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Ownership Ties, Conflict of Interest, and the Tone of News

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Abstract

This paper investigates the tone newspapers use in reporting information on a company that is linked with through an ownership tie. Our empirical setting is Italy, a country characterized by dominant national industrial groups' high ownership of newspapers. Based on a sample of about 123,000 articles, we document that newspapers' coverage of firms in conflict of interest is greater, with significantly fewer negative and uncertain words. We also document that the slant increases with ownership stakes and decreases with the newspaper's reputation.

Keywords: Media; ownership structure; conflict of interest

JEL Classification: G32; L26

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1. Introduction

The media undisputedly influence readers' perceptions and have an impact on the social, political, and economic environment. For instance, the economic literature has shown how the media can influence election outcomes (DellaVigna & Kaplan, 2007) and how this relation drives in the opposite direction, as the media shift ideological exposure in favor of the dominant party (Durante & Knight, 2012). The financial literature has documented similar important effects on financial markets, such as the role of the media on market reactions to corporate announcements (Dyck & Zingales, 2003; Tetlock, 2007) or to trading behaviors (Engelberg & Parsons, 2014; Fang et al., 2014). Interestingly, these effects are present not only when the media report new and genuine information, but also when stale news is disclosed (Huberman & Regev, 2001; Fang & Peress, 2009; Tetlock, 2011). Some studies have also shown that the media deliberately slant news to provide economic benefits to related parties. For instance, Reuter and Zitzewitz (2006) and Gurun and Butler (2012) show that past or current advertisers are treated differently (and more favorably) by the newspapers from which they have bought advertising. Firms also actively consider the possible bias of major media outlets. According to Baloria and Heese (2018), companies diminish their disclosure of bad news when they fear being portrayed in a negative light by the media.

Along this line, we argue that the media can treat firms that are connected to the newspaper or its publishing firm through direct or indirect ownership ties in a more favorable and lenient fashion. For example, on May 18, 2010, Fiat, Italy's main automotive manufacturer, announced to the market a dramatic drop in monthly sales (-26.6%) and market share (from 9.9% to 7.6%), which caused its stock price to fall by 3%. This news was reported differently by two of the main Italian newspapers: *La Repubblica* ran the headline "Automotive sales drop in Europe. Subsidies ended: in April -7%, Fiat -27%," whereas *La Stampa*, a newspaper controlled by Fiat, reported "Fiat's sales surge in UK and Spain, where the effect of subsidies is still significant" and, then, in the subheading, "With no

government subsidy the car market slows down in April by 6.9%, Germany is the worst, dragging along the Fiat Group.”

We argue that this example cannot be considered an isolated incident, and that newspapers commonly shape the news they report to make information on related parties appear more positive (or less negative) than it actually is. This news slant is economically motivated: the increased visibility and/or laudatory articles on connected firms can attract investor and customer attention and result in higher stock market quotes or more sales. We believe that this type of media slant could be the outcome of two distinct but convergent processes: (a) the media owner could be seeking favorable media treatment to create positive conditions for connected firms and (b) journalists could be trying to attract the owner’s sympathy to advance their careers, or they could simply be too fearful or in awe to tarnish the reputation of the owner’s connected firms. Although we are unable to disentangle these two rationales, we document that newspapers voluntarily misrepresent information to investors, thus creating a severe informational flaw in the market and a motivation for regulatory intervention.

Using the methodology developed by Loughran and McDonald (2011), we measure the *tone* of approximately 123,000 articles published in a five-year time span by the top-five Italian newspapers. We believe that Italy presents a unique empirical setting in which to test conflict of interest within the newspaper industry, since it is characterized by industrial families and business groups controlling the major newspapers. By examining the ownership structure of the publishing firms of the top newspapers in the five-year period from 2007 to 2011, we identify a sample of 37 listed firms (13.1% of all Italian listed firms) with a conflict of interest due to direct or indirect ownership ties with the newspaper or its publishing firm. After controlling for year, firm, and newspaper fixed effects, we find that articles covering firms with a conflict of interest have a significantly lower propensity to use negative and legal tones when reporting information on connected companies.

