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# Buffering Negative News: Individual-level Effects of Company Visibility, Tone, and Pre-existing Attitudes on Corporate Reputation

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Building on the agenda-setting theory, this study investigates the effect of corporations' visibility and tone in news coverage on reputation. More specifically, we

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examine the buffering role that prior reputation may have for the potential damaging impact of news coverage. Providing a stringent test of causality, data from an automated content analysis of Dutch online and print newspaper coverage (*N* = 5,235 articles) were linked to individual responses from a three-wave panel survey (*N* = 3,270 respondents) with repeated measurements of corporate reputation (12 organizations). The analyses show that mere exposure to corporations negatively affects reputation, whereas tone has a positive effect on reputation. It is furthermore shown that the effect of negative news is three times larger than the effect of positive news. Finally, in accordance with research on buffering effects of corporate reputation, we demonstrate that negative news is less influential for people holding more positive existing reputational attitudes.

## INTRODUCTION

Agenda-setting theory (McCombs & Shaw, 1972), which broadly pertains to transfer of salience from the media agenda to the public agenda, is one of the most robust and empirically tested theories in mass communication research (McCombs, 2005) – in particular in the context of political communication. Over the last decades, several scholars have successfully built on political communication research while applying the agenda-setting approach within the realm of corporate reputation (e.g., Carroll & McCombs, 2003; Einwiller, Carroll, & Korn, 2010; Kiousis, Popescu, & Mitrook, 2007; Meijer & Kleinnijenhuis, 2006a; Zhang, 2016a, 2016b). In this research, scholars have focused on how the salience of corporate actors, corporate issues, as well as the salience of tone (i.e., positive or negative valence) of corporate news affects reputation. Corporate reputation is a central concept in management and public relations literature, and refers to the way in which members of the public, or specific organizational stakeholders, evaluate a firm (Carroll, 2010).

Previous research shows that media coverage can affect corporate reputation both positively and negatively, depending on the salience of corporate actors (visibility) and the *valence* of this coverage (e.g., Fombrun & Shanley, 1990; Kiousis et al., 2007; Meijer & Kleinnijenhuis, 2006a; Wartick, 1992; Zhang, 2016a, 2016b). However, much remains unknown about *the conditions* under which media visibility and tone *influence* reputation (Zhang, 2016a, 2016b) within the study of media effects. Moreover, and crucial within the study of media effects (Valkenburg & Peter, 2013), understanding is lacking about how personal characteristics of individual audience members may moderate these effects. Arguably, one can imagine that such effects might be contingent on factors, such as prior held reputations (Fombrun & Shanley, 1990; Sohn & Lariscy, 2015). The relative absence of research on this topic is remarkable because corporations invest vast resources in public and media relations (Moon & Hyun, 2014). Companies do so because they are aware that the news media are a key source for members of the general public, and specific stakeholders, to inform themselves on the conducts and representations of corporate actors (Carroll & McCombs, 2003).

In this study, we use agenda-setting research—mainly building on studies from the field of political communication—and insights from PR studies (e.g., *buffer effects*), while applying an innovative multi-method approach to further examine the causality and nature of the relationship between news coverage and corporate reputation: Panel survey research is linked to data from an automated content analysis to determine *who saw what about which corporation with which effects* (De Vreese et al., 2017).

Notably, agenda-setting research on corporate reputation commonly examines correlational relations using cross-sectional or aggregate data. Only few studies have sought to effectively examine causal relations with appropriate methodological tools (e.g., Meijer & Kleinnijenhuis, 2006a, 2006b; Park & Lee, 2007; Schultz, Utz, & Göritz, 2011) These studies have particularly focused specifically on crisis situations, and on the effects of issue news on reputation (i.e., media coverage of linkages between large organizations and such issues as environmental damage). We extend these efforts by investigating how people's existing opinions of corporations moderate their responses to the news coverage of these organizations.

Against this backdrop, this paper seeks to inform agenda-setting research by refining and testing key propositions about the direct and conditional influence of corporate visibility and tone on corporate reputation. Our methodological approach enables us to make convincing causal claims about the relationship between exposure to company news and the reputations of these corporations in the eye of the public (Meijer & Kleinnijenhuis, 2006b). Altogether, we will answer the overarching research questions of this study: *to what extent do media visibility and tone of coverage influence corporate reputation, and how are these media effects moderated by prior reputation?*

## The Effect of Media Visibility on Reputation

Corporate actors in the news are "attitude-objects" (Carroll & McCombs, 2003), which are typically evaluated by members of the public in positive and negative terms. Classical agenda setting refers to the idea that the salience of issues on the media agenda influences the salience of those same issues on the public agenda (Kiousis & McCombs, 2004; McCombs & Shaw, 1972). Carroll and McCombs (2003) were the first to apply this idea to corporate reputation and extended it from issues to actors, proposing that "[t]he amount of news coverage that a firm receives in the news media [should be] positively related to the public's awareness of the firm" (p. 39). Management scholars, however, proposed that the visibility of corporate actors in news coverage could *directly* affect reputation as well.

Fombrun and Shanley (1990), for example, found a negative relationship between visibility and reputation. Wartick (1992) also expected this negative effect of visibility on reputation but did *not obtain* significant results. Wartick, by contrast, *found* a positive effect of visibility for companies, but only for those corporations with relatively good reputations. Remarkably, scholars interested in news-mediated reputation research did not follow up on the results of these early management studies from the 1990s by assessing the direct effects of visibility on reputation in greater depth.

In communication science more generally, however, positive evaluations of attitude objects in the news have been explained by the mere exposure effect, according to which repeated exposure to an object situated in a non-negative context leads to a more positive evaluation of that object (Zajonc, 2001). Political communication scholars, for example, have repeatedly investigated the relationship between the media visibility of political actors and voting preferences (e.g., Hopmann, Vliegenthart, De Vreese, & Albæk, 2010). These studies have found that mere contact with a political object (e.g., a party or candidate) may lead to an increased preference for that object due to growing familiarity, especially with objects that are initially less well known (Vliegenthart & Van Aelst, 2010).

