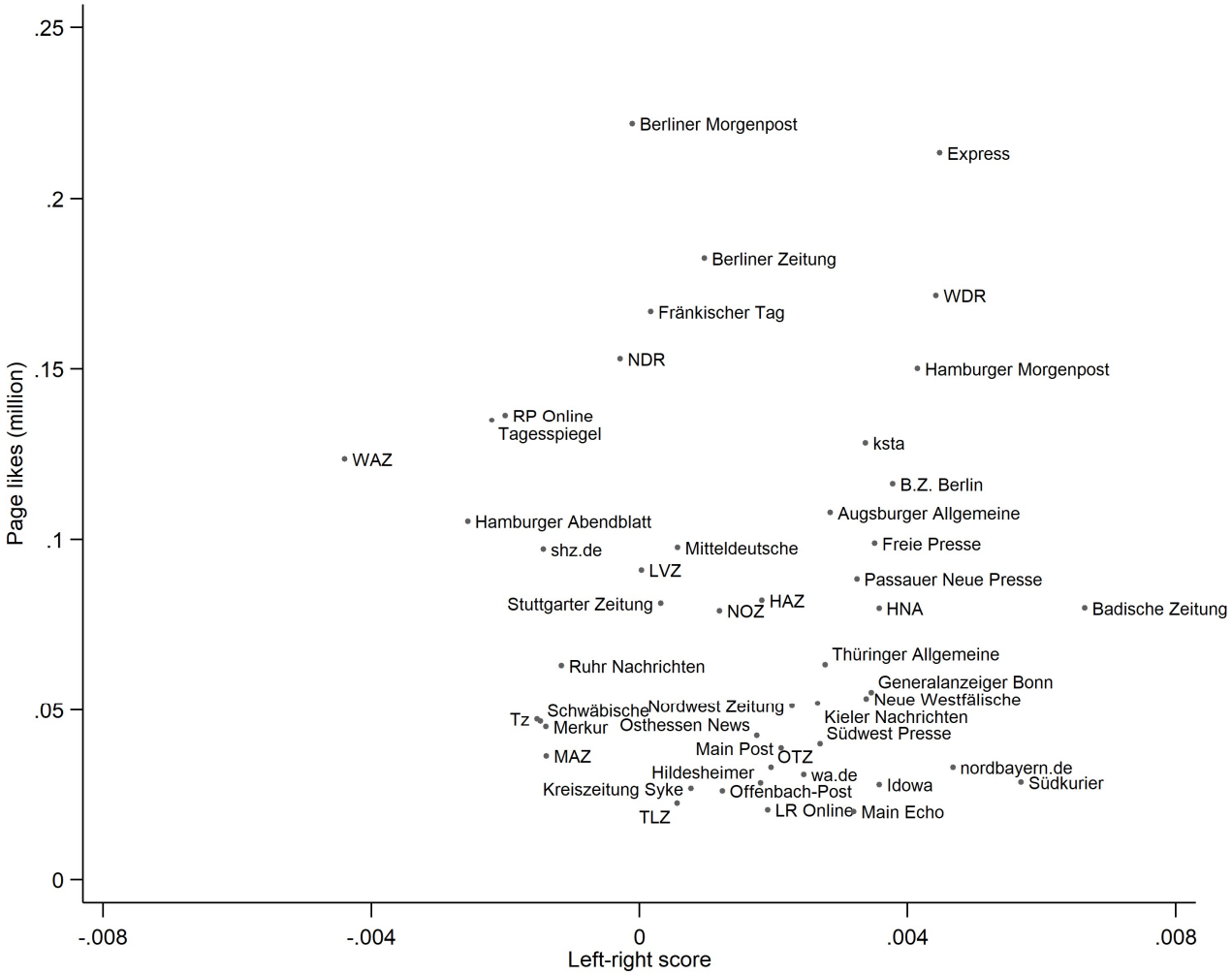
Notes: Based on 1,115 political immunity story posts. The graph shows the distribution of the distance measure as calculated in Equation (3).

Figure A5: Popularity and slant of Facebook news pages, national outlets (left-right mapping based on Politbarometer data)



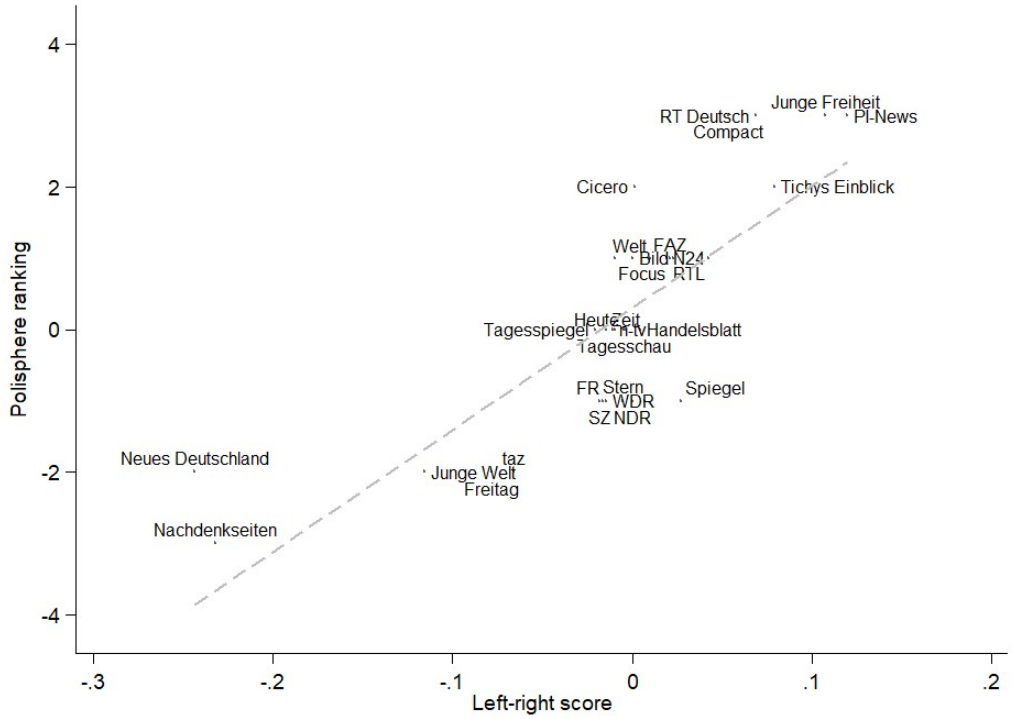
Notes: The page likes refer to August 2017. The score on the x axis is computed as described in Equations (4) and (5) in the main text. However, the graph uses average left-right scores of the parties based on the 2016 Politbarometer surveys (N = 17,556) instead of Manifesto Project scores.

