Garz, Marcel; Sörensen, Jil; Stone, Daniel F.

Working Paper

Partisan Selective Engagement: Evidence from Facebook

CESifo Working Paper, No. 7975

Provided in Cooperation with:
Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Garz, Marcel; Sörensen, Jil; Stone, Daniel F. (2019) : Partisan Selective Engagement: Evidence from Facebook, CESifo Working Paper, No. 7975, Center for Economic Studies and ifo Institute (CESifo), Munich

This Version is available at:
https://hdl.handle.net/10419/214977

CESifo WORKING PAPERS

7975
2019

November 2019

Partisan Selective Engagement: Evidence from Facebook

Marcel Garz, Jil Sörensen, Daniel F. Stone

CESifo

Impressum:

CESifo Working Papers
ISSN 2364-1428 (electronic version)
Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH
The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute
Poschingerstr. 5, 81679 Munich, Germany
Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email office@cesifo.de
Editor: Clemens Fuest
www.cesifo-group.org/wp

An electronic version of the paper may be downloaded
· from the SSRN website: www.SSRN.com
· from the RePEc website: www.RePEc.org
· from the CESifo website: www.CESifo-group.org/wp

CESifo *Working Paper No. 7975*
Category 14: Economics of Digitization

Partisan Selective Engagement: Evidence from Facebook

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 evidence that users engaged with congenial posts more 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.

JEL-Codes: D830, D910, L820.

Keywords: filter bubble, media bias, political immunity, social media, polarization.

*Marcel Garz**
Jönköping International Business School
P.O. Box 1026
Sweden – 55111 Jönköping
marcel.garz@ju.se

Jil Sörensen
Hamburg Media School & University of Hamburg / Germany
jils@gmx.de

Daniel F. Stone
Bowdoin College
Brunswick / Maine / USA
dstone@bowdoin.edu

*corresponding author

November 2019
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.

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, 2019). 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, 2018).

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 opposition 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 opposition 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. We consider several possible motivations for news engagement. We assume that a partisan Facebook user's Friends are at least slightly more likely to be politically like-minded than not, but our conclusions do not require strong conditions on the degree of homophily. We first 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 be at least as 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. These predictions are stronger for engagement in the form of likes and shares than comments.

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

[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.

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 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 increase in shares and comments amounts to 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., 2019).

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, 2019), and thus the greater engagement could be 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 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 an outlet approximates the ideology of its users. 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 the users that engaged with the political immunity story posts 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.

Before proceeding, we briefly review related literature. Our paper relates most closely to others studying partisan news 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. A model of engagement with partisan news

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 and provide additional discussion of model assumptions, in particular, their plausibility for the different types of engagement since we do not model these explicitly.

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 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 of others that i internalizes, or i's concern about bothering Friends. 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 ($v_i(X_L, L)$ or $v_i(X_R, R)$), 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 $Pr_i(R|n) > 0.5$. We say that n has instrumental value for i if n causes i to change her action from her ex ante optimal choice.[3] 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 shares all news ($(\alpha - c)/\alpha > f > c/\alpha$);
2) i shares no news ($c/\alpha > f > (\alpha - c)/\alpha$);
3) i shares n_L only ($f > max\{c/\alpha, (\alpha - c)/\alpha\}$);

[3] 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 shares 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 share n_R rather than n_L.

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 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.[4] Thus, 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 again engagement with uncongenial news (n_L) seems equally or more likely than engagement with congenial news.

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

[4] 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.

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 (in particular, share) 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. 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 Summary and discussion

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 equally likely to engage with uncongenial and congenial news, or more likely to engage with uncongenial news, if engagement is motivated by providing 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.

We now provide some additional discussion of the relevance of the model to the three different types of engagement. For likes, the cost of engagement for one's Friends is likely a very small attention cost (each Friend might pay slightly more attention to a post with an additional like). It is possible that liking a story, by drawing attention, can help convey the story's information, and thus help provide useful information or try to persuade. However, this is certainly not the most direct way to transmit information. It is more plausible to us that likes are used for signaling purposes, and most plausible that likes are used to express one's feeling—that a user indeed likes what she has read.

For shares, the cost of engagement is somewhat larger, but information transmission is likely much more effective. Thus, the information and persuasion mechanisms are more plausible. Signaling is also plausible, since sharing is more likely to be noticed by one's Friends. For comments, the cost of engagement is perhaps largest. But while comments might draw some attention to a post they seem like the least efficient way to simply transmit the information content of the post to Friends. Thus, comments seem least plausibly motivated by the desire to provide Friends with the post's information. It is more likely that users write comments 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. Similarly, comments could be useful for signaling, but again, since the comment could either support or protest the post, it is unclear whether or not this behavior would be more

likely when posts are more congenial. A comment could also be used to express one's own positive or negative psychological utility.

Consequently, all of the mechanisms discussed above apply least clearly to the comments form of engagement. One additional mechanism not discussed, however, is increased attention due to Facebook's news feed algorithm: If a user simply pays more attention to more congenial posts, this would likely increase the chance of all forms of engagement, including comments.

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).

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.[5] 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

[5] 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.

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.[6] 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 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.

[6] 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.

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.[7] 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

[7] 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).

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.

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[8] 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

[8] 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.

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 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. Using only few party-specific terms leads to imprecise and volatile results. In contrast, using too many terms 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. The top 0.1% of the distribution of TF-IDF values corresponds to a total of 582 terms. However, our results do not substantially change when considering similar cut-offs in the top of the distribution, or when using alternative selection statistics (e.g., Pearson's chi-square).

In the regressions, our measure of congeniality is the cosine distance between an outlet and a party (i.e., $dist_{n,p} = 1 - sim_{n,p}$). 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 A2) 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 first use data from the 2016 Politbarometer surveys and create such a ranking of the parties. Figure 1 shows aggregated scores of self-assessments in the left-right spectrum for those respondents that identify themselves with one of the major parties. Accordingly, the Social Democratic Party (SPD), the Pirate Party (Piraten), the Greens (Grüne), and the Left Party (Linke) can be found left of the population mean, whereas the Christian Democratic Union (CDU), the Bavarian counterpart Christian Social Union (CSU), the Free Democratic Party (FDP), the newly founded Alternative for Germany (AfD), and the National Democratic Party (NPD) 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:

$$sim_{n,p} = a + \mu_n + \theta_p + \varepsilon_{n,p} \quad (4)$$

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. 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 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. 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.[9] There is a bivariate correlation of 0.39 regarding the tonality-based slant index of Dewenter, Dulleck, and Thomas (2019), and an even stronger one (0.80) when we compare our left-right score with the index of perceived slant by Polisphere (2017); see Figures A3 and A4.