Studies on the effects of economic news, by contrast, have found that the sheer volume of coverage of the economy leads to more *negative* evaluations of the economy (e.g., Kleinnijenhuis, Schultz, & Oegema, 2015; Sheafer, 2006). One obvious reason could be that journalists (performing their watchdog role) primarily focus on problematic and negative events, situations, and issues and consequently trigger alarm bells simply by drawing attention to economic issues (Zaller, 2003). This finding fuels the idea that the visibility of objects may lead to negative associations by the public, simply because people have become accustomed to the notion that more news implies more negative news.

Empirical findings on the structural negativity of the news underline this reasoning. With regard to economic news, for example, Soroka (2006) found that "the size of the window for negative economic news is greater than the window for positive economic news [because] there is simply more negative news" (p. 378). Similarly, Jonkman, Trilling, Verhoeven and Vliegenthart (2019) found that *company news* in the Netherlands tends to be more negative than positive. The notion that news is generally negative also inspired Wartick (1992) to argue that "more corporate visibility should merely increase the likelihood that members of the public receive discrepant information, which would then lead to disturbed prevailing schema and stereotypes" (p. 41). In addition, a recent study by Van der Meer & Vliegenthart, 2018) found a negative effect of corporate visibility on the financial performance of companies.

With such a structural negativity bias news coverage on the one hand (Sheafer, 2006; Soroka, 2006), but also the possibility that news coverage may carry positive object attributes and increase familiarity (Wartick, 1992; Zajonc, 2001)—it is unclear how the salience of corporations in the news will influence their reputation. High levels of media attention may simply lead to the impression that something could be wrong with an organization, but it also allows a corporation to inform the audience about its successes. Here, we will investigate the following exploratory research question:

> RQ1: To what extent does the visibility of a corporate actor in the news negatively affect the corporate reputation of this actor?

## The Effect of Tone on Reputation

In addition to visibility, management scholars have analyzed the relationship between tone of coverage – alternatively termed "media reputation" (e.g., Deephouse, 2000) or "favorability" (e.g., Meijer & Kleinnijenhuis, 2006b) – and reputation. Agenda-setting and the consequences for public opinion, after all, do not only depend on the salience of an object in the news, but also on the affective object attributes that come along with media coverage (Sheafer, 2006). Wartick (1992) found positive correlations between the tone of company news and corporate reputation, whereas Fombrun and Shanley (1990) found a positive relation between favorability and reputation only for corporations with high diversification (i.e., companies active in multiple business segments). A decade later, Deephouse (2000) concluded that *media reputation*, referring to "the overall evaluation of a corporation presented in the media" (p. 1097), positively affects the financial performance of banks, possibly because of improved reputations.

In the early and mid-2000s, communication scholars began to use the second-level agenda-setting framework to study the transfer of tone salience from the media agenda to the public agenda (e.g., Carroll, 2009; Kiousis et al., 2007). However, they did not obtain univocal results (Zhang, 2016a). Meijer and Kleinnijenhuis (2006b) studied the effects of favorability in both "success and failure news" as well as in "support and criticism news" on corporate reputation. They found support for both a "bandwagon effect," implying that positive news leads to a more positive reputation, and an "underdog effect," referring to the notion that negative news could also lead to a more positive reputation.

More recently, Zhang (2016b) empirically compared five measures of media favorability and found a positive effect of the tone of news coverage on reputation at the overall level (i.e., the tone of news items about the corporation) as well as at the attribute level (i.e., specific substantive attributes in news coverage that are linked to a corporation, such as particular products or the idea of leadership). In another study comparing seven measures of media reputation (i.e., the portrayal of corporations in positive or negative terms), Zhang (2016a) found positive correlations between media reputation, which refers to the general evaluation of a company in the news (Deephouse, 2000), and corporate reputation. Accordingly, the affective attributes of news coverage are a central determinant for the effects on attitudes (Sheafer, 2006), and we thus expect:

H1: The more positive the tone of news about a company, the more positive the corporate reputation of that company.

## Negative Versus Positive News

Scholars have long and repeatedly argued that the attitudinal impact of negative information should generally be stronger than the impact of positive information (e.g., Richey, Koenigs, Richey, & Fortin, 1975). Recently, Zhang (2016b) found strong support for this imbalance by statistically comparing the effect of media tonalities on corporate reputation.

Research on economic news more generally also documents robust evidence for this assumption (e.g., Boomgaarden, Van Spanje, Vliegenthart, & De Vreese, 2011). Given that people are more likely to focus on preventing loss than obtaining potential gains, negative news will evoke a stronger attitudinal response than positive news (Kahneman & Tversky, 1979). In accordance with this negativity bias among citizens, people may respond asymmetrically to information provided by the news media (Soroka, 2006). Although this has not been examined yet regarding media effects for corporations, we expect mechanisms to be similar in this context and thus hypothesize:

H2: The negative effect of negative news on corporate reputation is stronger than the positive effect of positive news.

## Moderating Impact of Preexisting Opinions

Introducing their Differential Susceptibility to Media Effects Model (DSMM), Valkenburg and Peter (2013) have urged scholars to consider that media effects rarely affect all individuals equally; rather, media effects will in most cases depend on individual characteristics of the message receiver. Arguably, this is also the case for the impact on corporate reputation of corporate visibility and tone of news about companies.

More specifically, Sohn and Lariscy (2015) experimentally investigated whether prior opinions about a corporation functioned as “antibiotics or a hemlock cup in times of organizational crisis” (p. 250). Although a good prior reputation was found to backfire in crises where a corporation’s morality was being challenged (i.e., the corporate social responsibility (CSR) strategy turned out to be misleading), under normal conditions, reputation functioned as a “buffer.” People who held positive opinions about a corporation were less likely to be (negatively) influenced by information about a crisis. This finding can be explained by cognitive dissonance theory (Sohn & Lariscy, 2015): People prefer not to see their opinions challenged by media coverage.