Figure A6: Popularity and slant of Facebook news pages, regional outlets (left-right mapping based on Politbarometer data)



Notes: The page likes refer to August 2017. The score on the x axis is computed as described in Equations (4) and (5) in the main text. However, the graph uses average left-right scores of the parties based on the 2016 Politbarometer surveys (N = 17,556) instead of Manifesto Project scores.

Figure A7: Language-based and perceived slant



Notes: N = 32. The graph shows the left-right score computed in this study on the x axis and the Polisphere (2017) rating on the y axis. The latter measure is based on subjective survey data and varies between -3 and 3, with negative (positive) values indicating left-wing (right-wing) slant. The figure includes all outlets for which both measures are available. The correlation coefficient is 0.80 ($p < 0.001$).

Online Appendix B: Case-level data

This appendix provides details on robustness checks and further results pertaining to Section 4.1 in the paper.

First, we conduct different robustness checks to verify that the estimates of Equation (6) in the main text hold when we modify our measure of congeniality. When constructing this measure, we use an arbitrary threshold to select the set of ideologically relevant expressions from the election programs (i.e., the top 0.1% of the distribution of TF-IDF values; see Section 3.4.1). Tables B1 and B2 show results when using cut-offs at 0.01% and 0.2% instead. The size of the coefficients slightly changes, but the estimates remain statistically insignificant.

Table B3 shows the results when using an alternative measure of congeniality. Specifically, we use the index of perceived slant by Polisphere (2017), as shown in Figure A7. Based on survey data, this index rates a subset of the outlets in our sample on a seven-point scale from -3 (very left) to 3 (very right). We use the numeric values of this rating but change their sign to distinguish between congenial and uncongenial cases. That is, the alternative measure of congeniality takes positive values (i.e., 1, 2, or 3) in the case of left-wing outlets and parties right of the center (i.e., FDP, CDU, CSU, AfD, and NPD), and right-wing outlets and parties left of the center (i.e., Linke, Grüne, Piraten, and SPD). In contrast, the measure takes negative values (i.e., -1, -2, or -3) to reflect uncongenial constellations (i.e., left-wing outlets and parties left of the center, right-wing outlets and parties right of the center). The estimates confirm that there is no robust relationship between the amount of posts and the ideological distance. All but one coefficient are insignificant. According to the one significant estimate (Panel A, Column 1), a one standard deviation increase in distance (0.992) reduces the number of posts by 0.003. This decrease is tiny, as it equals 0.27% of the standard deviation of the amount of posts.

As discussed in Section 3.3, approximately 6.2% of the post messages are slanted in defense of the accused politician. It is not clear if these posts have a reversed congeniality; i.e., if the slant causes readers to perceive a post about an ideologically close politician as congenial, and vice versa. It is advisable to re-estimate Equation (6) while distinguishing between posts that do and do not defend the accused. The corresponding estimates in Table B4 do not indicate substantial differences between both types of posts though.

In Table B5 we exclude outlets in the top quartile of the overall number of immunity story posts published (i.e., outlets with more than 19 posts). This sample restriction limits the impact of influential outlets but yields very similar results as the full sample.

Table B6 verifies that the outlets do not respond to the congeniality of the case when we exclude prominent politicians. In Columns (1) to (3) we remove the case of Christian Wulff, Germany's then president. Columns (4) to (6) show results excluding the ten most prominent cases according to the overall number of posts the cases received. All coefficients remain small in magnitude and statistically insignificant.

The baseline regressions pertaining to Equation (6) in the main text use all 107 cases and 84 outlets. However, when estimating Equation (7), we only use 49 cases and 79 outlets because some cases did not receive any posts and a few outlets never posted about a political immunity story. Thus our main analyses use different samples, which may pose a challenge to the interpretation of the results. We evaluate if the unmatched samples are an issue by estimating Equation (6) while excluding all cases and outlets with zero posts. As Table B7 shows, the coefficients remain insignificant. Their absolute size slightly grows, which is mostly a consequence of the increase in the mean number of posts caused by dropping observations with zeros.

As mentioned in Section 4.1, maximum likelihood estimates on the data often fail to converge, which is why we cannot use models for count variables. However, it is possible to use linear probability models with binary dependent variables indicating if an outlet reported about a case or not. We present these results in Table B8, according to which the outlets are slightly less likely to post about a case the greater the ideological distance to the politician in question. The coefficients are estimated more precisely here, being significant at the 5% and 10% levels. According to the coefficient in Column (1), a one standard deviation increase in distance lowers the likelihood of posting by $0.095 \times 0.193 = 1.8\%$. This is in line with the baseline regressions.

Table B9 investigates if the relationship between the congeniality of the case and the amount of posts varies across outlets. Columns (1) to (3) show regressions in which we interact our distance measure with a binary variable that distinguishes outlets below and above the median of the left-right score, as calculated in Equation (5) in the main text. We do not find any significant differences here. As Columns (4) to (6) show, we do not detect any notable differences either when we interact the distance measure with a dummy for outlets in the 1st or 4th quartile of the distribution of left-

right scores. Thus extreme and centered outlets do not differ in their propensity to react to the congeniality of the case.

We also check if the outlets adjust certain qualitative elements of their posts when the congeniality of the case changes, rather than the quantity of posts. For that purpose, we identify posts that include a call to action. Specifically, we find 54 posts that directly address the user, asking about their opinion about some issue (e.g., "What would be your headline?", "What do you think about the accusations?") or encouraging some action (e.g., "Take a vote!"). As Table B10 shows, there is no significant relationship between the use of this kind of posts and the congeniality of the case.