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:

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

where $dist$ is the cosine distance between outlet n and the party 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.[10] 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

[9] 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.

[10] We provide evidence on the validity of the assumption that an outlet's ideology matches that of its average reader in Section 4.2.2.

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. 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 (0.191) 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. Robustness checks confirm the absence of a significant relationship; see Online Appendix B for details. The results remain similar when we use an alternative measure of congeniality, omit posts that defend the accused, or restrict the sample to more extreme outlets or less active outlets. 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.

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:

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

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.[11] Again, $dist$ captures the ideological distance between the outlet and the party 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

[11] 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. According to Columns (4) to (6), a one standard deviation increase in distance (0.192) 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 effects are significant at the 5% and 10% level in the case of likes and shares, and insignificant for comments.

Graphical evidence confirms the positive relationship between the congeniality of the posts and user engagement (see Figure C1). We conduct various robustness checks, including an alternative measure of congeniality, omitting posts that defend the accused, omitting two extreme outlets, and omitting outliers in the engagement variables (see Online Appendix C for details). Overall, these 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. This pattern matches the theoretical predictions discussed in Section 2.

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 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. On the one hand, our finding that the supply of posts is approximately unbiased does not support this kind of behavior. If the actions of the editors were driven by ideological goals, we should already observe a bias towards congenial posts at this stage. On the other hand, differences in exposure only translate into engagement if user preferences are compatible; i.e., if there is a demand for this kind of news.[12] Facebook users might be exposed to uncongenial messages, but they focus on sharing congenial content (An, Quercia, and Crowcroft, 2014; Pogorelskiy and Shum, 2018). It is therefore unlikely for an ideologically motivated promotion of posts to be a strong driver of the differences in engagement between congenial and uncongenial messages.

[12] It is possible that uncongenial posts also provoke engagement, especially when users comment to counter the arguments of these posts, try to discredit the outlet, or defend an ideologically close politician in other ways. However, if this effect would dominate the effect of congenial post messages, there would be no positive relationship between congeniality and engagement as we find it in the data.

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 seems unlikely though that the algorithm distinguishes between congenial and uncongenial news within the same outlet in the specific context of liftings of immunity. In addition, 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 between January 2012 and January 2016 on Twitter (see Appendix C for details). In contrast to Facebook, Twitter did not use an algorithm to expose users to tweets during that time. 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.[13] Twitter users were exclusively exposed to tweets or retweets from accounts they followed. Following an account also implied that all tweets by this account were shown, whereas Facebook users did not always see posts by pages they liked or followed. As Table C4 shows, Twitter users did engage more with more congenial political immunity stories, despite the lack of algorithmic exposure. Thus our results pertaining to Facebook are likely not driven by the news feed algorithm.

Finally, it is possible that the observed user engagement is not driven by the outlets' typical readers. Partisan, but open-minded, users could intentionally expose themselves to uncongenial outlets and engage more with uncongenial news, because of instrumental information benefits. In the most extreme case, the user engagement could be entirely driven by users who systematically seek counter-attitudinal information. To rule out this possibility we evaluate individual-level data on the users who engaged with the political immunity story posts in our sample. Similar to Bond and Messing (2015), we examine these users' like profiles to determine if they are "fans" of the Facebook pages of the relevant political parties; see Appendix C for details. 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 their users, as done in Figure C3. Accordingly, users are more likely to be "fans" of a certain party if the outlet is slanted towards that party. Thus the figure suggests that users typically

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

engage more with politically like-minded outlets, implying that our primary result is not driven by users seeking counter-attitudinal information, but that political immunity story posts are more engaged with when they are congenial for an outlet's average reader.

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 preferences and 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 biased media can be socially beneficial. This is not the case if these preferences are based on psychological and social factors, and concerns about filter bubbles and polarization 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.

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. (2018). Social Media and Protest Participation: Evidence from Russia. Working Paper.

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. (2019). Is There Within-Outlet Demand for Media Slant? Evidence from US Presidential Campaign News. Working Paper.

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.

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. (2019). Sorting the News: How Ranking by Popularity Polarizes Our Politics. Working Paper.

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.

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 ($dist$)	0.807	0.191	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 ($dist$)	0.629	0.190	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	-0.392	-0.296
	(0.341)	(0.326)	(0.234)
R^2	0.283	0.278	0.263

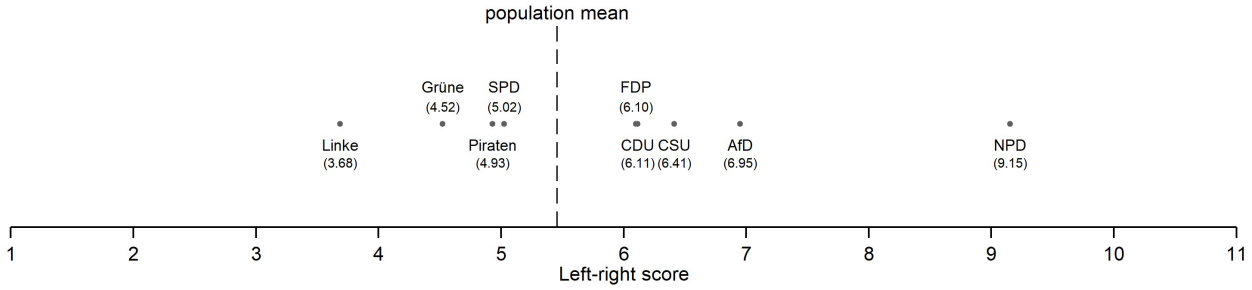
Notes: N = 8,988 (107 cases, 84 outlets). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard errors (in parentheses) are clustered by outlet and case.
* p<0.10, ** p<0.05, *** p<0.01

Table 3: User engagement and congeniality of posts

	(1) Likes	(2) Shares	(3) Comments	(4) Likes	(5) Shares	(6) Comments
Ideological distance	434.0*	56.49*	97.07	387.5**	48.08*	85.63
	(238.8)	(33.70)	(66.36)	(196.2)	(28.41)	(53.19)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.269	0.484	0.494	0.333	0.520	0.526