Studies of corporate reputation provide support for such a “buffering effect” of corporate reputation (e.g., Coombs & Holladay, 2006). This effect follows the logic of cognitive dissonance, leading to so-called confirmation bias. As Sohn and Lariscy (2015, p. 239) have argued, “[t]he reduction of dissonance is accomplished by selectively paying attention to information that is consistent with previously held beliefs and weighing unequal values on different pieces of information.” In line with this, Wartick (1992) proposed that a favorable previous reputation could moderate the effect of negative cues to the extent that these cues do not harm one’s opinion of a corporation or, in extreme cases, even lead to a more positive evaluation of a corporation. Wartick found support for this proposal, although only for companies with an average prior reputation – and notably, using correlational measures to assess the relationship between media data and survey data, the study did not account for causality.

In communication research, abundant evidence is provided for the idea that evaluative communication that matches preexisting attitudes is particularly powerful (see, e.g., Stroud, 2010). In the field of political communication, empirical research has repeatedly shown that the presence of political objects in the news (e.g., candidates, political parties) can lead to positive evaluations of those objects when people hold positive preexisting attitudes toward those objects (Geiß & Schäfer, 2017). Reinforcing the existing attitude, people tend to interpret news coverage in ways that accord with their existing beliefs (Arceneaux, Johnson, & Cryderman, 2013; Levendusky, 2013; Taber & Lodge, 2006). Such motivated reasoning (Kunda, 1990) may even have “boomerang effects.” Negative information that contradicts one’s existing opinions may eventually strengthen one’s initial position.

Consequently, we may expect existing attitudes to have buffering effects on the influence of negatively valenced news coverage. Following the theoretical rationale of buffering effects (Sohn & Lariscy, 2015) those who hold more positive opinions of a company are less likely to take negative news as a cue for negative developments to protect their prior beliefs. Hence, the following hypothesis is formulated:

> H3: Preexisting reputation moderates the effect of tone on corporate reputation such that the more positive the individual’s initial opinion of the corporation is, the weaker the negative effect of negative news on reputation will be.

## METHOD

We use data from a three-wave panel survey and link these to data that were obtained from an automated content analysis of news coverage that was published in the period of the panel survey (first half year of 2015).[1] In the survey, respondents were asked how frequently they used the media outlets that were selected for the content analysis. Hence, we can infer to which news *content* they were exposed during the research period. Measuring corporate reputation at three different time points allowed us to control for people's existing opinions and establish a strong causal link between the news items to which people were exposed and their subsequent opinions regarding corporations.

## Content Analysis

We analyzed online and print news from four daily national newspapers. These included two quality newspapers (*de Volkskrant, NRC Handelsblad*), one popular newspaper (*Telegraaf*), and one free daily (*Metro*; print only). Their content was analyzed for the periods between Wave 1 and Wave 2 and between Wave 2 and Wave 3 ($n$ = 5,235; see Table 1). The unit of coding was a whole article. Resonating with the approach of (Jonkman, Trilling, Verhoeven, & Vliegenthart, 2018), the coding relied on a collection of Python scripts (McKinney, 2012) for preprocessing and content analysis of company news coverage.[2] We elaborate below on the data cleaning procedure that was applied.

TABLE 1
Sample Description - Content Analysis ($N$ = 5,235)

| *News outlet* | *Description* | n *(Wave 1–2)* | n *(Wave 2–3)* | n *(Total)* |
|---|---|---|---|---|
| Telegraaf (print) | Popular newspaper with financial focus | 605 | 519 | 1124 |
| Telegraaf (online) | Popular newspaper with financial focus | 657 | 614 | 1271 |
| NRC (print) | Quality newspaper with focus on economy | 358 | 329 | 687 |
| NRC (online) | Quality newspaper with focus on economy | 210 | 212 | 422 |
| Volkskrant (print) | Quality newspaper | 386 | 319 | 705 |
| Volkskrant (online) | Quality newspaper | 462 | 379 | 841 |
| Metro (print) | Free daily | 107 | 78 | 185 |

[1] The survey has been approved by the Ethics Review Board of the University of Amsterdam, department Communication Science under project number 2015-CW-10 ("Public perceptions about the economy").

[2] All Python scripts used in this article are available upon request.

In the content analysis, we assessed the coverage of twelve large Dutch corporations: *Rabobank* (bank), *ING* (bank), *KLM Air France* (airline), *ABN AMRO* (bank), *Royal Dutch Shell* (energy company), *Philips* (electronics and technology manufacturer), *KPN* (telecommunications), *NS* (Dutch national railway), *PostNL* (postal services), *SNS* (bank), *Heineken* (brewer), and *V&D* (department stores).[3] Previous research into the media visibility of corporations in news published by the largest Dutch quality newspapers in 2014 indicated that these twelve corporations are amongst the most visible companies in Dutch news (Jonkman, Trilling, Verhoeven, & Vliegenthart, 2015).

*Measurement of Visibility.* Our script automatically counted news items mentioning one or more of the twelve companies, with a minimum of one company mention regarded as one article about that corporation (see for a similar approach Jonkman et al., 2018). In our data, 82.6 percent of all articles covered only one company, whereas 17.4 percent of the articles included information about two or more firms (with a maximum of seven firms mentioned in one article). In the next step, visibility scores at the article level were summed and aggregated to the level of the survey waves. Consequently, we know how many articles each individual outlet published on each corporation between survey waves 1 and 2 and between survey waves 2 and 3.

*Measurement of Tone.* As suggested by Carroll (2009), the coding of the tone variable is based on “peripheral media favorability” (p. 15). That is, we code the tone of the whole article instead of the tone of specific article passages (e.g., sentences or paragraphs) associated with corporate actors (see Carroll, 2009, for a discussion). Because we work with aggregated data, we are interested in the overall tone that emerged from a stream of media reports in which a corporate actor is mentioned.