We also evaluate the following outcome variables: the average number of words per post (congenial posts might be longer); the average number of days since the first post on a case (outlets could protract their coverage in congenial cases); the share of posts including a photo or video (because those posts might catch more attention than text posts); the share of posts published on Sundays; and the share of posts published at night (outlets might post about uncongenial cases when readers pay less attention). However, as Table B11 shows, none of these variables are significantly affected by the distance measure.

Table B1: Supply of political immunity story posts and congeniality of cases (0.01% TF-IDF cut-off)

	(1) # Posts	(2) # Posts, excluding multiple-topic posts	(3) # Posts, excluding multiple-politician posts
Ideological distance	-0.105	-0.0995	-0.140
	(0.105)	(0.0944)	(0.126)
R^2	0.282	0.277	0.262

Notes: N = 8,988 (107 cases, 84 outlets). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table B2: Supply of political immunity story posts and congeniality of cases (0.2% TF-IDF cut-off)

	(1) # Posts	(2) # Posts, excluding multiple-topic posts	(3) # Posts, excluding multiple-politician posts
Ideological distance	-0.656	-0.627	-0.493
	(0.459)	(0.441)	(0.306)
R^2	0.284	0.279	0.264

Notes: N = 8,988 (107 cases, 84 outlets). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table B3: Supply of political immunity story posts and congeniality of cases (alternative measure of congeniality)

	(1) Amount	(2) Amount, excluding multiple-topic posts	(3) Amount, excluding multiple-politician posts
Panel A: Coding outlets not included in the Polisphere ranking as neutral (N = 8,988)			
Ideological distance	-0.00301***	-0.00417	-0.00302
	(0.000938)	(0.00333)	(0.00330)
R^2	0.282	0.277	0.262
Panel B: Dropping outlets not included in the Polisphere ranking (N = 3,424)			
Ideological distance	-0.00543	-0.00662	-0.00462
	(0.00478)	(0.00522)	(0.00398)
R^2	0.444	0.439	0.391

Notes: OLS estimates. The alternative distance measure is based on the Polisphere (2017) index of perceived media slant. It takes positive values in congenial cases (i.e., left-wing outlets and parties right of the center, right-wing outlets and parties left of the center) and negative ones in uncongenial cases (i.e., left-wing outlets and parties left of the center, right-wing outlets and parties right of the center). In Panel A, the measure takes the value 0 if the outlet is classified as neutral or is not classified at all. In Panel B, we exclude outlets that are not classified by Polisphere (2017). The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case in Panel A, and clustered by case in Panel B.
* p<0.10, ** p<0.05, *** p<0.01

Table B4: Supply of political immunity story posts and congeniality of cases (role of posts that defend the accused)

	(1)	(2)	(3)	(4)	(5)	(6)
	Posts that defend the accused			Other posts		
	# Posts	# Posts, excluding multiple-topic posts	# Posts, excluding multiple-politician posts	# Posts	# Posts, excluding multiple-topic posts	# Posts, excluding multiple-politician posts
Ideological distance	-0.0901	-0.0901	-0.0891	-0.322	-0.303	-0.207
	(0.0578)	(0.0578)	(0.0578)	(0.331)	(0.317)	(0.218)
R^2	0.104	0.104	0.103	0.281	0.275	0.261

Notes: N = 8,988 (107 cases, 84 outlets). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table B5: Supply of political immunity story posts and congeniality of cases (excluding outlets with many political immunity story posts)

	(1) # Posts	(2) # Posts, excluding multiple-topic posts	(3) # Posts, excluding multiple-politician posts
Ideological distance	-0.0880	-0.0934	-0.0519
	(0.125)	(0.123)	(0.0978)
R^2	0.281	0.277	0.252

Notes: N = 6,741 (107 cases, 63 outlets). The sample excludes outlets in the top quartile of the number of immunity story posts published (i.e., outlets with more than 19 posts). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table B6: Supply of political immunity story posts and congeniality of cases (excluding the most prominent cases)

	(1)	(2)	(3)	(4)	(5)	(6)
		Without Wulff case			Without ten most prominent cases	
	# Posts	# Posts, excluding multiple-topic posts	# Posts, excluding multiple-politician posts	# Posts	# Posts, excluding multiple-topic posts	# Posts, excluding multiple-politician posts
Ideological distance	-0.449	-0.426	-0.332	-0.0704	-0.0704	-0.0704
	(0.340)	(0.325)	(0.231)	(0.0497)	(0.0497)	(0.0497)
R^2	0.301	0.296	0.280	0.0808	0.0808	0.0808
Observations	8904	8904	8904	8148	8148	8148

Notes: OLS estimates. Columns (1) to (3) exclude the case of Christian Wulff, whereas Columns (4) to (6) exclude the ten most prominent cases, according to the total number of posts. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table B7: Supply of political immunity story posts and congeniality of cases (only cases/outlets with at least one post)

	(1) # Posts	(2) # Posts, excluding multiple-topic posts	(3) # Posts, excluding multiple-politician posts
Ideological distance	-0.783	-0.746	-0.559
	(0.671)	(0.643)	(0.464)
R^2	0.308	0.303	0.286

Notes: N = 3,871 (49 cases, 79 outlets). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table B8 Probability of posting and congeniality of cases

	(1) Post (yes/no)	(2) Post (yes/no), excluding multiple-topic posts	(3) Post (yes/no), excluding multiple-politician posts
Ideological distance	-0.0950**	-0.0973**	-0.0908*
	(0.0468)	(0.0468)	(0.0469)
R^2	0.309	0.303	0.281

Notes: N = 8,988 (107 cases, 84 outlets). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Heteroscedasticity-robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

Table B9: Supply of political immunity story posts and congeniality of cases, by outlets' left-right score