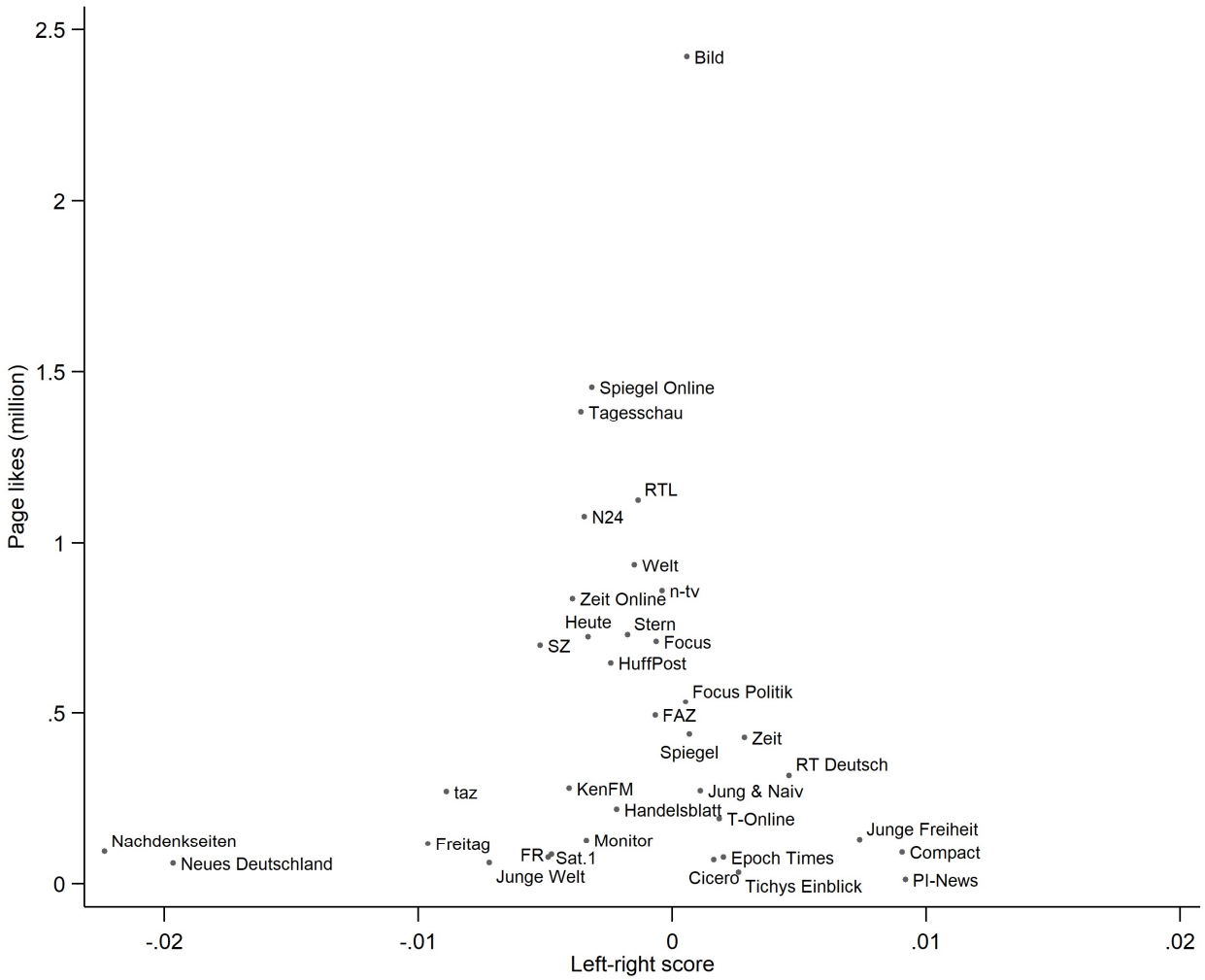
Notes: N = 1,115. OLS estimates. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the type of the post, the length of the post message, the outlets' monthly average number of likes over all published posts, day of the week 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: Party identification and the political left-right spectrum



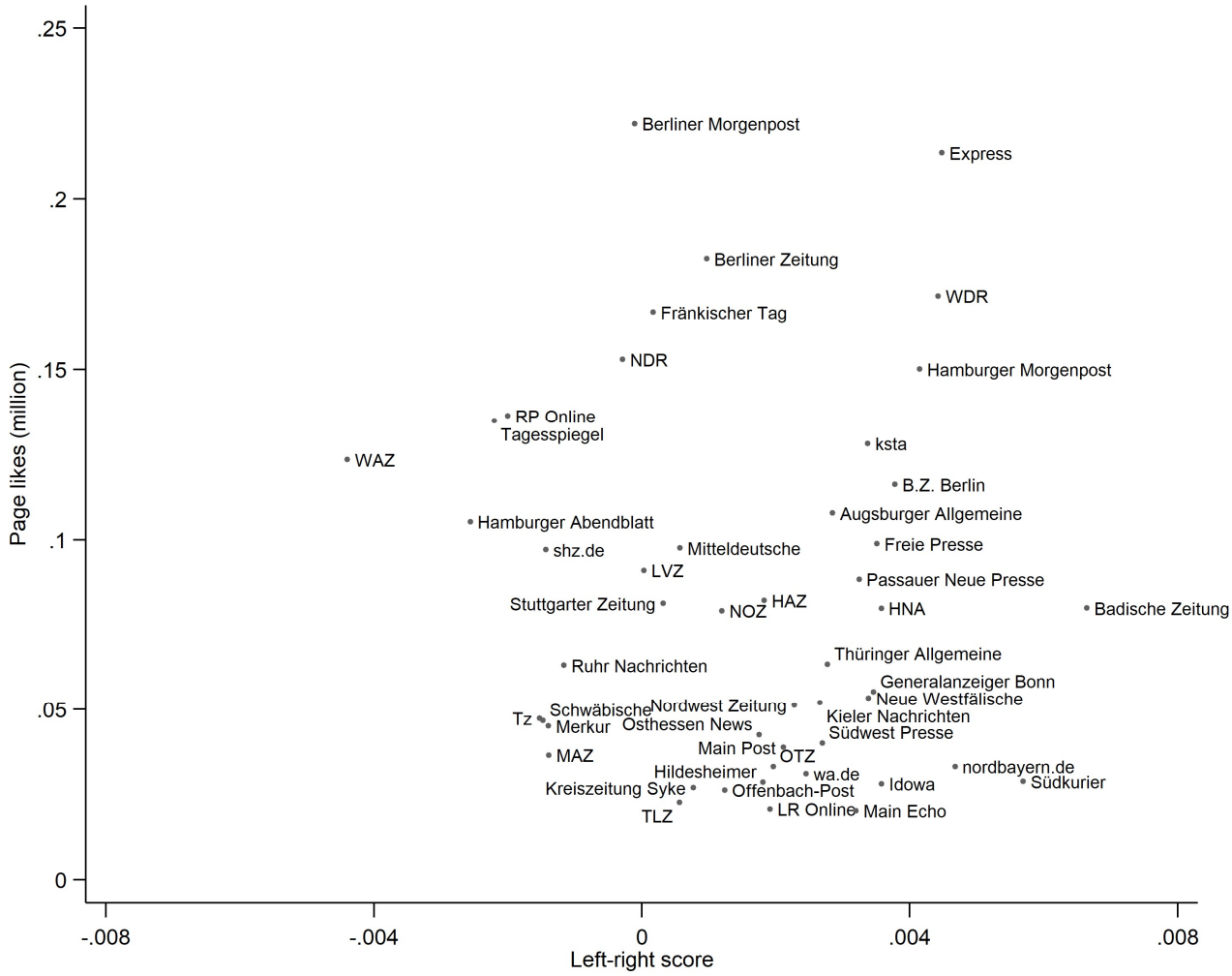
Notes: The figure shows average scores in the political left-right spectrum by party identification, using a 1 (very left) to 11 (very right) scale. The data come from the 2016 Politbarometer survey and are representative of the German elective population (N = 17,556).