Following the recommendation of Zhang (2016a, 2016b, 2017) and in line with the approach of Meijer and Kleinnijenhuis (2006a), we use a visibility-based measure of tone (i.e., a combination of the number of news items on a corporate actor and tone scores) in the statistical analyses. Zhang (2016a) compared seven measures of media reputation and found the strongest correlations between this visibility-based measure of tone (which he coined the *Meijer–Kleinnijenhuis index*) and corporate reputation. Zhang (2016b) showed that this compound measure of tone and visibility has advantages in predicting corporate reputation vis-a-vis tone measures alone, which do not take visibility into account (see also Zhang, 2017). The compound measure reflects interactions between tone and visibility (Zhang, 2016b, p. 19). We adhere to this

[3] A small number (0,05%) of the articles consisting of all news items published by these outlets in the first six months of 2015 ($N$=112,483) that were included in the initial dataset were removed because their publishing dates could not be verified.

approach by applying an aggregated measure of tone. That is, by aggregating the data from the article level to the wave level and by summing the tone scores, tone is, by definition, a function of the number of articles published between waves.

To capture tone, we employed the *SentiStrength* algorithm (Thelwall, Buckley, & Paltoglou, 2013; Thelwall, Buckley, Paltoglou, Cai, & Kappas, 2010), with which we measured positivity and negativity in each news article mentioning at least one of the selected firms. We constructed tone as a composite measure of positivity and negativity (e.g., Jonkman et al., 2018). The *SentiStrength* algorithm is increasingly used in communication research (e.g., Vargo, Guo, McCombs, & Shaw, 2014) and has been shown to perform well compared with similar approaches (Gonçalves, Araújo, Benevenuto & Cha, 2013; González-Bailón & Paltoglou, 2015). The algorithm is also increasingly used in communication research on the effects of company news (e.g., Kroon & Van der Meer, 2018).

*SentiStrength* automatically codes positive and negative words that are subsequently weighted following a scheme that also takes linguistic devices such as negations, punctuation marks, or modal particles (e.g., very, completely, slightly) into account. Because *SentiStrength* creates separate measures for negativity and positivity, articles can score either low or high on positivity and negativity. For example, a very neutral article may have values of 1 for positivity and −1 for negativity, whereas a very opinionated report that highlights different sides of an issue may score +3 and −4 or even +5 and −5 (see for a recent application and evaluation of this method Kroon & Van der Meer, 2018). In our news data, we obtain a Pearson correlation of −0.29 ($p < .001$) between positivity and negativity, indicating that, on average, articles are skewed toward either positivity or negativity rather than completely neutral.

Following the procedure by (Jonkman et al., 2018), we employed the positivity and negativity scores to construct a tone variable. We calculated a standardized measure of tone using the following formula:

$$Std\ Tone = \frac{\sum(\text{pos}) + \sum(\text{neg})}{\sum(\text{pos} - \text{neg})},$$

$$\text{where } -5 \leq \text{neg} \leq 1 \text{ and } 1 \leq \text{pos} \leq 5.$$

Note that we add 1 to negativity values and subtract 1 from positivity values so that the ranges of both variables include zero, where a value of zero indicates that an article has no negative or positive sentiment. Notably, the standardized variable for tone in the content analysis data now theoretically ranges from −1 to +1 ($M = -.28$, $SD = .45$). Aggregating data, subsequently, results in automatic tone measurements that are arguably more precise and valid (Rauh, 2018; Van Atteveldt, Kleinnijenhuis, Ruigrok, & Schlobach, 2008): Errors in the coding of individual articles are likely to cancel each other out.

*Validation of Tone Measurement.* In addition to previous studies validating *SentiStrength* (e.g., Thelwall et al., 2010) and showing that the algorithm performs well on news data about large corporations (e.g., Kroon & Van der Meer, 2018), we checked the validity of the *SentiStrength* measurement of positive and negative news against a hand-coded subsample of the news data used in the paper. To this end, we randomly selected a subset of 140 articles; 10 per outlet ($n = 7$) and for each of the two research periods. A human coder (the first author) hand-coded this subset for both positive and negative sentiment. The coder considered for each article in the subsample whether the report in question was either positively, neutrally, or negatively valenced. This resulted in sentiment scores on the article level, which were captured by dichotomous variables for positive, neutral, and negative news per news report, for both the human codings and the *SentiStrength* values.

The outcome of our validation check is satisfactory: Results show that the manual measures of negative, neutral, and positive news largely correspond with our automated *SentiStrength*-based measure (see Table 2) and yield comparable average scores over the whole subsample – with *SentiStrength* being slightly more positive than the human codings. Overall, we think that the results of the manual validation check are not perfect but reasonably consistent with the automated analysis. Additionally, the outcome of another robustness check with content analysis data from a satellite project assessing substantive and affective elements of company news in Dutch print newspaper coverage over time reinforces this conviction: The check convincingly shows that the effects of both positive news and negative news on reputation are in line with the results we present in this current paper.[4]

TABLE 2
Validation Check: Pairwise Agreement Scores, Means and Standard Deviations of Negative, Neutral and Positive Tone – Comparing Manual Coding with SentiStrength

| *Variables* | *Pairwise agreement* | M *Human coder* | SD *Human coder* | M *SentiStrength* | SD *SentiStrength* |
|---|---|---|---|---|---|
| Negative news | 0.64 | 0.63 | (0.49) | 0.59 | (0.49) |
| Neutral news | 0.64 | 0.31 | (0.46) | 0.31 | (0.46) |
| Positive news | 0.89 | 0.06 | (0.23) | 0.11 | (0.31) |

[4] The robustness check examines to what extent a manual content analyses of positive and negative news about the two most media-visible organizations in our dataset (NS and ABN; see Table 5) yields similar effects on reputation as the analyses with *SentiStrength*. Units of analyses in the content analysis were article paragraphs focusing on the company in question. Intercoder reliability was sufficient for the manual coding of both companies. We linked the data of the manual content analyses to the panel survey dataset of the current paper (see method section). From OLS regression analyses with a lagged dependent variable and standard errors clustered on the level of the individual respondents, we concluded that the effects of both positive news and negative news are similar as the findings based on the automated content analyses with the *SentiStrength* algorithm

*Separate Measurement of Positivity and Negativity.* To examine how negative object attributes affect corporate reputation relative to positive object attributubes (see Sheafer, 2006), we distinguish between positive and negative news items and analyze how these separately affect the dependent variable. Dummy variables were created for positive tone and for negative tone ($\chi 2$ (1, 5235) = 940.10, $p$ < .001). An article was dummy-coded as positive when the standardized tone score for the article was above 0. Similarly, if the tone score was below 0, negativity was coded 1 and positivity was coded 0. Articles scoring exactly 0 retained this value for both the positivity and negativity dummy (30.6% of the sample), because these items are neither positive nor negative.