	(1) # Posts	(2) # Posts, excluding multiple-topic posts	(3) # Posts, excluding multiple-politician posts	(4) # Posts	(5) # Posts, excluding multiple-topic posts	(6) # Posts, excluding multiple-politician posts
Ideological distance	-0.351	-0.341	-0.240	-0.394	-0.380	-0.252
	(0.340)	(0.331)	(0.227)	(0.375)	(0.362)	(0.239)
Left of median (yes/no)	-0.0917	-0.0760	-0.0628			
	(0.0767)	(0.0785)	(0.0530)			
Distance × left of median	-0.0959	-0.0810	-0.0887			
	(0.111)	(0.105)	(0.0948)			
1st or 4th quartile (yes/no)				0.0627	0.0519	0.0945
				(0.0541)	(0.0494)	(0.0644)
Distance × 1st or 4th quartile				-0.0358	-0.0255	-0.0867
				(0.107)	(0.105)	(0.0817)
R^2	0.283	0.278	0.263	0.283	0.278	0.263

Notes: N = 8,988 (107 cases, 84 outlets). OLS estimates. The column headers state the dependent variables. The interaction terms are based on the left-right score of the outlets as calculated in Equation (5) in the main text. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table B10: Supply of political immunity story posts and congeniality of cases (role of posts with call to action)

	(1)	(2)	(3)	(4)	(5)	(6)
	Posts with call to action			Other posts		
	# Posts	# Posts, excluding multiple-topic posts	# Posts, excluding multiple-politician posts	# Posts	# Posts, excluding multiple-topic posts	# Posts, excluding multiple-politician posts
Ideological distance	0.00943	0.00719	0.0112	-0.422	-0.400	-0.307
	(0.0149)	(0.0127)	(0.0147)	(0.336)	(0.322)	(0.230)
R^2	0.0928	0.103	0.0946	0.279	0.273	0.258

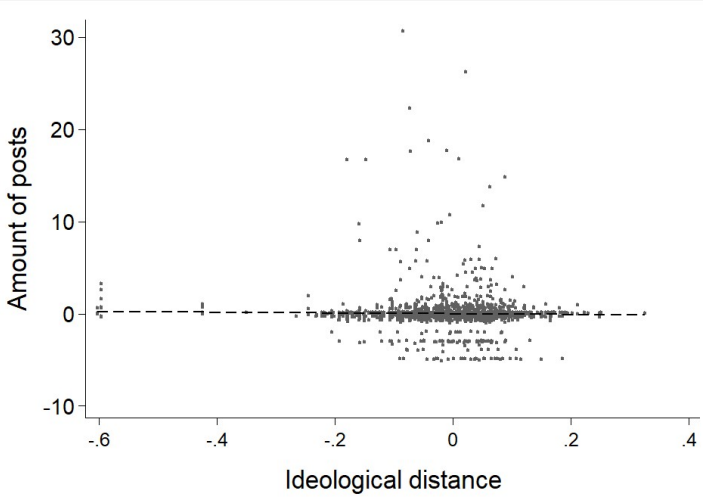
Notes: N = 8,988 (107 cases, 84 outlets). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table B11: Characteristics of political immunity story posts and congeniality of cases

	(1) Mean # words	(2) Mean # days since first post on the case	(3) Share of photo or video posts	(4) Share of posts published on Sunday	(5) Share of posts published between 10 pm and 5 am
Ideological distance	257.9	-53.11	0.201	0.162	0.0427
	(239.4)	(60.60)	(0.124)	(0.136)	(0.0794)
R^2	0.655	0.812	0.466	0.416	0.423

Notes: The models use all outlet-case combinations with at least one post (N = 390). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Figure B1: Residuals of slant and amount of posts



Notes: N = 8,988 (107 cases, 84 outlets). The graph shows the residuals from regressing the distance measure and the amount of posts on outlet and party fixed effects and a constant.

Online Appendix C: Post-level data

This appendix provides details about additional results and robustness checks pertaining to the relationship between the congeniality of political immunity story posts and user engagement.

To begin with, we exploit user-level data to verify our assumption outlined in Section 2.4 that the outlets' ideology approximates the ideology of the users who engaged with the political immunity story posts. Following Bond and Messing (2015), we check the users' like profiles (e.g., https://www.facebook.com/zuck/likes) for page likes of the political parties in our sample. In Facebook's terminology, liking a page makes the user a "fan" of this page, or a partisan user in our case. In compliance with privacy and data protection laws, we process and analyze these data anonymously. The main metric of interest is the number of $fans$ of a political party f^p per outlet n relative to the overall number of $users$ that engaged with the political immunity story posts i by that outlet ($rel\_fans_{n,f^p} = \sum_{i=1}^{I} fans_{i,n,f^p} / users_{i,n}$). Comparing the relative number of "fans" with an outlet's overall slant—$dist_{n,p}$ as computed in Equation (3)—provides a simple check for overlapping ideologies. We implement this comparison with residuals of both variables, which we obtain by regressing the original values on outlet μ_n and party θ_p fixed effects (i.e., $dist_{n,p} = a + \mu_n + \theta_p + \varepsilon_{n,p}^{dist}$ and $rel\_fans_{n,f^p} = a + \mu_n + \theta_p + \varepsilon_{n,f^p}^{rel\_fans}$). Using the residuals $\varepsilon_{n,p}^{dist}$ accounts for overall differences in slant across outlets and parties, whereas we abstract from common variation across users and parties on Facebook by using $\varepsilon_{n,f^p}^{rel\_fans}$ (i.e., some parties generally have more "fans" than others, and certain outlets are more often frequented by partisan users than their competitors). The corresponding scatter plot shown in Figure C1 indicates a negative relationship between the residuals: The greater the distance measure for an outlet-party combination, the lower the share of users that are "fans" of the respective party among all users engaging with the relevant posts by the corresponding outlet. Thus we observe relatively more "fans" of a certain party when the outlet is slanted towards this party, which implies that user and outlet ideologies are on average aligned here. In other words, the user engagement with the political immunity story posts primarily comes from users that share the ideology of the publishing outlet.

A series of robustness checks evaluates if the results of estimating Equation (7) in the main text hold when we modify our measure of congeniality. Table C1 shows estimates when using the top

0.01% of the distribution of TF-IDF values of political expressions to construct the distance measure, instead of the baseline cut-off of 0.1% (cp. Section 3.4.1). The coefficients remain statistically significant for likes and comments, but their size notably decreases. This is an expected consequence because a stricter cut-off implies that we treat some terms as neutral even if they are indicative of a party's ideology. Table C2 presents estimates based on a more generous cut-off than the baseline (0.2% rather than 0.1%). Here we obtain equally sized coefficients but larger standard errors. This pattern is also plausible because now we include a number of terms that are ideologically less relevant and indicative.