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



Notes: The page likes refer to August 2017. The left-right score is based on comparing the language in the parties' 2013 and 2017 election programs with the language of all 2,042,415 posts of the outlets between January 2012 and June 2017 (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 left-right measure is based on comparing the language in the parties' 2013 and 2017 election programs with the language of all 2,042,415 posts by the news outlets between January 2012 and June 2017 (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	Grüne	Piraten	SPD
mindestsicherung	garantierent	grundeinkommen	teilhab
demokratisierung	einmischen	sockeleinkommen	staatsregierung
profit	wählt	überwachungssoftwar	chancen
gesundheitsversicherung	verbraucherinnen	ezigaretten	arbeitnehmerinnen
streitet	urheberinnen	bge	digitalisierung
gewoba	klimakris	programmpunkt	solidarrent
superreichen	schlüsselprojekt	suchtpolitik	qualität
neoliberal	teilhab	esport	weiterentwickeln
sozialökologischen	familienbudget	meldedaten	verbraucherinnen
erwerbslos	geschlechtergerecht	dateiform	familienarbeitszeit
militarisierung	menschenrechtlichen	abgeordnetengesetz	umsetzung
rüstungsforschung	kohleausstieg	jmstv	fortsetzen
einwohnerinnen	handwerkerinnen	ermittlungsschwerpunkt	bürgerinnenprojekt
kapitalismus	klimastadtwerk	liquid	bürgerkonv
erwerbslosen	fair	nutzung	verlässlich
sozialökologisch	geflüchtet	psychiatrischen	beratung
rüstungsprodukt	chancen	naturressourcen	jugendlichen
teilhab	atomausstieg	beimengungen	jugendlich
mieterinnen	kindergrundsicherung	sonderregelung	jugendarbeit
arbeitszeitverkürzung	eier	bedingungslosen	studierenden
minimum income	guaranteed retirement benefits	basic income	participation
democratization	intervene	minimum income	state government
profit	vote	monitoring software	opportunities
health insurance	female consumers	e-cigarettes	female employees
quarrel	female originators	bge	digitization
gewoba	climate crisis	item on the agenda	solidary retirement benefits
super-rich	key project	addicition policy	quality
neoliberal	Participation	e-sports	advance
socio-ecological	family budget	registration data	female consumers
unemployed	gender-neutral	file format	family working time
militarization	human right	law pertaining to MPs	implementation
research on armament	fossil fuel phase-out	jmstv	continue
female inhabitants	female craftspeople	focus of investigation	female civil project
capitalism	green municipal utilities	liquid	civil convention
unemployed	fair	usage	reliable
socio-ecological	refugees	psychiatric	consultation
armaments	opportunities	natural resources	juvenile
participation	nuclear phase-out	addition	juvenile
female tenants	children's minimum income	special rule	youth work
reduction of working hours	eggs	unconditional	students

Table A2 (continued)

FDP	CDU/CSU	AfD	NPD
weltbest	schöpfung	altparteien	nationaldemokraten
chancen	aussiedl	massenzuwanderung	volksgemeinschaft
bildungsgutschein	chancen	genderideologi	nationaldemokratisch
bürgergeld	umsetzung	mainstreaming	massenzuwanderung
verantwortungsgemeinschaft	bevölkerungswandel	frühsexualisierung	müttergehalt
digitalisierung	spätaussiedl	magist	überfremdung
stabilitätsunion	digitalisierung	schächten	produktivvermögen
vorankommen	christdemokraten	gender	generalstab
vorsorgekonto	qualität	steuerverschwendung	rußland
studierenden	feuerwehrleut	deutschtürkisch	ausländerkriminalität
vertragsfreiheit	verlässlich	sozialversicherungsabkommen	vaterland
weinbau	unterstützt	eurorettungspolitik	nationalstaat
istbesteuerung	zukünftig	schulkleidung	raumorientiert
entwicklungszusammenarbeit	weiterentwickeln	volkssouveränität	zuteil
qualität	ideen	handlungsschwerpunkt	islamisierung
träume	schulvorbereitung	multikulturalismus	mißbrauch
geldwertstabilität	imker	erstarrt	mitbeteiligung
schulfreiheitsgesetz	landeskompetenzzentren	schwerstkriminalität	solidarprinzip
bildungssparen	ehrenamt	tatverdächtig	sozialversicherungswesen
hebesätz	jugendlich	wirtschaftssanktionen	beitragsgerecht
world's best	creation	old parties	national democrats
opportunities	resettler	mass immigration	ethnic community
education voucher	opportunities	gender ideology	national democratic
citizen's dividend	implementation	mainstreaming	mass immigration
civil union	demographic change	early sexualization	maternal salary
digitization	late repatriate	magister	foreign domination
stability union	digitization	kosher butchering	productive assets
advance	chrisian democrats	gender	general staff
retirement benefits account	quality	tax misspending	russia
students	firefighter	german-turkish	crime by foreigners
freedom of contract	reliable	social security agreement	fatherland
viticulture	supports	euro salvation policy	national state
actual receipts taxation	prospective	School uniform	territorially oriented
development assistance	advance	popular sovereignty	bestow
quality	ideas	field of action	islamization
dreams	pre-school	multiculturalism	abuse
monetary stability	beekeeper	frozen	workers' participation
autonomy education act	state competence center	serious crime	principle of solidarity
education saving	volunteer work	suspected	social security
tax factor	juvenile	economic sanctions	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