We also observe some heterogeneity among newspapers. We explain this variation by arguing that the propensity to slant news is an increasing (decreasing) function of the intensity of ownership ties (reputation costs). In other words, we postulate that the degree of newspaper bias is the result of a trade-

off between the benefits of reporting favorably about a connected firm and the loss of reputational capital. Accordingly, we provide evidence that the bias (i.e., reporting less negatively about firms in conflict of interest) (a) increases with ownership stakes (or when the reported firm controls the newspaper) but (b) decreases with the newspaper's reputation. Finally, firms in conflict of interest are found to receive significantly greater coverage from connected newspapers than by the country's other top newspapers.

This paper aims to contribute to the emerging literature on the role of the media in finance. Although studies have shown the impact of media reporting on asset prices or investor attention, only a few have shown how conflict of interest can drive the media to report with a bias on listed companies. Given the importance of the press in directing readers' attention toward specific news items and shaping investor beliefs, this paper provides serious policy implications regarding corporate ownership of the media.

The remainder of the paper is organized as follows. Section 2 reviews the literature. Section 3 describes the data, methodology, and research design. Section 4 presents descriptive statistics and the empirical analyses. Section 5 concludes the paper.

2. Literature review

The relation between media information production and corporate finance has gained interest over the last decade. Several studies have documented that the way newspapers present information has important effects on financial markets. Among others, Dyck and Zingales (2003) investigate the role of media disclosure on stock market reactions to earnings announcements. They document that price reactions are more pronounced when the press covers (and emphasizes) the announcements, and this effect is stronger for firms with greater information asymmetry problems (i.e., smaller firms with lower analyst coverage) and for more reputable newspapers.¹ Later studies have added further evidence of

¹ Similarly, Doukas et al. (2014) find that announcements of new products covered by financial newspapers earn significant abnormal returns.

the media's effect on financial markets: pessimism in the media pressures stock prices downward, followed by a reversion to fundamentals (Tetlock, 2007); local media coverage strongly predicts local trading (Engelberg & Parsons, 2014); the media reduce insiders' future trading profits by disseminating news on prior insider trades reported by regulatory releases (Dai et al., 2015); the media influence retail investors' behavior during initial public offerings (Bajo & Raimondo, 2017); and the media increase stock return momentum (Hillert, 2014) or influence both a fund's propensity to buy stocks of the most covered firms (Fang et al., 2014) and mutual fund inflows (Solomon et al., 2014). One could argue that the association between media coverage and its impact on the financial market suffers from an endogeneity problem, since it is difficult to accept that what is reported in newspapers is exogenous. Peress (2014) solves the problem of endogenous matching between reported news and stock market behavior by showing sizable reductions in trading volume and intraday volatility on the days of national newspaper strikes.

Interestingly, stock markets react to news even if they do not supply genuinely new information. For instance, Huberman and Regev (2001) show how an article in *The New York Times* on a potential breakthrough in cancer-curing drugs caused a sharp price increase in the related stock (from \$12 to \$85), even though the substance of the story had already been reported in several other newspapers five months earlier. This phenomenon is not limited to anecdotal evidence, since other studies document that stock returns respond to stale news (Fang & Peress, 2009; Tetlock, 2011).

Studies highlight two main channels through which the media have an impact on an individual's financial decisions and, in turn, on stock markets. First, the media alleviate information frictions and asymmetry by disseminating information among market participants (Dai et al., 2015). Second, by selecting a cognitively tractable subset of news from the vast amount of information available, the media can enhance and channel investor attention toward companies covered in the press (Peng & Xiong, 2006). A similar result is shown by Kaniel and Parham (2018), who find a significant effect for stocks included in a particular section of *The Wall Street Journal*, specifically in terms of mutual fund investment strategies involving the stock in question.

Given their impact on financial dimensions, the media have a material and critical corporate governance responsibility, but they also play a potentially harmful role in the case of misconduct. Past research has outlined both of these characterizations, documenting how the media can act as *watchdogs* against illicit or unethical corporate behavior but can similarly slant information when there is a conflict of interest. Among these studies, Miller (2006) suggests the press plays a monitoring role in accounting fraud, although it generally simply rebroadcasts information from other sources (analysts, auditors, and lawsuits) and reports on corporate events with low identification and investigation costs. Dyck et al. (2008) find that coverage by the Anglo-American press positively affects the probability that a Russian firm will correct its misbehaviors. Joe et al. (2009) show how media reports on board ineffectiveness pressure companies to take corrective action. Kuhnen and Niessen (2012) report evidence of firms reducing option grants following negative press coverage of chief executive officer pay. Finally, Liu and McConnell (2013) show that the likelihood of abandoning value-reducing acquisitions is associated with the degree and tone of the media's coverage of the proposed transaction.