## Survey Data

A three-wave online panel survey was conducted by Dutch pollster *I&O Research* of a sample of the Dutch population in the first half of 2015. There was a gap of eight weeks between each wave, and respondents had 24 days to respond to a survey invitation (the majority did so in the first two days). A total of 6,386 respondents completed the first survey, which was conducted beginning on February 23 (Wave 1). All these respondents were then invited to participate in the second wave, which was administered beginning April 20 (Wave 2), with 4,301 respondents completing the survey (RR1 = 69.0%). The final wave of the survey, which commenced on June 15, 2015 (Wave 3), was completed by 3,270 respondents (RR1 = 77.0%).

Response rates are comparable to those of other studies that have relied on panel survey methods (e.g., Boomgaarden et al., 2011; Meijer & Kleinnijenhuis, 2006a). Respondents are, on average, slightly older (Minimum = 18, Maximum = 91, $M$ = 61.44, $SD$ = 11.08) and higher educated (50% obtained a university degree) than the general population; moreover, males were overrepresented (66.7%). The median income category of the respondents' household ranged between €2.501,- and €3.000,- which is similar to the populations' average (approximately €2.633,-). We do not consider those deviations from the overall population as highly problematic, because this study's key interest is in causal relationships between variables rather than their absolute point estimates.

*Measurement of Media Exposure (Independent Variable).* In the first survey wave, respondents were asked how often they consumed a wide variety of daily newspapers (print) and associated online websites. On a scale of 0 (*never*) to 7 (*seven days per week*), respondents indicated how often they read the newspapers

presented under Results: Positive news improved reputation (NS: $b$ = .035, $p$ < 0.01; ABN: $b$ = .056, $p$ < 0.01) and negative news lowered it (NS: $b$ = −.013, $p$ < 0.01; ABN: $b$ = −.018, $p$ < 0.01). More details available upon request.

TABLE 3
Descriptive Statistics - Media Exposure Panel Survey

| *Outlet* | *Mean* | SD |
|---|---|---|
| Telegraaf (print) | 2.04 | (2.23) |
| Telegraaf (online) | 2.16 | (2.35) |
| de Volkskrant (print) | 2.05 | (2.23) |
| de Volkskrant (online) | 1.57 | (1.61) |
| NRC Handelsblad (print) | 1.96 | (1.86) |
| NRC Handelsblad (online) | 1.36 | (1.27) |
| Metro (print) | 1.37 | (1.01) |

and news websites. See Table 3 for an overview of mean media exposure per outlet: These are the most popular newspapers and news website of the Netherlands (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2017).

*Measurement of Corporate Reputation (Dependent Variable).* The reputation of a corporation is this study's dependent variable of interest. At the individual level, this translates into people's opinion of a company. Following Meijer and Kleinnijenhuis (2006a), reputation was measured by asking people what they think of a company on a scale from 0 (*very negative*) to 10 (*very positive*).[5] To validate this measure, we examined the correlation between the mean aggregate reputation score per company in our survey and the *2015 RepTrak* reputation scores for these companies.[6] Our results correlate strongly with the *RepTrak* scores ($r$ = 0.77, $p$ < .001),[7] confirming that our sample and measurement provide a valid reflection of public opinion regarding the included corporations. See Table 4 for an overview of the mean reputation score for each corporation and per wave.

*Linking Content Analysis to Survey Data.* In the next step, we combined the content and survey data at the individual level by calculating for each individual respondent, (a) how much news he or she consumed about a particular corporation (i.e., visibility), and (b) the tone as well as proportion of positive and negative content in this coverage. More specifically, for the periods between Wave 1 and Wave 2 and between Wave 2 and Wave 3, we

[5] For the statistical analyses, we added 1 to the reputation variable so that the theoretical range would be 1 to 11.

[6] See https://netherlands.reputationinstitute.com for the 2015 results. See Ponzi, Fombrun, and Gardberg (2011), for the reputation measure used in the RepTrak corporate reputation study.

[7] The firms "*PostNL*" and "*V&D*" were not included in the RepTrak study and are therefore not included in our correlation analysis.

TABLE 4
Descriptive Statistics - Reputation Panel Survey

| *Company* | *Type* | M *Wave 1* | SD *Wave 1* | M *Wave 2* | SD *Wave 2* | M *Wave 3* | SD *Wave 3* |
|---|---|---|---|---|---|---|---|
| Rabobank | Bank | 6.03 | (2.30) | 5.60 | (2.52) | 5.77 | (2.45) |
| ING | Bank | 6.26 | (2.24) | 5.28 | (2.49) | 5.64 | (2.42) |
| KLM | Airline | 6.38 | (1.98) | 6.66 | (2.02) | 6.34 | (2.04) |
| ABN | Bank | 5.95 | (2.29) | 4.65 | (2.45) | 5.05 | (2.43) |
| Shell | Energy | 6.11 | (2.37) | 6.39 | (2.55) | 6.25 | (2.54) |
| Philips | Electronics | 7.15 | (1.79) | 7.38 | (1.89) | 7.20 | (1.89) |
| KPN | Telecom | 6.39 | (1.93) | 6.44 | (2.08) | 6.38 | (2.06) |
| NS | Railway | 5.85 | (2.13) | 6.09 | (2.18) | 5.52 | (2.26) |
| PostNL | Post | 6.23 | (1.99) | 6.30 | (2.08) | 6.03 | (2.10) |
| V&D | Dep.Stores | 5.83 | (2.20) | 5.97 | (2.04) | 5.92 | (2.00) |
| SNS | Bank | 5.51 | (2.07) | 5.75 | (2.22) | 5.79 | (2.25) |
| Heineken | Brewer | 7.08 | (2.06) | 7.14 | (2.10) | 7.10 | (2.10) |

multiplied the share of days per week a respondent reported consuming a newspaper or website (e.g., 2 of the 7 days would imply a share of 2/7) by the number of articles published in the particular newspaper/website mentioning a specific organization.