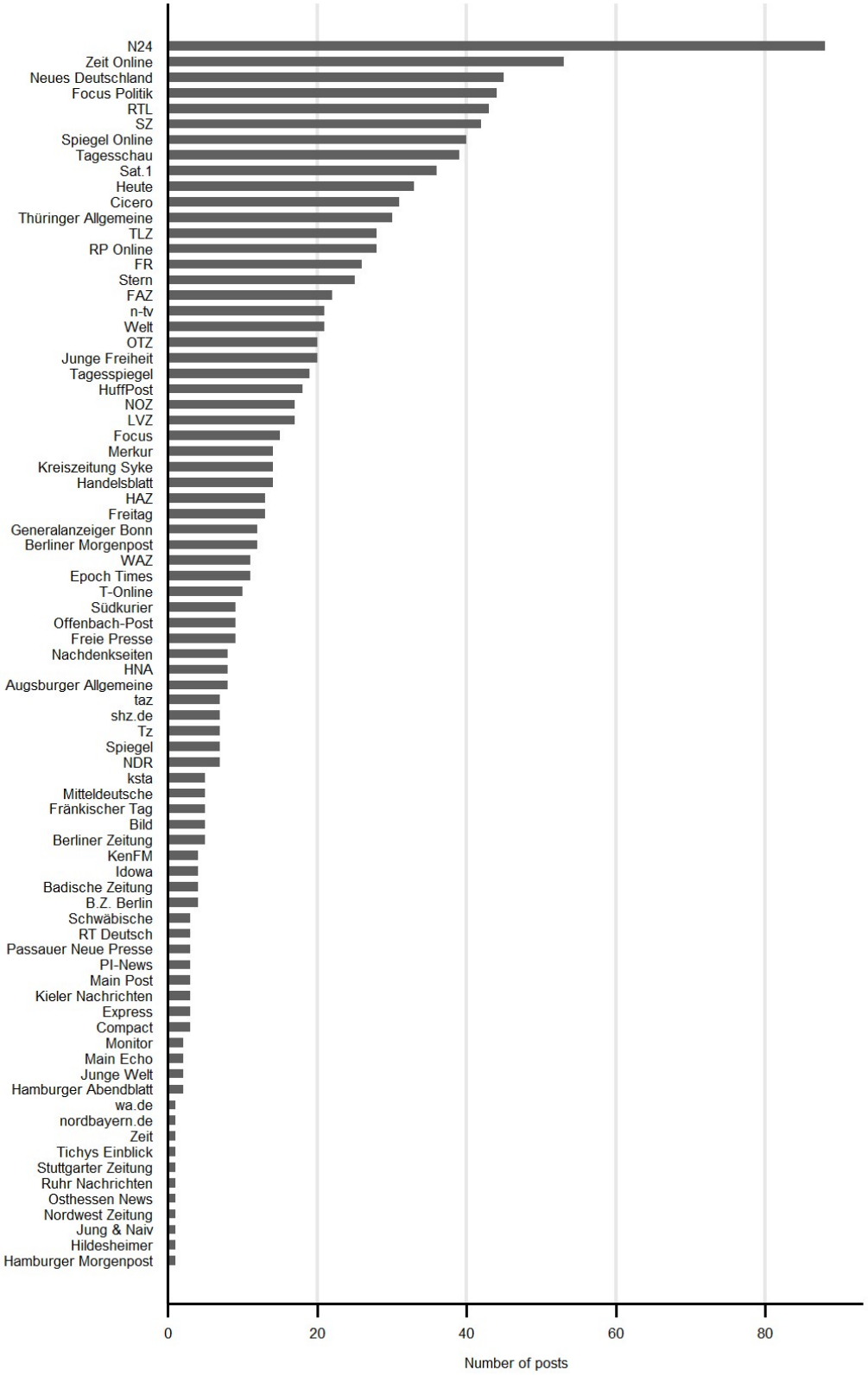
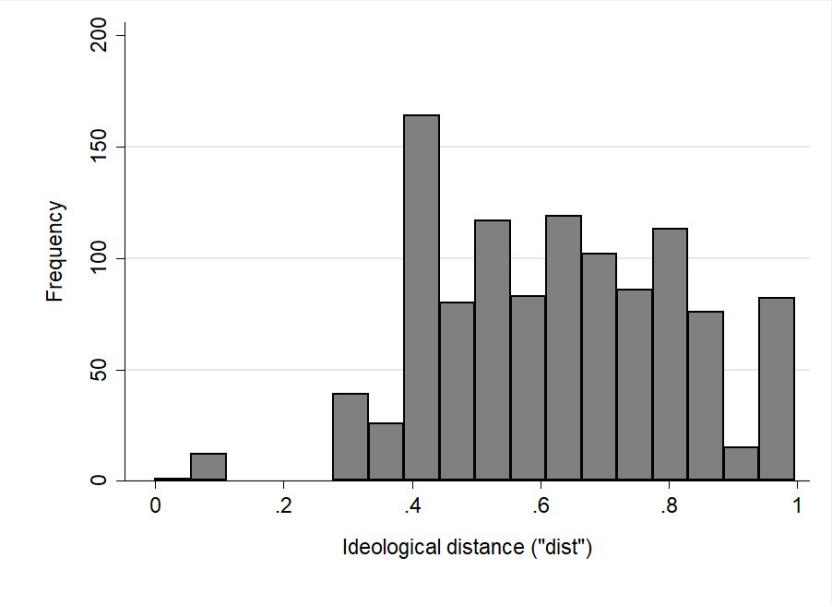
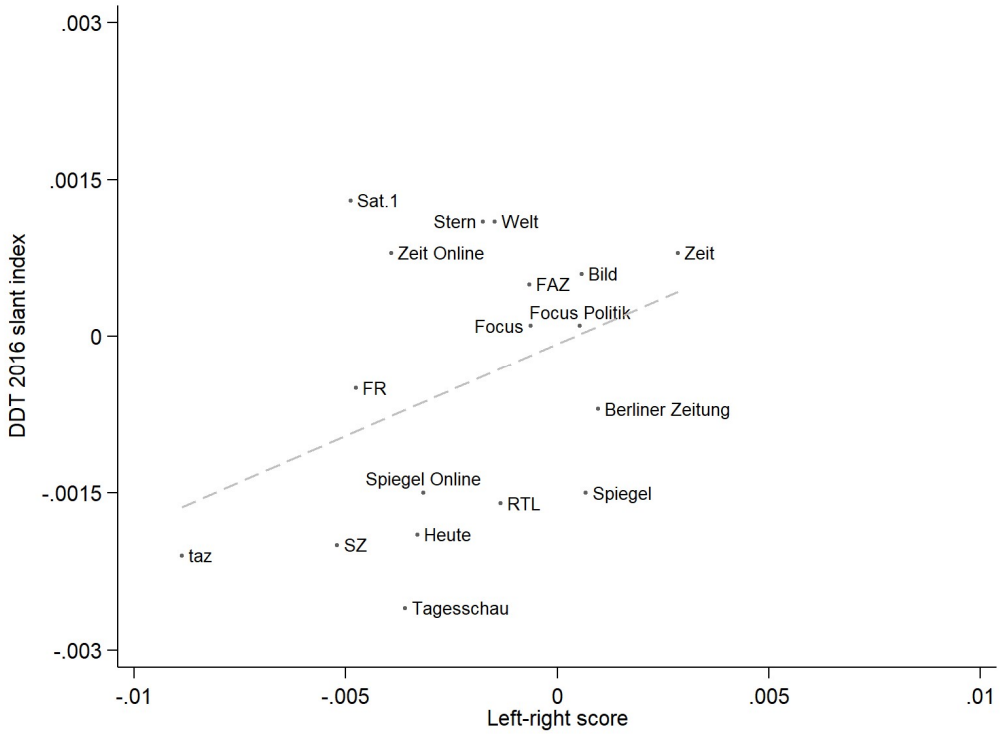