Within the second set of studies, few have addressed the possibility of slanted information. Gurun and Butler (2012) document that local newspapers employ fewer negative words when reporting information on local companies (as opposed to non-local firms), this effect being mainly driven by local firms' advertising expenditures. Reuter and Zitzewitz (2006) find that personal finance publications bias their mutual fund recommendations by favoring past advertisers. Ahern and Sosyura (2014) show that, after the beginning of a merger negotiation (but before the public announcement), bidders mostly generate more news stories to favor a run-up in bidders' stock prices and obtain a more favorable stock exchange ratio, providing grounds for the conjecture that firms seek to influence the timing and content of media coverage to manipulate their stock prices. DellaVigna and Hermle (2014) analyze the effects of conflict of interest generated by media ownership in the movie industry. They test for differences in movie reviews by media outlets owned by News Corp. (*The Wall Street Journal*) and Time Warner (*Time*). However, they document no bias in the reviews for 20th Century Fox movies in the newspapers owned by News Corp., or for the reviews of Warner Bros. movies in the newspapers controlled by Time

Warner. The authors conclude that these findings support the thesis that media reputation acts as a counterforce to conflicts of interest. Some papers document that government ownership of the media negatively affects the level of political and economic freedom (Dyck et al., 2008), or is associated with higher levels of bank corruption (Houston et al., 2011). However, to the best of our knowledge, the possibility of slanted information arising from conflict of interest due to ownership ties has not yet been investigated.

3. Data, methodology, and descriptive statistics

3.1 Research design

To test our research hypothesis, we contrast the coverage and tone of newspaper reports about firms in a conflict of interest with those of unrelated companies, the control sample. The control sample consists of news on all other Italian firms listed at the end of 2011 on the Milan Stock Exchange (260 firms).

We search for articles in five selected newspapers related to firms in the conflict of interest sample or the control sample in the sample period (2007–2011).² We examine information at the newspaper–firm–year level such that all the articles on a specific firm published in a given newspaper in a certain year are grouped together, and we compute the coverage and sentiment metrics across them. Our final sample comprises 123,624 articles, 15,887 (12.85%) of which refer to 37 firms in conflict of interest.

We denote firms in conflict of interest with a dummy variable equal to 1. Clearly, the tone and coverage of a newspaper are driven not just by ownership links but also by a multitude of factors, such as advertising expenditures, firm size, the industry, and glamour, to cite the most important. Furthermore, each newspaper can have a different propensity to be friendly or hostile to a specific corporation, due to previous business litigation, for example.

² We search among the following Factiva subjects: corporate/industrial news, economic news, and commodities/financial market news.

To analyze how article tone is affected by conflict of interest arising from ownership ties conditional on other potential firm- or newspaper-specific determinants, our models adopt both firm and newspaper fixed effects. The broad dimensions and variability in our data allow us to consider the part of the variance that is not determined by single year, firm, or newspaper effects, represented by a dummy capturing conflict of interest for ownership ties between the firm and the newspaper, as in the following model:

$$T_{i,n,f,t} = \beta_0 + \beta_1 n_i + \beta_2 t_i + \beta_3 f_i + \beta_4 d_i + \varepsilon_i$$

where $T_{i,n,f,t}$ is the tone of article i published in newspaper n in year t about firm f ; β_1 is the effect of each single newspaper, β_2 is the effect of each single year, β_3 is the effect of each single firm, and β_4 is the effect of the *firm–newspaper* relationship, that is, the degree to which the firm is in conflict of interest with the newspaper (dummy variable $d = 1$).

3.2 Selected newspapers

The analysis is based on the top-five Italian non-sport daily newspapers by circulation at the end of 2011 that are also indexed on Factiva: *Corriere della Sera*, *La Repubblica*, *La Stampa*, *Il Giornale*, and *Il Resto del Carlino*.^{3,4} We believe that these five outlets accurately represent the distribution of Italian newspapers in terms of geographical coverage, national versus local audience, and political orientation.

Table 1 shows different attributes of these five media outlets. In terms of circulation, the five newspapers combined represent 31.8% of the total number of daily newspapers sold in Italy, and, therefore, a significant portion of the national press. The data also indicate that the *Corriere della Sera* and *La Repubblica* are more widely circulated than the remaining newspapers. The table also classifies the newspapers by reputation. Measuring the reputation of a media outlet is a complex task, and,

³ The circulation data are from *Accertamento e Diffusione Stampa*, the organization that measures media diffusion in Italy.