As stated in the Introduction, our slant index is not limited to the political left-right spectrum but captures multiple aspects of ideological differences. To test the relevance of a multi-dimensional index, we create a one-dimensional measure of ideological distance that is based on the difference between the left-right score of the outlet reporting about a case of lifting somebody's immunity and the left-right score of the party of that politician. For that purpose, we rescale the $score_n$ and $score_p$ variables in Equation (5) in the main text to vary between 0 and 1. The absolute value of the difference between both variables then captures the distance between outlet and politician in the left-right spectrum. Results are presented in Table C3. Accordingly, we do not find any significant relationship between the one-dimensional measure of the posts' congeniality and likes and shares. The relationship is positive and significant at the 5% level for comments though. The estimates thus indicate that our results are partially, but not entirely, related to differences in the left-right spectrum, which supports our claim that a multi-dimensional measure of slant is preferable when investigating multi-party systems.

Table C4 presents results based on the distance measure that refers to the index of perceived slant by Polisphere (2017). The effects on likes and shares remain significant at the 5% level at least, whereas none of the specifications indicate a significant impact on comments. According to Columns (4) and (5), Panel A, a one standard deviation increase in congeniality (0.997) raises the number of likes by approximately 22.6 and that of shares by 4.0 (or 26.9% and 23.6%, respectively). The difference in the magnitude of the effects—compared to the baseline specification—can be likely explained by the rather coarse approach to measure congeniality when using the alternative distance measure: it only captures the political left-right dimension, is based on

perceptions, and refers to the outlets' primary form of news distribution and not their Facebook pages.

Another concern relates to posts that defend the accused, because these posts could have a different congeniality (cp. Section 3.3). As Table C5 shows, excluding posts that are slanted in defense of the accused politician does not change the estimates in a substantial way.

We also verify that our results are not driven by outliers. We address the distribution of the engagement variables by re-estimating the baseline models while successively removing outliers (i.e., posts with exceptionally high numbers of likes, shares, and comments). The resulting estimates of the distance coefficient are plotted in Figure C3. As a common pattern, the coefficient decreases after removing the largest outliers, but so does the mean of the engagement variables, which implies that the magnitude of the effect remains similar. The effect on likes remains significant throughout. In the case of shares, the estimates fall below the 10% significance level when we remove the largest outliers. The opposite applies to comments. While there is no statistically significant effect for the entire sample, the estimates become more precise when we exclude the posts with the largest number of comments. Specifically, the coefficient of interest is significant for sample sizes smaller than 1,085 (i.e., after removing the 30 largest or more outliers).

Excluding the prominent case of then-president Christian Wulff does not substantially change the estimates (Table C6, Columns 1 to 3). However, we obtain considerably larger coefficients when we remove the ten cases that received the highest overall number of posts, especially for likes (Table C6, Columns 4 to 6). This finding suggests that (extra) user engagement with congenial cases decreases with an increasing number of posts on a case.

Figure 2 shows that two outlets (*Nachdenkseiten* and *Neues Deutschland*) have particularly extreme left-right scores. In Table C7, we drop all posts by these outlets to rule out that they drive our results. The coefficients slightly increase and remain statistically significant, except for comments.

We also check if our results could be driven by posts that include a call to action (e.g., "What would be your headline?", "What do you think about the accusations?", "Take a vote!"). Omitting these posts does not affect the results either (Table C8).

Table C9 evaluates if the relationship between congeniality and user engagement varies across outlets. The results shown in Columns (1) to (3) suggest that this relationship is stronger for outlets right of the median left-right score than outlets on the left side of the distribution. The difference is significant at the 5% level for likes and shares but insignificant for comments. Columns (4) to (6) indicate differences between extreme and centered outlets, at least in the case of likes. That is, the higher user engagement that we observe for congenial posts seems to be mostly driven by outlets in 2nd and 3rd quartiles of the distribution of left-right scores. This difference might be an indication that psychological and social motives are more relevant for readers of centered outlets than readers of outlets with more one-sided opinions.

Finally, we evaluate the role of Facebook's news feed algorithm by estimating Equation (7) in the main text with data from Twitter. We collect data on user engagement with political immunity stories on Twitter, using Twitter's advanced search and a web scraper. We apply the same search parameters as in the case of Facebook, for the same sample of news outlets.[1] The number of retrieved tweets (225) is substantially lower than the equivalent number of Facebook posts (1,115). This difference can be explained by Twitter's limit of 140 characters per tweet, which favors tweets about topics that are less complex than political immunity stories. The character restriction also causes news outlets to split up longer headlines into several tweets, and our search routine only tags those that include the relevant keywords. Twitter started to test an algorithmically curated timeline in February 2016. Before that, the platform presented tweets simply in reverse chronological order to its users. We can exploit this change in platform policy to evaluate if our results are exclusively driven by algorithmic content selection. Table C10 summarizes regressions of Twitter engagement metrics on our measure of ideological distance, a dummy capturing tweets published after January 2016, and the interaction between the latter variables. Throughout, the coefficients on the distance measure are positive, and statistically significant in most cases, which suggests that users engaged more with more congenial posts prior to the introduction of Twitter's algorithmically curated timeline. The coefficient on the interaction in Column (4) suggests that the liking of congenial tweets has increased by a factor of 2.5 after the introduction of the content selection

[1] An alternative approach would be to search for the URLs contained in the relevant Facebook posts. We do not pursue this approach though, because 1) not all Facebook immunity story posts have a link to an external news item, 2) not all news items posted on Facebook are also tweeted by the outlets, and 3) there could be some tweets about political immunity stories that did not appear on Facebook.

algorithm. We do not observe an algorithm-related increase in retweets and replies though, as Columns (5) and (6) show. Thus we cannot completely rule out the algorithm as a factor. It is conceivable that algorithmic content selection amplifies the relationship between congeniality and user engagement. However, given the positive and significant relationship between user engagement and congeniality for the time until January 2016, it is unlikely for the Facebook results to be entirely driven by the news feed algorithm.