We summed the scores for exposure to individual newspapers to create one measure indicating the number of articles about a given organization to which a respondent could have been exposed. We did so because we were not interested in the effects of particular newspapers but in exposure to news coverage generally (for a similar approach, see, e.g., Gattermann & De Vreese, 2017; Svensson, Albæk, van Dalen, & De Vreese, 2017). We followed a comparable procedure to obtain the tone variable (i.e., multiplying exposure measurements by tone in newspapers).

*Statistical Analyses.* After linking the survey and content analysis data, the dataset consisted of several levels of analysis. At the lowest level, we identified repeated observations of reputation per organization in three consecutive wave periods. These observations were hierarchically clustered among (a) respondents, and (b) organizations, with variation located in media visibility, tone and reputation. The dataset was stacked according to these levels. To work with this structuring of the data, we opted for multi-level modeling with three levels: organizations, respondents and observations. In this setup, respondents were *not* hierarchically nested within organizations. That is, each individual was combined with each organization. Consequently, we used a cross-classified multi-level model that included a lagged dependent variable to account for temporal dependencies.

Importantly, because visibility and tone are strongly correlated with each other ($r = -0.92$, $p < .001$), the effects of both cannot be examined in one model but must be analyzed in separate models to avoid multicollinearity problems (Schuck, Vliegenthart, & De Vreese, 2016): The negative correlation coefficient implies that more news visibility, generally, goes in hand with more negatively valenced news about a corporation.[8] In the discussion, we will elaborate on our measurement of tone and the relation between visibility and tone.

## RESULTS

We begin by inspecting the descriptive results based on the combined dataset. Table 5 shows that company visibility is relatively stable over time (i.e., the two periods between Wave 1 and 2 and between Wave 2 and 3) but varies across companies. For example, whereas the least visible company (SNS, bank) had an average exposure rate of 6.15 articles (SD = 7.44) in the period between Wave 2 and Wave 3, the most visible company (ABN, bank) had an average exposure of 88.61 (SD = 105.74) articles in the first period. Note that the high standard deviations indicate that there is considerable variation across respondents in terms of exposure to company news articles due to their varying media use (i.e., people who read more news, will be exposed to more articles about the companies).

Table 5 shows furthermore that news coverage is structurally negative across companies and time. The table clearly indicates that company news is skewed toward negativity and that the respondents in our sample have been exposed mainly to negative information. Note that these descriptive findings are in line with the results from the content analysis. Negativity bias also explains the high correlation between visibility and tone.

[8] The potential problems with multicollinearity in models that combine content-analytical data with panel data are more elaborately discussed by De Vreese et al. (2017), in particular when it comes to self-reported media exposure and content characteristics that are weighted by this exposure. They report in their empirical example a correlation of .85 between media exposure and visibility of the economic issue. Another example is provided by Schuck et al. (2016), who report correlations between .8 and .9 between different framing variables that are weighted by the same self-reported media exposure. In our case, the correlation between visibility and tone is even higher, due to the fact that they are both weighted by exposure, but also that the tone measure is based on the sum of separate scores of individual news items. If those separate news items are in general negatively valenced (as they are in our case) – one can expect a negative correlation between visibility and tone: the more articles, the more negative the (summed) tone score will be. In instances of such high correlations, it is generally recommended not to include more of those variables at the same time.

TABLE 5
Descriptive Statistics - Panel Survey Linked with Content Analysis: Exposure to Companies and Tone in News Coverage

| *Variable* | M *Visibility* *(W1-W2)* | SD *Visibility* *(W1-W2)* | M *Visibility* *(W2-W3)* | SD *Visibility* *(W2-W3)* | M *Tone* *(W1-W2)* | SD *Tone* *(W1-W2)* | M *Tone* *(W2-W3)* | SD *Tone* *(W2-W3)* |
|---|---|---|---|---|---|---|---|---|
| Shell | 32.89 | (38.80) | 29.80 | (36.48) | −7.67 | (9.39) | −7.49 | (9.36) |
| ING | 62.55 | (77.66) | 49.63 | (65.16) | −14.98 | (18.51) | −12.52 | (16.55) |
| Rabobank | 41.76 | (53.13) | 44.23 | (58.16) | −8.44 | (10.65) | −8.63 | (10.91) |
| Philips | 29.54 | (35.29) | 30.82 | (38.24) | −8.94 | (11.31) | −6.21 | (8.90) |
| Heineken | 15.39 | (17.86) | 12.59 | (15.32) | −3.56 | (4.13) | −2.25 | (3.28) |
| ABN Amro | 88.61 | (105.74) | 51.27 | (62.03) | −23.41 | (28.93) | −10.83 | (12.95) |
| KPN | 26.55 | (32.35) | 23.48 | (29.86) | −7.37 | (9.22) | −5.98 | (7.63) |
| PostNL | 12.06 | (15.68) | 12.82 | (15.56) | −3.02 | (4.17) | −2.73 | (3.57) |
| NS | 50.63 | (61.77) | 65.36 | (80.47) | −24.00 | (32.27) | −24.05 | (30.41) |
| SNS | 12.95 | (15.94) | 6.51 | (7.44) | −3.23 | (3.98) | −0.65 | (1.10) |
| V&D | 23.87 | (28.17) | 11.27 | (13.85) | −7.92 | (9.47) | −3.16 | (4.79) |
| KLM | 43.58 | (55.91) | 45.40 | (55.09) | −13.16 | (16.78) | −11.54 | (14.58) |