⁴ We exclude *Il Sole 24 Ore* from the top five Italian newspapers because it is owned by the association of Italian businesses (*Confindustria*), and we exclude *Il Messaggero* because it is not covered by Factiva.

unfortunately, we cannot rely on an established and widely accepted newspaper reputation ranking. However, we categorize these newspapers into three main clusters of reputation: very high, high, and low. This evaluation is based on three main factors: political orientation, international prestige, and common perception.

Table 1 also reports the level (strong vs. moderate) and orientation (right, center, or left) of the newspapers' politics. With the exception of *Il Giornale*, which shows a strong right-wing slant, the other newspapers have a moderate political orientation, and the *Corriere della Sera* and *La Stampa* are probably perceived as the two most politically neutral newspapers. We argue that the readers do not consider *Il Giornale* to be as reliable and unbiased as the other sources. However, political orientation alone cannot fully explain media reputation. We argue that international recognition also provides an important indication of how reputable a newspaper is perceived to be. We proxy for international recognition the number of citations of each Italian newspaper in the top US and UK newspapers during our sample period.⁵ Table 1 shows that, although the number of citations is positively correlated with the number of copies sold, the five outlets display quite different levels of international visibility. In particular, *Il Resto del Carlino* shows virtually no citations during the five years of analysis, confirming the low prestige suggested by public perception. This evidence is not surprising, giving the outlet's local audience and mission.⁶ Combining information on political orientation and international recognition, we produce a reputation judgment that, unsurprisingly, corresponds to public perception: the largest three newspapers—*Corriere della Sera*, *La Repubblica*, and *La Stampa*—are generally considered to be among the most objective and unbiased sources (the *Corriere della Sera* being slightly more reputable than the other two outlets), compared to *Il Giornale* and *Il Resto del Carlino*, which have less reputational capital.

⁵ To construct this measure, we determine the number of times the title of each newspaper appears in UK and US newspapers. We select the major UK and US newspapers based on Factiva's selection, including only those categorized as "major UK newspapers" and "major US newspapers," respectively.

⁶ *Il Resto del Carlino* concentrates its sales mostly in three (out of 20) regions in the central northern part of Italy.

Insert Table 1 about here

3.3 Firms in a conflict of interest

We define a firm as having a conflict of interest if it satisfies one of the following ownership conditions:

a) the firm is the newspaper's publishing firm, b) the firm is the controlling, intermediate, or ultimate controlling shareholder (moving upward in a pyramidal chain) of the publishing firm; c) the firm belongs to the control group of the ultimate controlling shareholder of the publishing firm, d) the firm is a blockholder of the publishing firm, with a stake of 5% or more total voting rights,⁷ or e) the firm has at least 2% of the total voting rights in the publishing firm and its stake belongs to a shareholder agreement that controls the company.⁸

Control of a company is defined as when the largest shareholder holds at least 20% of the voting rights (e.g., Faccio & Lang, 2002) or whenever the control of the company is shared with other shareholders through a shareholder agreement.⁹ Ownership data for listed publishing firms were collected from the Italian regulator's database (Consob, data retrieved on www.consob.it), and the ownership data for private firms (when in a pyramidal chain) were obtained from Orbis.

Table 2 reports the ownership structure of the top-five Italian newspapers analyzed, together with the number of listed firms and articles involving a conflict of interest. For each newspaper, the table indicates the publishing firm at the end of our sample period (2011) and the type of ownership structure. In our sample, only the largest newspaper, the *Corriere della Sera*, is controlled by a shareholder agreement accounting for 63.54% of the voting shares. The newspaper's major shareholder (with 14.94% of the votes) is Mediobanca, a leading Italian investment bank. On the other hand, the other

⁷ If the 5% ownership level is exceeded in only one quarter, the average ownership level during the four quarters must exceed 4%.

⁸ This situation refers to the *Corriere della Sera*, the first Italian newspaper in terms of circulation, controlled by a shareholder agreement grouping modest but stable stakes over our study period. The 2% level is the minimum for mandatory disclosure to the Italian regulator.