Table C1: User engagement and congeniality of posts (0.01% TF-IDF cut-off)

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	109.4*	11.99	61.67**	94.11*	4.552	58.14***
	(62.32)	(13.46)	(27.31)	(52.92)	(13.27)	(17.66)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.259	0.478	0.491	0.325	0.515	0.524

Notes: N = 1,115. OLS estimates. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table C2: User engagement and congeniality of posts (0.2% TF-IDF cut-off)

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	418.2	34.57	152.6	318.9	19.71	139.4
	(363.2)	(39.42)	(109.1)	(281.9)	(33.50)	(88.68)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.262	0.478	0.494	0.327	0.515	0.526

Notes: N = 1,115. OLS estimates. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table C3: User engagement and congeniality of posts (congeniality based on one-dimensional measure of slant)

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	51.01	5.099	40.04**	21.52	-3.258	37.58**
	(45.07)	(8.633)	(18.70)	(54.32)	(8.681)	(17.64)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.258	0.477	0.491	0.325	0.515	0.524

Notes: N = 1,115. OLS estimates. The column headers denote the dependent variables. The measure of distance used in the regressions only captures differences in the political left-right spectrum. It is computed as the absolute difference between the left-right score of the reporting outlet and the left-right score of the party of the politician in question (i.e., $score_n$ and $score_p$ in Equation 5), after rescaling both variables to vary between 0 and 1. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table C4: User engagement and congeniality of posts (alternative measure of congeniality)

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Panel A: Coding outlets not included in the Polisphere ranking as neutral (N = 1,115)						
Ideological distance	26.84**	4.843**	2.338	22.65**	4.034**	2.164
	(12.56)	(2.459)	(3.820)	(9.343)	(1.904)	(3.820)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.264	0.485	0.491	0.329	0.520	0.524
Panel B: Dropping outlets not included in the Polisphere ranking (N = 712)						
Ideological distance	26.58***	4.866**	1.918	22.48***	4.175***	2.436
	(9.650)	(2.039)	(3.789)	(8.672)	(1.574)	(4.106)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.316	0.550	0.562	0.393	0.593	0.601

Notes: OLS estimates. The alternative distance measure is based on the Polisphere (2017) index of perceived media slant. It takes positive values in congenial cases (i.e., left-wing outlets and parties right of the center, right-wing outlets and parties left of the center) and negative ones in uncongenial cases (i.e., left-wing outlets and parties left of the center, right-wing outlets and parties right of the center). In Panel A, the measure takes the value 0 if the outlet is classified as neutral or is not classified at all. In Panel B, we exclude outlets that are not classified by Polisphere (2017). The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case in Panel A, and clustered by case in Panel B.
* p<0.10, ** p<0.05, *** p<0.01

Table C5: User engagement and congeniality of posts (omitting posts that defend the accused)

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	529.5*	69.35*	93.90	484.8*	60.16*	85.10
	(302.7)	(38.51)	(91.49)	(248.2)	(31.67)	(76.87)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.281	0.484	0.501	0.344	0.520	0.536

Notes: N = 1,046. OLS estimates. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table C6: User engagement and congeniality of posts (excluding the most prominent cases)

	(1)	(2)	(3)	(4)	(5)	(6)
	Without Wulff case			Without ten most prominent cases		
	Likes	Shares	Comments	Likes	Shares	Comments
Ideological distance	368.1*	26.98	113.3*	798.9***	166.3**	107.2***
	(214.8)	(19.16)	(64.99)	(215.5)	(70.42)	(24.88)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.340	0.565	0.543	0.944	0.958	0.982
Observations	855	855	855	133	133	133

Notes: OLS estimates. The column headers denote the dependent variables. Columns (1) to (3) exclude the case of Christian Wulff, whereas Columns (4) to (6) exclude the ten most prominent cases, according to the total number of posts. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table C7: User engagement and congeniality of posts (excluding *Nachdenkseiten* and *Neues Deutschland*)

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	808.3**	100.9*	157.8	725.1**	86.28**	143.5
	(382.1)	(51.67)	(132.8)	(309.8)	(43.78)	(112.2)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.276	0.489	0.494	0.340	0.524	0.527

Notes: N = 1,062. OLS estimates. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table C8: User engagement and congeniality of posts (excluding posts with calls to action)

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	440.1*	57.22*	103.4	394.4**	48.83*	91.22
	(244.1)	(33.57)	(71.11)	(200.9)	(28.25)	(58.27)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.270	0.487	0.501	0.335	0.521	0.535

Notes: N = 1,061. OLS estimates. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table C9: User engagement and congeniality of posts, by outlets' left-right score

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	632.5**	78.33**	166.2	652.0**	80.54**	121.0
	(252.3)	(32.66)	(103.4)	(274.8)	(40.10)	(97.01)
Left of median (yes/no)	64.73	37.93	90.08			
	(148.8)	(25.89)	(85.14)			
Distance × left of median	-581.9**	-71.78**	-192.0			
	(258.2)	(30.52)	(122.7)			
1st or 4th quartile (yes/no)				660.2**	83.06**	103.2
				(317.2)	(41.63)	(110.0)
Distance × 1st or 4th quartile				-868.5**	-106.5	-116.7
				(440.6)	(66.87)	(150.7)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.342	0.525	0.534	0.337	0.522	0.527