We now turn to analyses of how exposure to this content influences corporate reputation. While controlling for respondents' reputation in the previous wave, Table 6 (model 1) shows the results of a multi-level regression model, with the visibility of a company as the independent variable and opinions about this company as the dependent variable. As expected, lagged reputation has a strong and positive impact: The more positive respondents' views of a corporation were in the previous wave, the higher they ranked the corporation in the subsequent wave. On top of this, the results also show a negative effect of corporate visibility on reputation. Thus, as people are exposed to more articles about a company, their opinions regarding the corporation deteriorate. This result provides the answer to $RQ_{1.}$

Table 6 also shows the effect of tone in news coverage on opinions about the corporations featured in those stories (Model 2). In line with our theoretical expectation as formulated in the first hypothesis ($H_1$), the data reveal that tone indeed has a significant positive effect on reputation. Thus, as people are exposed to relatively more positive than negative news about a corporation, their opinions about the corporation become more positive.

However, we should note that the effect sizes are small across the board. For example, the unstandardized effect of visibility (b = − .00018, $p$ < .001)[9] indicates that exposure to one additional company news article results, on average, in a reputation decline of −0.00018 points, with reputation measured on a scale of 0 to 10. This finding suggests that the average effect of single news items might be limited, but that cumulative negative reporting can have substantial consequences.

Third, we examine whether the effect of tone is conditional on whether news is positive or negative ($H_2$). Table 6 (model 3) breaks down the effect of tone into positive and negative news and shows that the standardized effect of negative news is 3 times as strong as that of positive news (−.042/.014 = − 3). After reversing the negative news scale (so, its effect becomes positive; i.e., less negative news affects reputation positively), a Wald test shows that the effect of negative news is indeed significantly stronger than that of positive news, $\chi 2$ (1) = 19.56, $p$ < 0,001: This confirms $H_{2.}$

Regarding the moderating impact of prior opinion (Table 6, model 4) demonstrates a significant positive interaction effect between negative news and prior reputation, $b$ = 0.011, $SE$ = 0.003, $p$ < .001. As one can infer from the regression coefficients, the negative effect of visibility weakens for individuals who hold more positive opinions about a corporation. The effect of negative news is significant ($b$ = − 0.04, $p$ < .001) when previous reputation is zero, but for each additional point on this reputation score, it changes by .001 ($b$ = 0.01,

[9] In Table 6, standardized results are reported.

TABLE 6
Mixed-effects Regression Results: Visibility and Lag Reputation (Model 1); Tone and Lag Reputation (Model 2); Positive News, Negative news and Lag Reputation (Model 3); Positive news, Negative news, Lag Reputation x Negative News and Lag Reputation (Model 4)

| | *Model 1* | *Model 2* | *Model 3* | *Model 4* |
|---|---|---|---|---|
| Expected predictors of reputation | | | | |
| Lag reputation | 0.453(0.003)*** | 0.453(0.003)*** | 0.453(0.003)*** | 0.453(0.003)*** |
| Visibility | −0.028(0.004)*** | | | |
| Tone | | 0.026(0.004)*** | | |
| Positive news | | | 0.014(0.005)** | 0.014(0.005)** |
| Negative news | | | −0.042(0.005)*** | −0.042(0.005)*** |
| Negative news x lag reputation | | | | 0.011(0.003)*** |
| Constant | 0.000(0.049) | 0.000(0.049) | 0.000(0.049) | 0.000(0.049) |
| Intercept level 3 | 0.028(0.011) | 0.029(0.012) | 0.029(0.012) | 0.028(0.011) |
| Intercept level 2 | 0.125(0.004) | 0.125(0.004) | 0.125(0.004) | 0.125(0.004) |
| N level 3 | 12 | 12 | 12 | 12 |
| N level 2 | 3270 | 3270 | 3270 | 3270 |
| N level 1 | 78480 | 78480 | 78480 | 78480 |
| LL | −84645 | −84645 | −84645 | −84619 |
| ICC level 3 | 0.139 | 0.046 | 0.045 | 0.045 |
| ICC level 2 | 0.294 | 0.203 | 0.203 | 0.203 |

*Note*. Cells show standardized coefficients from a mixed-effects regression, with standard errors in parentheses. In all analyses, we controlled for individual corporations and previous Waves. However, for clarity, we choose not to report these statistics. *p < .10; **p < .05; ***p < .01.

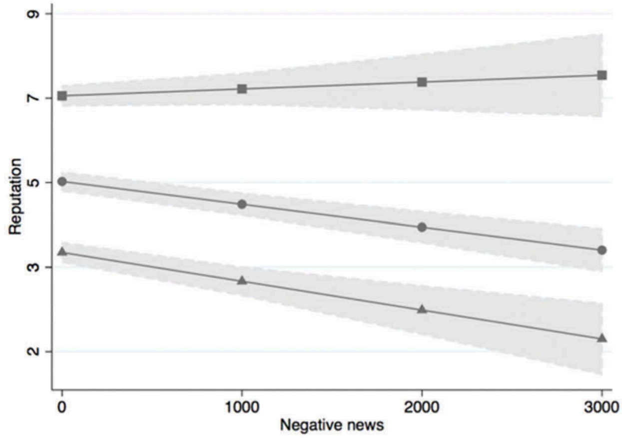


FIGURE 1 The interaction effect between negative news and previous reputation on reputation. *Note*. Predictive margins with lines in plot demonstrating the interaction effect of negative news and preexisting reputation on reputation. Lines are distinet values of preexisting on a scale of 0 to 10. The line with the triangle markers represents a value of 2; circle markers 5; square markers 8.