⁹ This is again the case of the *Corriere della Sera*, which is controlled through a shareholder agreement among several blockholders during the study period. In 2011, the shareholder agreement controlled 63.54% of the voting shares, with single contributions from 13 blockholders ranging from 1.045% to 13.699%.

four most widely circulated newspapers are ultimately controlled by a family firm. A total of 37 firms are defined as being in a conflict of interest with the publishing firm, and therefore with the newspaper, over the sample period, 21 of which relate to the *Corriere della Sera*. This result is not surprising, due to the large number of firms that exert control over the publishing company as a result of the shareholder agreement, whose broad composition has changed over time. It is worth noting that the ownership structure of publishing firms shows little variation in terms of major stakeholders. The yearly average number of shareholders in a conflict of interest (33.40) is similar to the overall number over the whole period (37), indicating that only a few controlling shareholders have changed over the five-year period. This is particularly true for *La Repubblica* and *Il Giornale*, with the same five and three shareholders, respectively, in conflict of interest for all five years of the study.

For each newspaper, Table 2 also reports the number of articles on firms in conflict of interest, the total number of articles, and the percentage of those in conflict of interest. Given the high number of firms connected to the *Corriere della Sera*, the fraction of this newspaper's total articles in conflict of interest is the highest, at 36.15%, compared with an average of 12.85% for the whole sample. It should be noted that the total number of articles in conflict of interest related to the *Corriere della Sera* (i.e., 8,723) accounts for more than half of all Italian observations involving a conflict of interest (i.e., 15,887, or 12.85% of the total sample of all 123,396 articles).

Insert Table 2 about here

3.4 Textual analysis and article tone

Since the 2011 paper by Loughran and McDonald, textual analysis in the financial context has dramatically changed and continued to improve, with work by Dougal et al. (2012), Garcia (2013), and Loughran and McDonald (2013). These papers, based on US newspaper articles, use the specific set of English word lists developed by Loughran and McDonald (2011). Unfortunately, a similar set of word lists has not yet been developed for the Italian language. Therefore, to measure the tone of Italian newspaper articles, we extended the set of words of Loughran and McDonald to Italian. The translation process is based on the following rules: a) provide the best possible translation with respect to the

financial and business industry usage of each single word, and b) avoid translated Italian words with an ambiguous meaning in the Italian language. Furthermore, we replicate the logic used in the Loughran–McDonald lists, providing a list of terms, rather than a list of lemmas. To determine this property, we expand the word lists and consider all inflected forms, using a linguistic tool called *Morph-it* (Zanchetta & Baroni, 2005) that maps all the Italian terms and their inflections.¹⁰

In terms of positive and negative tone, we also take into account possible negations of positive and negative words. Since the meaning of a negated positive (or negative) term, such as *not excellent*, differs from the original (*excellent*) but the new meaning is difficult to properly understand, we do not count either word's occurrence as having a positive or negative tone. The tone count is then scaled by the total number of words in the text in each article, yielding six tones to represent the proportions of tonal words in the article. In this paper, we compute the following six tones, each representing the percentage of words with a given characterization: positive (e.g., *accomplish*, *diligent*, and *profitable*), negative (e.g., *aberrant*, *bribe*, and *illegal*), uncertain (e.g., *ambiguous*, *possible*, and *sometimes*), legal (e.g., *arbitrate*, *convicted*, and *overruled*), weakly modal (e.g., *almost*, *could*, and *sometimes*), and strongly modal (e.g., *always*, *definitely*, and *unequivocally*).

Insert Table 3 about here

Table 3 reports descriptive statistics on article length and tone, that is, the percentage of words belonging to the six sentiment word lists developed by Loughran and McDonald (2011). Article length is measured in terms of the number of words. The average (median) article contains 340 (262) words and is longer when referring to firms in a conflict of interest than when reporting unrelated companies. The difference between these two sets of articles (55 words), which is strongly statistically significant,

¹⁰ The different characteristics of the Italian language generate numbers of word lists that are multiples of the English word lists of Loughran and McDonald (2011) because of the greater number of inflections (e.g., male/female) and verb conjugations. The numbers of Italian (English) words for the various tones are therefore as follows: positive, 3,920 (354); negative, 22,817 (2,329); uncertain, 2,997 (297); legal, 6,016 (886); weakly modal, 413 (26); and strongly modal, 201 (19).

provides support for the hypothesis that newspapers allocate more space and report in greater detail information related to connected companies.