Figure A2: Ideological distances between outlets and parties



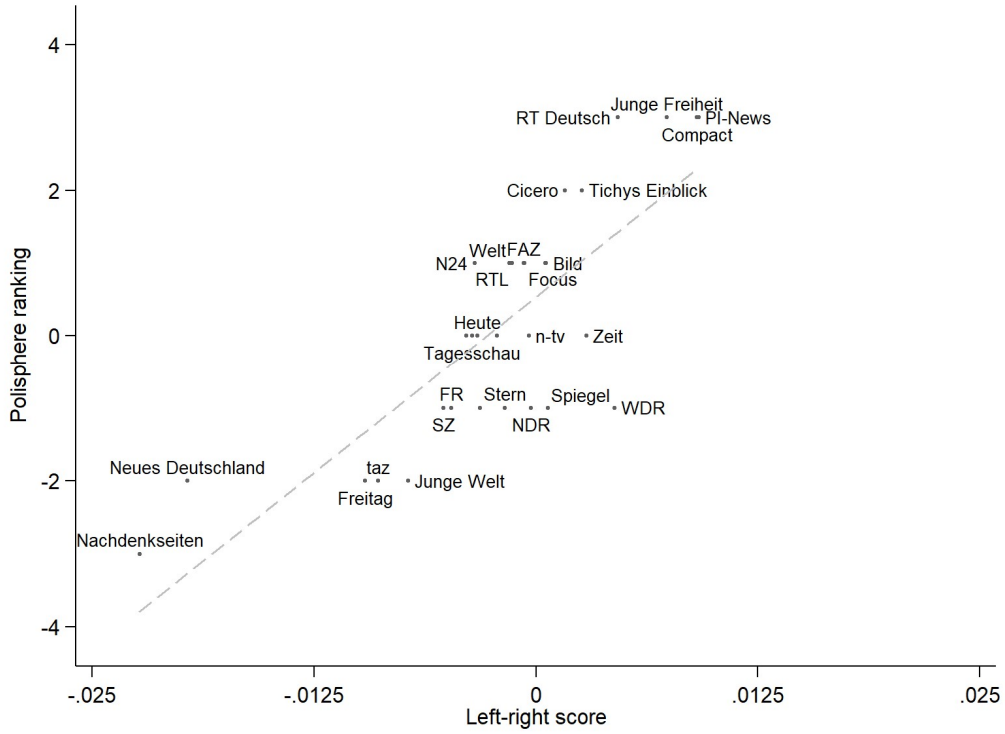
Notes: Based on 1,115 political immunity story posts. The graph shows the distribution of the distance measure as calculated in Equation (3).

Figure A3: Language- and tonality-based slant



Notes: N = 18. The graph shows the left-right score computed in this study on the x axis and the weighted tonality-based slant index of Dewenter, Dulleck, and Thomas (2019) on the y axis. The latter measure also varies between -1 and 1, 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 0.39 (p = 0.113).

Figure A4: 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.

Table B1 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 A4. 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 excluding these posts because the slant might introduce measurement error. Table B2 shows the resulting regression coefficients, which do not substantially differ from the baseline estimates.

It could be argued that the insignificance of the results is caused by a dominance of outlets that are generally rather balanced, have posted many political immunity stories, or both. Although the outlet fixed effects pick up most of the related variation, it is useful to evaluate the results when restricting the sample. Table B3 excludes the larger and more balanced outlets; i.e., we run the regressions on a sample that only includes outlets in the bottom and top quartiles of the distribution of left-right scores. In Table B4 we instead exclude outlets in the top quartile of the overall number

of immunity story posts published (i.e., outlets with more than 19 posts). Both sample restrictions yield very similar results as the full sample though.

We also check if the congeniality of a case affects the characteristics of the posts, because the news outlets might cater to the preferences of their audiences in subtler ways than changing the quantity of their posts. Specifically, we 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 B5 shows, none of these variables are significantly affected by the distance measure.

Table B1: 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 B2: Supply of political immunity story posts and congeniality of cases (omitting posts that defend the accused)

	(1) # Posts	(2) # Posts, excluding multiple-topic posts	(3) # Posts, excluding multiple-politician posts
Ideological distance	-0.320	-0.301	-0.206
	(0.329)	(0.316)	(0.217)
R^2	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 B3: Supply of political immunity story posts and congeniality of cases (excluding balanced outlets)

	(1) # Posts	(2) # Posts, excluding multiple-topic posts	(3) # Posts, excluding multiple-politician posts
Ideological distance	-0.487	-0.461	-0.365
	(0.407)	(0.387)	(0.295)
R^2	0.320	0.310	0.303

Notes: N = 4,494 (107 cases, 42 outlets). The sample only includes outlets in the bottom and top quartiles of the distribution of left-right scores. 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 B4: 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	-0.0883	-0.0938	-0.0523
	(0.124)	(0.123)	(0.0977)
R^2	0.281	0.277	0.252

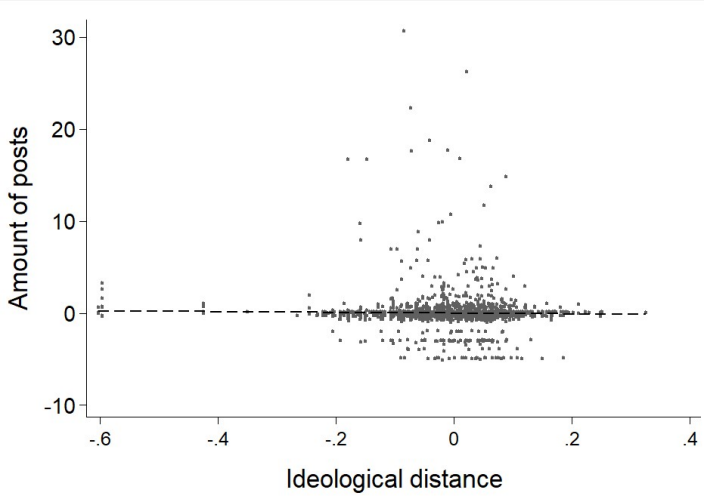
Notes: N = 6,741 (107 cases, 63 outlets). The sample excludes outlets in the top quartile of the number of immunity story posts published (i.e., outlets with more than 19 posts). OLS estimates. The column headers state the dependent variables. All models include outlet and case fixed effects. Standard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

Table B5: 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	257.5	-53.52	0.201	0.163	0.0439
	(238.7)	(60.88)	(0.124)	(0.137)	(0.0798)
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 on robustness checks and further results pertaining to Section 4.2 in the paper.