$p < .001$). This finding is in line with $H_3$, which predicts a buffering effect of positive prior attitudes. Our results demonstrate that a positive prior reputation lessens (and even dampens) the negative effect of negative news. Prior reputation is thus a buffer for corporate reputation. Our results imply that the effect of negative news is impaired given more positive prior attitudes. Figure 1 shows the interaction effect graphically: It demonstrates that negative news, generally, results in a more negative reputation, except for the people who already held a positive attitude toward the specific corporation.

## DISCUSSION

This study has examined the influence of media visibility and tone of news coverage on corporate reputation and how these effects are moderated by prior reputation. Although previous work found some evidence for a negative relationship between visibility and reputation (e.g., Fombrun & Shanley, 1990) as well as for a positive relationship between tone and reputation (e.g., Zhang, 2016a, 2016b), to date, efforts to examine the direction of causality at the level of the individual citizen had been limited. Employing a combination of content analysis and panel survey data, we convincingly demonstrate the effects of visibility and tone on opinions about corporations.

The results of the study suggest that corporate visibility in the news can have a negative effect on reputation, whereas tone can have a positive effect. Specifying this effect of valence into more detail, we show that the effect of negative news is significantly stronger than that of positive news. Moreover, analysis at the individual level enabled an assessment of whether certain people are more susceptible to these influences than others are. We find support for the theoretical argument: A positive prior reputation may indeed function as a "buffer" against future negative news coverage (Coombs & Holladay, 2006; Sohn & Lariscy, 2015).

The significant main effects of visibility and tone are important to current theory development with regard to agenda-setting research, because these findings point to a blurring of the boundary between first- and second-level agenda setting (Sheafer, 2006; Zhang, 2016a, 2016b, 2017). Whereas first-level agenda setting assumes that the visibility of corporate actors in the news media leads to greater public *awareness* of those corporations, second-level agenda setting relates to the notion that the salience of object attributes in company news (such as tone) leads to the *salience of those attributes* in the public agenda, and thus can influence attitudes in particular directions (McCombs, 2005). The results of this study, however, provide support for the idea that mere visibility of a corporate actor (a traditional first-level variable) may also assert a direct effect on attitudes toward that object (a traditional second-level measurement). We see our approach and the results of this study as an indication of the need to reexamine the overlapping and differential effects of news attention, on the one hand, and of specific news characteristics, on the other hand.

With regard to the reputational buffer hypothesis (e.g., Sohn & Lariscy, 2015), we provide compelling evidence that the negative effects of news coverage on reputation are less powerful for corporations with better prior reputations. In other words, people who hold more positive attitudes toward a company are less susceptible to the media effects of (negative) future coverage of the company. In addition, corporations with good reputations are arguably more likely to attract positive coverage, whereas firms with bad reputations tend to receive more negative coverage (Deephouse, 2000). This finding may point to a sort of "reputational spiral effect" through which firms with good reputations benefit from coverage, whereas coverage is mainly disadvantageous for companies of poor repute.

We must carefully reflect on the strong correlation in our data between visibility and tone, though. In this article, we argue that employing a visibility-based measure of tone has certain advantages. We thereby followed research that has shown that a combined measure of visibility and tone indeed better predicts reputation (Zhang, 2016a, 2016b). Assessing the tone of news objects relative to their visibility in the news makes sense in an examination of media effects. Arguably, the effect of affective information depends on the amount of information to which individuals are exposed (i.e., if you do not consume news, you are not exposed to valenced information at all). However, our data indicate that the tone of company news is structurally skewed toward the negative, and that this is relatively stable across outlets and companies—a finding that is in line with research on economic news coverage (e.g., Soroka, 2006) and political news coverage (e.g., Meeusen & Jacobs, 2017). This finding provides a powerful explanation of why visibility and tone are so strongly correlated: Exposure to more company news in most cases means exposure to more negative company news. Against this background, would suggest testing and comparing alternative conceptions of tone in future research, in order to further deepen our knowledge about how and to what extent news valence may affect corporate reputation (see also Zhang, 2016a, 2016b, 2017). The effect sizes we find are small. However, as Scharkow and Bachl (2016) argue, "even in state-of-the-art media effects studies that combine measures of media messages and media use (i.e., linkage analyses), measurement error in both the media content analysis and the media use self-reports will typically lead to severely downward-biased effect estimates" (p. 1).

We see several other opportunities for future research. First, this study has focused on one country only (i.e., the Netherlands). Future studies could compare media effects across countries. Second, we included twelve corporate actors in our study. It would be helpful for future studies to incorporate more companies and advance cross-organizational comparisons. Furthermore, including a variety of organizational types, such as NGOs and governmental organizations, would allow for cross-organizational comparisons and test whether organizational characteristics moderate media effects. Another venue for further research would be focusing on alternative dimensions of the outcome variable. We have now considered attitudinal outcomes, and it would be interesting to also take cognitive and behavioral variables into account (see, e.g., Scheufele, 1999). Regarding the first, it is important to know which information exactly (e.g., the tone toward which topics) has an effect on people's reputational attitudes: Is it mainly news about the quality of their products, financial performance, treatment of employees, sustainability, or something else? It is conceivable that not all topics carry an equal weight in terms of media effects. Besides, it is important to know whether the attitudinal effects are reflected in corresponding behavior of consumers: Are those who were exposed to more negative news about a company also less likely to buy their products/services? A final suggestion would be to further scrutinize the psychological processes involved in the buffer effect that we revealed. Whereas motivated reasoning regarding political messages is mostly explained by people's psychological need for cognitive consistency (Kunda, 1990), such cognitive dissonance seems less likely to occur in the context of profit organizations than nonprofit organizations. It remains to be explored what is exactly going on in the minds of people when they are exposed to negative news about a company that they initially liked—do people experience a similar kind of cognitive dissonance as when their preferred political party is being criticized?

In all, we believe that this study offers valuable insights for media-effect research in general and for the subfields of public relations research and corporate communication in particular. Future work should continue to merge advanced empirical approaches that frequently have been applied in other subfields of communication science with literature on organizations and news-mediated corporate communication to improve our understanding of this topic, which is important for (future) practitioners in our field.

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