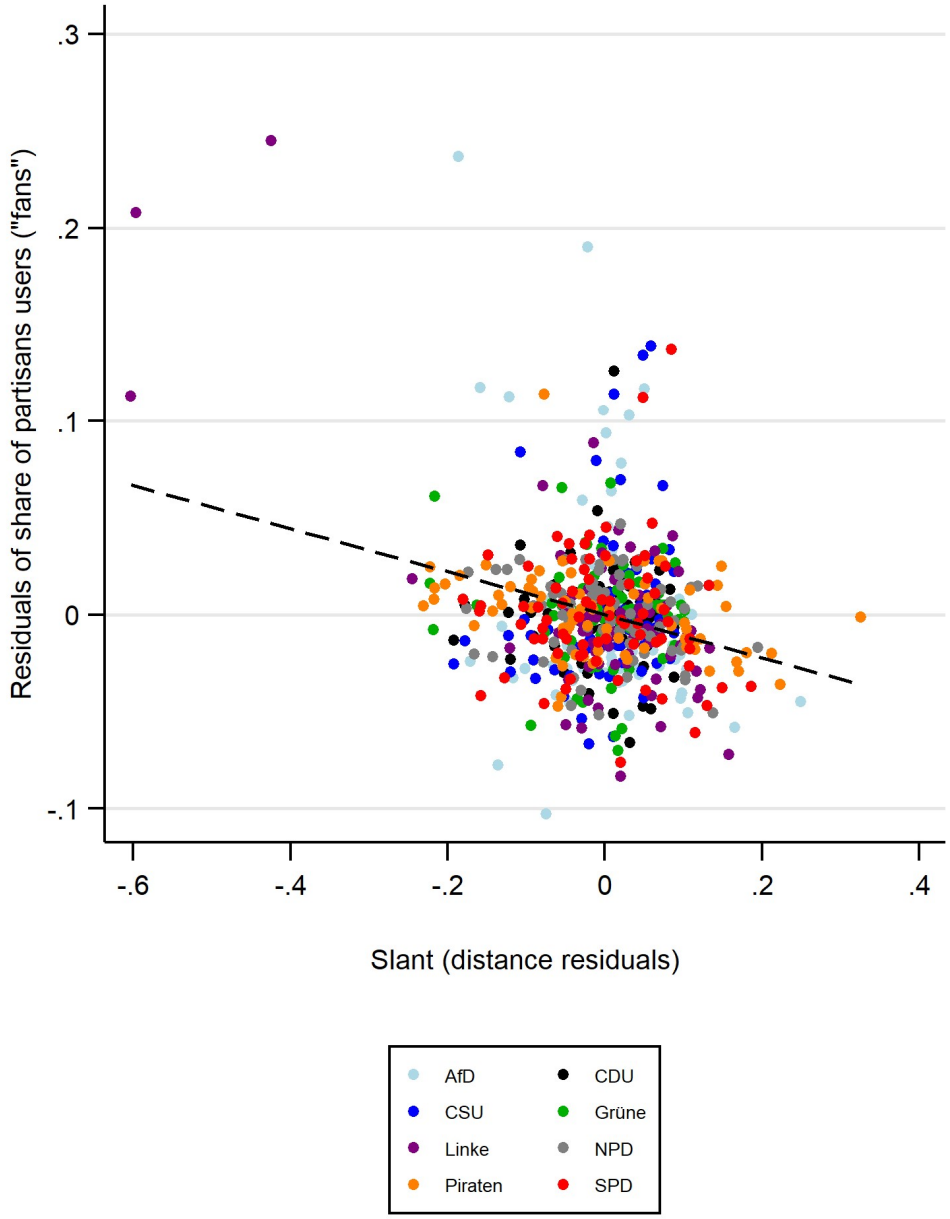
Notes: N = 1,115. OLS estimates. The column headers denote the dependent variables. The interaction terms are based on the left-right score of the outlets as calculated in Equation (5) in the main text. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous posts on the same case, the number of days since the first post on the same case, a dummy to capture posts that refer to multiple politicians of different parties, and a dummy to capture posts about multiple topics. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table C10: User engagement and congeniality of tweets

	(1) Likes	(2) Retweets	(3) Replies	(4) Likes	(5) Retweets	(6) Replies
Ideological distance	7.742***	18.06	9.704**	6.677*	21.23**	11.19***
	(3.000)	(11.12)	(4.811)	(3.995)	(8.398)	(3.879)
After Jan 2016	-14.93	37.42***	2.377	-6.700	26.49***	2.163
	(11.35)	(8.710)	(6.486)	(7.816)	(8.455)	(5.092)
Ideological distance × after Jan 2016	18.80	-17.02*	1.916	17.73**	-3.271	1.911
	(13.40)	(10.28)	(7.656)	(7.859)	(9.872)	(5.788)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.857	0.495	0.733	0.888	0.599	0.785

Notes: N = 225 (36 cases, 53 outlets). OLS estimates using Twitter data. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the length of tweets, day of the week and hour of the day fixed effects, the overall and the outlet-specific number of previous tweets on the same case, the number of days since the first tweet on the same case, and a dummy to capture tweets that refer to multiple politicians of different parties. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

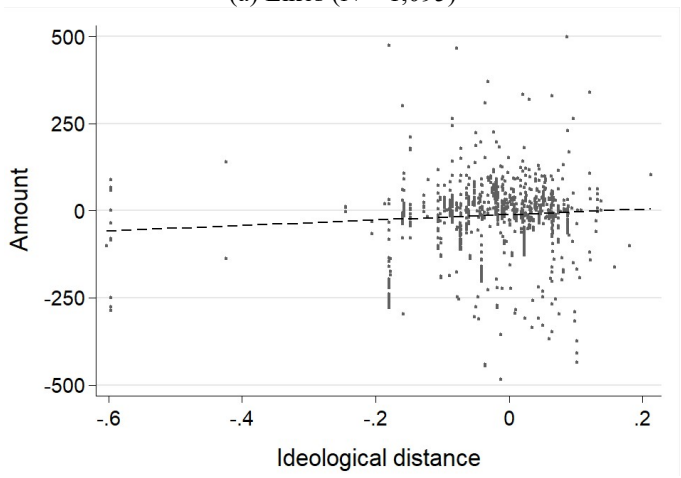
Figure C1: Outlet-level slant and ideology of users engaging with political immunity story posts, by political party