Table C1 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.

As Table C2 shows, excluding posts that are slanted in defense of the accused politician does not change the estimates in a substantial way.

Figure 2 shows that two outlets (*Nachdenkseiten* and *Neues Deutschland*) have particularly extreme left-right scores. In Table C3, 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 further 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 C2. 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).

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 (193) 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. In addition, we restrict the analysis to the time before Twitter started to test an algorithmically curated timeline (February 2016), which allows us to check if the results hold when news items are simply presented in reverse chronological order to users. The estimates shown in Table C4 confirm that users engage more with more congenial news in this case. The coefficients in Columns (4) to (6) imply that a one standard deviation increase in distance (0.213) raises the number of likes, retweets, and replies by 61.4%, 61.2%, and 194.8%, respectively. Note that the coefficients are not as precisely estimated as with the Facebook data, due to the lower number of observations.

Finally, we exploit individual-level data to verify our assumption 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 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

[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.

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 C3 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 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 aligned on average.

Table C1: 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 C2: 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	530.6*	69.52*	94.11	485.7*	60.28*	85.29
	(305.0)	(38.80)	(91.84)	(250.2)	(31.91)	(77.18)
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 C3: 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	817.0**	102.0*	159.5	732.5**	87.12**	145.0
	(386.6)	(52.31)	(134.3)	(313.5)	(44.34)	(113.4)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.276	0.489	0.494	0.340	0.524	0.526

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

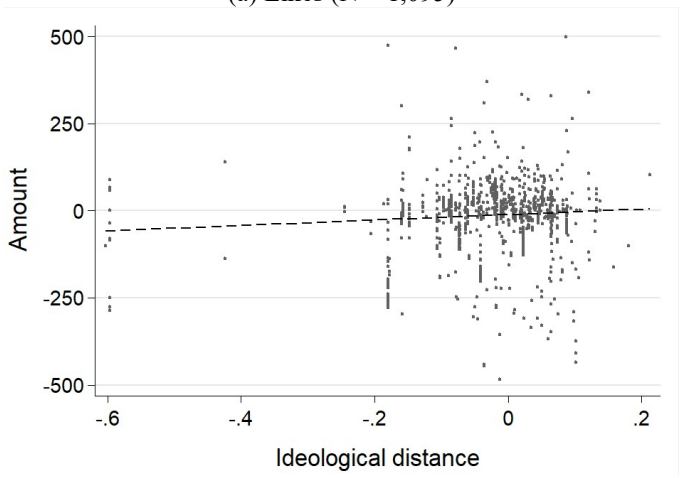
Table C4: User engagement and congeniality of tweets

	(1) Likes	(2) Retweets	(3) Replies	(4) Likes	(5) Retweets	(6) Replies
Ideological distance	8.015***	23.14*	10.10*	8.516***	24.18***	13.12***
	(1.844)	(10.29)	(5.643)	(2.663)	(7.659)	(2.795)
Controls	No	No	No	Yes	Yes	Yes
R^2	0.667	0.432	0.646	0.754	0.563	0.748

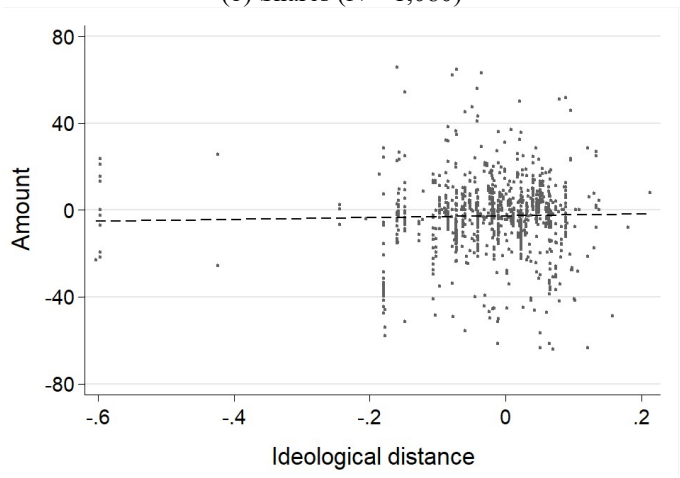
Notes: N = 193 (29 cases, 46 outlets). OLS estimates using Twitter data from January 2012 to January 2016. The column headers denote the dependent variables. All models include outlet and case fixed effects. The control variables include the length of tweets, day of the week and hour of the day fixed 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: Residuals of slant of political immunity story posts and user engagement

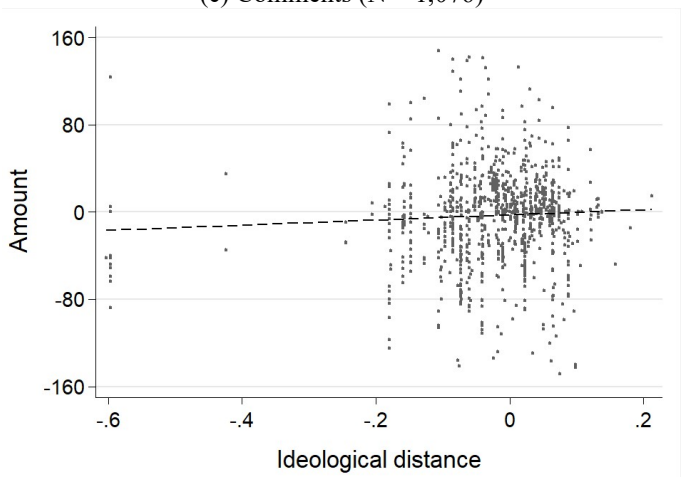
(a) Likes (N = 1,095)



(b) Shares (N = 1,080)