The remaining statistics relate to the way in which newspapers report their articles. Despite the difference across the six tones not being very informative (the percentages of the different tones range between 0.41% and 2.24%), since they depend on the number of words included in each tone list, a comparison of the levels of tones between firms in conflict of interest and other firms produces interesting findings. Although all these differences are statistically significant, their magnitude differs greatly across tones. Specifically, while positive and uncertain tones show modest differences, articles about firms in conflict of interest are, on average, less negative (2.05% vs. 2.26%) than the control sample and use fewer legal terms (1.11% vs. 1.27%). Both these findings support the idea proposed in this paper, that newspapers are more inclined to publish more favorable articles when they report information about companies to which they are connected.

Panels B and C of Table 3 report information on coverage at the newspaper level (as opposed to the article level, as in panel A) and on the ownership of the publishing firms, respectively. Panel B shows that each newspaper reports an average (median) of 112 (17) articles per firm, but with a sharp contrast between companies in conflict of interest and other firms: on average, the coverage of connected companies is more than five times that of the control companies. This astonishing difference is hardly fully explained by firm-specific characteristics, such as company size, which is obviously highly correlated with media coverage, and it suggests that newspapers cover companies with which they have ownership ties more. Panel B also reports the average and median numbers of articles within the sample of firms with a conflict of interest.

Finally, panel C displays ownership information. The variable *Conflict dummy* indicates that 13% of the articles are in conflict of interest, as shown in Table 2. The variable *Ownership share* shows that the unconditional (on the presence of conflict of interest) mean of ownership ties is 5% and the median is zero. The median value is the obvious result of a set of news articles that is more balanced toward the control sample than toward firms with a conflict of interest. Since articles in a conflict of interest

account for only 13% of the total sample, the conditional average ownership tie is significantly greater than 5%.¹¹ If 13% of the news is treated as being in conflict of interest, those articles that show stronger ownership ties due to a relationship of control (as opposed to mere ownership stakes) comprise 5% of the total sample (*Control dummy*).

4. Empirical results

4.1. Conflict of interest and article tone

The tone of a news item can be influenced by many factors. First, periods of economic downturn are likely to decrease (increase) the use of positive (negative) words in the press, simply because of poorer firm performance. As the frequency of words such as *losses (profits)*, *achieved (abandoned)*, and *success (failure)* increases (decreases), the newspaper's negative (positive) tone increases (decreases), by construction. Similarly, during recessions, the degree of litigation increases and so does the legal tone of the media. Second, firm characteristics play a role in shaping article tone. Certain industries (e.g., high-growth or glamour industries) can be treated more enthusiastically by the media, and, in turn, exhibit more positive or less negative tones. Similarly, larger firms can more easily have a connection to the publishing firm (outside of an ownership relationship), such as past or current advertising expenditures, which can affect the way newspapers report information about them. Third, each newspaper has its own editorial policy and audience that justify different uses of the language. The result is that the use of positive, negative, uncertain, and legal words in each media outlet is uneven.

Table 4 reports the results of Tobit regressions where article tone (*positive, negative, uncertain, legal, weak modal, and strong modal*) is regressed against a dummy variable equal to 1 when the article reports on a firm in a conflict of interest, including newspaper, year, and firm fixed effects.¹² While the

¹¹ The average ownership share for firms in a conflict of interest is 36.99%.

¹² The choice to use a Tobit model is determined by the nature of our main dependent variable, that is, the textual tone. Tone is constructed as the total number of tonal words over the total number of words, and, therefore, this metric is always in the range from zero to one. When we ran all our models using pooled ordinary least squares estimations, we obtained the same results.

fixed effects are meant to capture the factors mentioned above, the dummy tests our main research hypothesis.¹³ The results indicate that the tone of articles on firms in a conflict of interest is significantly less negative and litigious (legal). Although the dummy is strongly significant in terms of both these attributes, the economic effect of the negative tone is approximately five times that of the legal tone.¹⁴ In particular, articles on firms in a conflict of interest display 0.28% fewer negative words than for those in the control sample. While the percentage itself sounds modest with respect to the unconditional average number of negative words (2.24%), the presence of conflict of interest for the firm decreases the negative tone of the article by 12%.

Insert Table 4 about here

This evidence confirms what has already been presented in the univariate analysis, and shows the use of biased tone when journalists comment on a firm with ownership ties to the newspaper. We believe that not all newspapers are subject to the same intensity of conflict of interest. We argue that the propensity to favorably bias information is the result of a trade-off between the economic benefits of distorting information in favor of connected firms and potential reputational damage. The former effect could be a function of several characteristics: the higher the ownership stakes or voting rights, the stronger the competitive environment in which the company operates, or, simply, the greater the pressure exercised by the controlling shareholder over the newsroom, the more likely the information reported will be biased. On the other hand, the newspaper's reputation can be a more valuable asset for some newspapers, which will therefore try to limit slanted information (DellaVigna & Hermle, 2014).