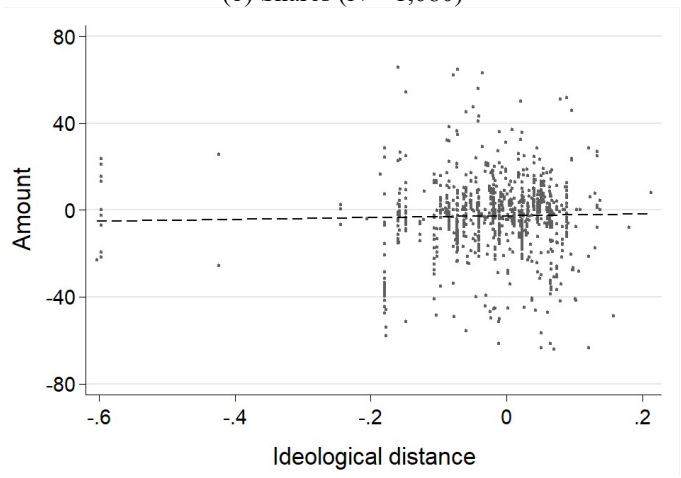
Notes: Each data point represents an outlet-party combination. The x axis shows residuals of regressing the outlet-level distance measure—as shown in Equation (3)—on outlet and party fixed effects. Higher values indicate a greater ideological distance between an outlet and a party. The y axis shows residuals of regressing the outlet-specific share of "fans" of a political party on outlet and party fixed effects. Higher values indicate that those users who engaged with the political immunity story posts of an outlet are more often "fans" of a certain political party. The dashed line shows the linear fit: The greater the distance measure for an outlet-party combination, the lower the share of users that are "fans" of the respective party. The correlation coefficient is -0.27 ($p < 0.001$).

Figure C2: Residuals of slant of political immunity story posts and user engagement

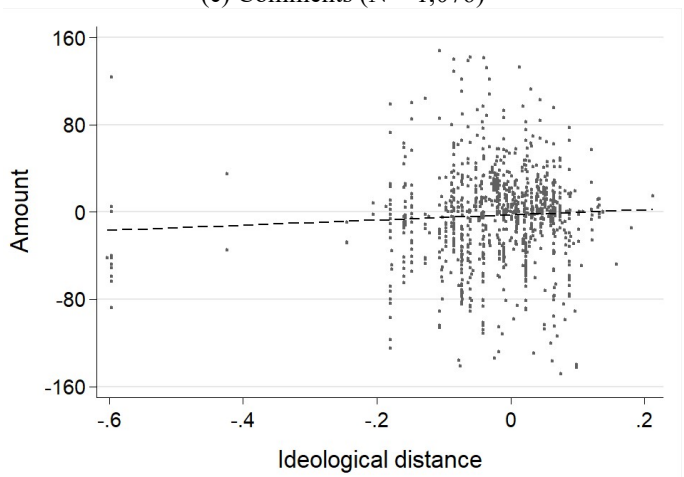
(a) Likes (N = 1,095)



(b) Shares (N = 1,080)



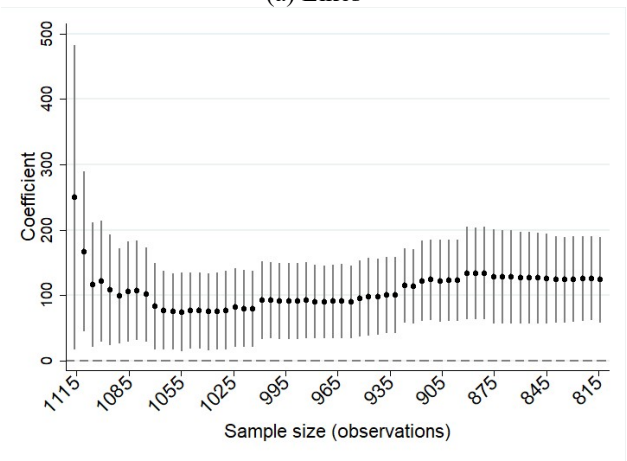
(c) Comments (N = 1,076)



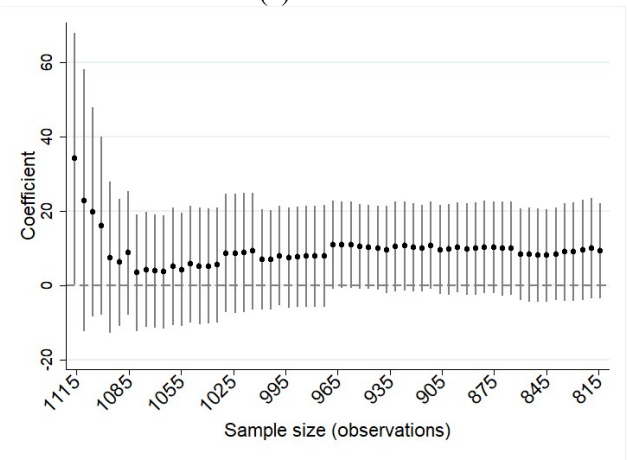
Notes: The graphs show the residuals from regressing likes, shares, comments, and the distance measure on outlet and party fixed effects. To increase readability, the figures exclude observations that are larger or smaller than two standard deviations of the mean of the engagement measures.

Figure C3: User engagement and congeniality of posts (dropping outliers)

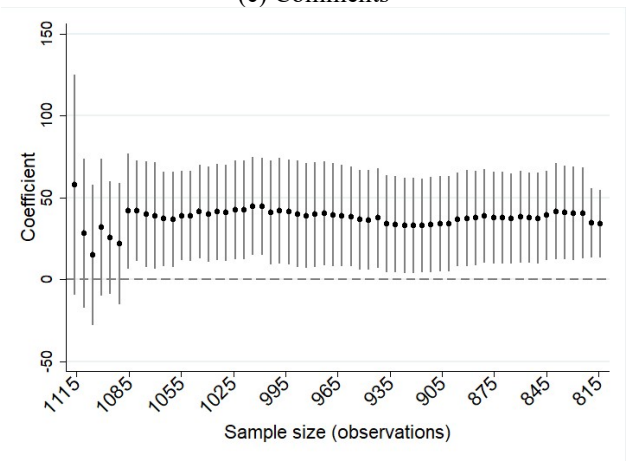
(a) Likes



(b) Shares



(c) Comments



Notes: The coefficients shown in the graph are obtained by estimating versions of Equation (7). In contrast with the baseline specification, the coefficients are obtained after successively dropping the 300 observations with the largest engagement metrics. All models include outlet and case fixed effects, as well as the full set of control variables. The vertical spikes represent the 90% confidence interval, based on two-way clustered (by outlet and case) standard errors.