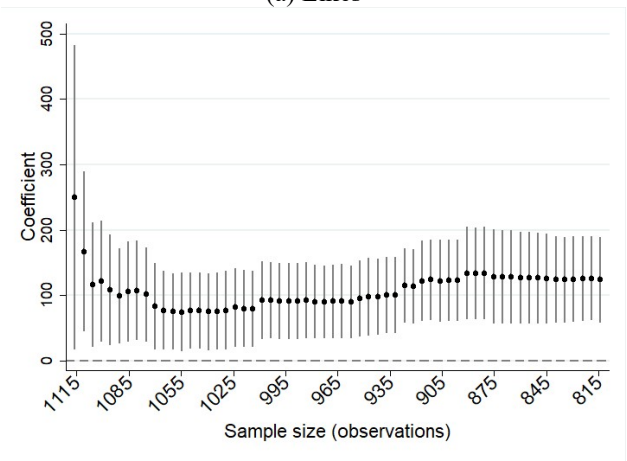
(c) Comments (N = 1,076)



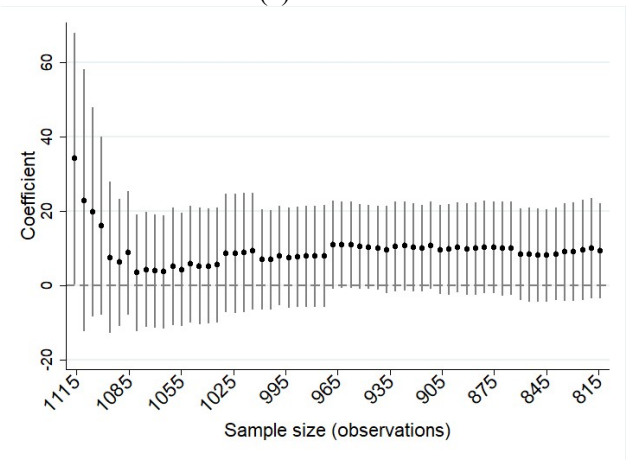
Notes: The graphs show the residuals from regressing likes, shares, comments, and the distance measure on outlet and party fixed effects. To increase readability, the figures exclude observations that are larger or smaller than two standard deviations of the mean of the engagement measures.

Figure C2: User engagement and congeniality of posts (dropping outliers)

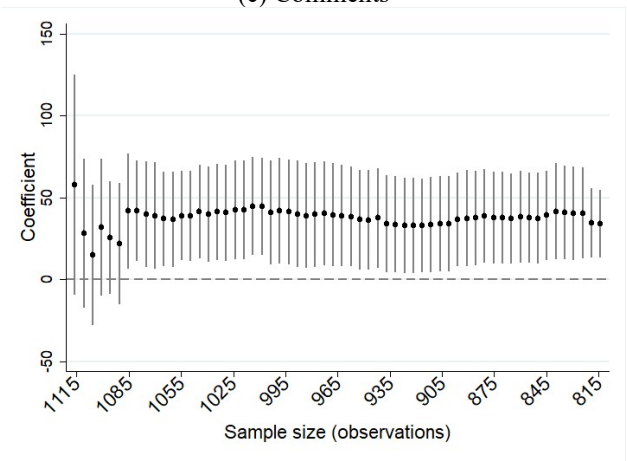
(a) Likes



(b) Shares

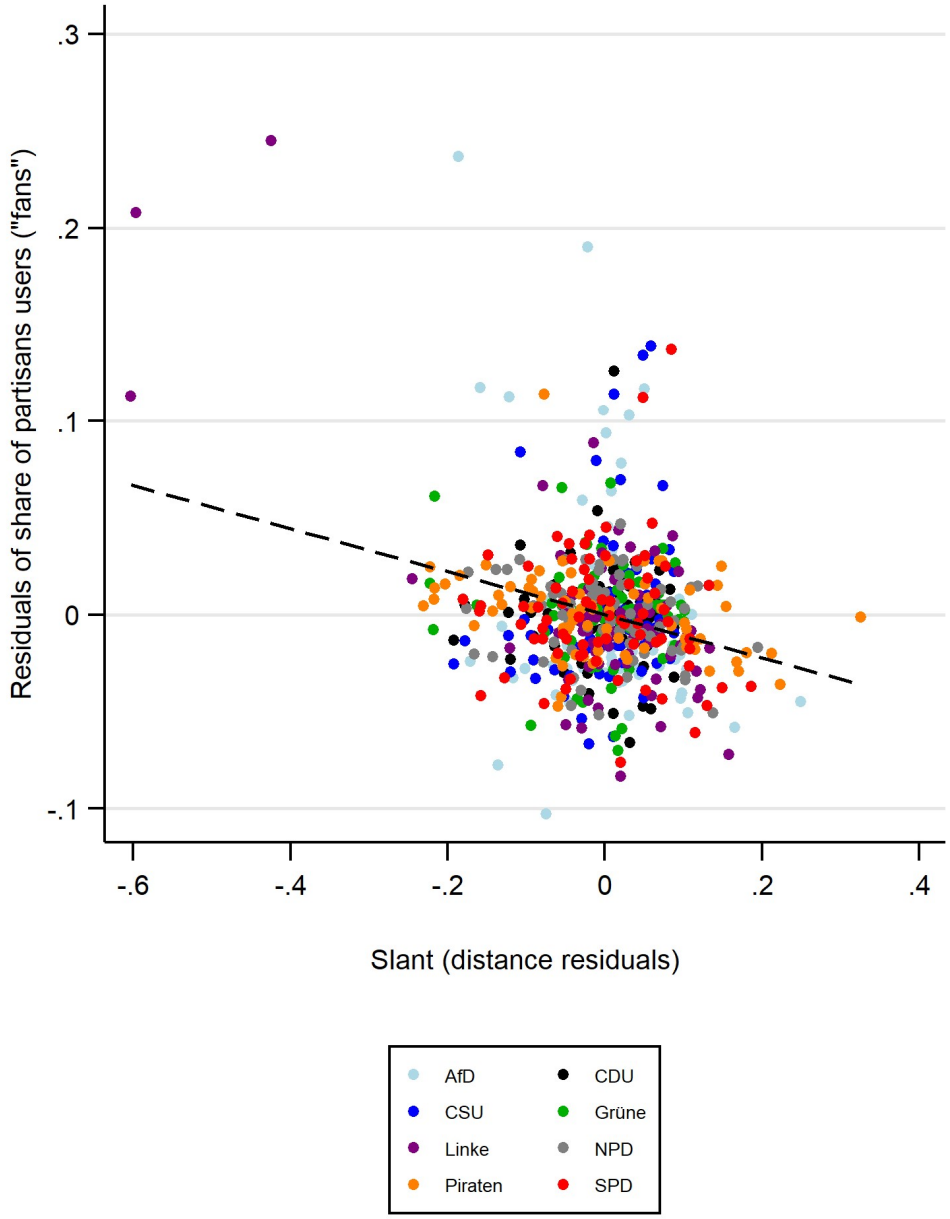


(c) Comments



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.

Figure C3: Outlet-level slant and user ideology, 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 ($p < 0.001$).