¹³ It could be argued that a sole fixed effect cannot capture the effect of time-varying firm characteristics on newspaper tone. To respond to this legitimate concern, we conduct two robustness checks. First, in our regressions, we add firm-specific variables to the firm (along with newspaper and time) fixed effects, namely, size (as measured by the logarithm of total assets, total sales, and the market cap), profitability (as measured by the return on assets), and cash generation (as measured by a dividend payment dummy). Second, we include *firm* × *time* fixed effects. However, in both these approaches, (untabulated) results show that the significance of the conflict dummy is unaltered.

¹⁴ The regression coefficient of the conflict dummy for negative tone is almost 10 times the same coefficient when we use legal tone as a dependent variable. However, the average percentage of negative words (2.24%) is roughly twice that of legal words (1.25%), meaning that the economic impact of the former is approximately five times greater than the economic impact of the latter.

In the next two tables, we aim to assess the importance of these effects, first relating article tone to the importance of ownership ties, and then relating bias to the specific contribution of each newspaper, given the expectation that more reputable newspapers slant the news they report to a lesser extent. Table 5 shows the relation between article tone and (a) the ownership stake of a company in a conflict of interest or (b) a dummy variable that takes the value of one when the company in conflict controls the newspaper (defined as an ownership stake greater than 20%).¹⁵ Precisely, the first two models in Table 5 add, relative to the baseline regression (Table 4), the ownership stake of the company in conflict. Noticeably, if the company the newspaper article is referring to does not show any ownership ties with the publishing firm, the variable takes on the value of zero. This result indicates that *Ownership share* is interpretable as an interaction variable between *Conflict Dummy* and ownership stake, and therefore represents the marginal explanatory power of the ownership stake over that already captured by the conflict of interest dummy. Furthermore, unlike *Conflict Dummy*, which averages the effect of the conflict of interest across different sizes of ownership stake, *Ownership Share* linearly models this effect with respect to incentive to bias the news (as proxied by the ownership stake).

As for negative tone, the effect of ownership size is both highly statistically significant and economically important: a one standard deviation increase in the stake of a company in conflict of interest (19.35%) decreases the percentage of negative words by 0.62% relative to the cross-sample average of 2.24% (2.05% for companies in conflict of interest). On the other hand, we document no effect on the marginal explanatory power of the variable *Ownership Share* for the level of legal words, which, however, is significantly lower when the articles report on firms in conflict of interest.

The next two models in Table 5 use a different proxy (*Control Dummy*) for newspapers' economic incentive to distort the reported information in favor of related parties, that is, when the company the article refers to controls the publishing firm (i.e., has an ownership stake greater than

¹⁵ For the sake of space, from Table 4 onward, we report only the results of the regressions on negative and legal tone, since these have been shown to be the most significant characterizations in newspaper articles (Table 4).

20%). The results are in line with those of previous models. Although no interaction effect (with the conflict of interest dummy) is detected for legal tone, *Control Dummy* is negatively associated with the percentage of negative words. The economic interpretation of this result is that, when a newspaper reports about the controlling firm, the percentage of negative words drops from 2.24% (unconditional average) to 1.82%, as opposed to 2.07% for firms in conflict of interest but without direct control. Among companies in a conflict of interest, the 0.42% wedge between controlling and noncontrolling firms reinforces what was shown earlier regarding the association between a more favorable article tone and ownership ties to the newspaper. Furthermore, this finding supports the hypothesis that the magnitude of the slant is correlated to the economic benefits in place, which in turn depend on the importance of ownership tie.

Insert Table 5 about here

However, the economic incentive is only one side of the story. Earlier, we postulated the existence of a trade-off between the incentive and the reputational cost of slanting the news items. We persuasively proxy for the former with the extent of ownership or the status of the controlling firm, but we also need to control for the latter and design an econometric model to account for reputational damage.

Reputational costs are not the same across different outlets, since each newspaper possesses a different degree of reputational capital. Generally, newspapers that are more widely circulated and politically impartial count on an audience that expects the fair and neutral treatment of information. If these newspapers deliberately and heavily swing toward specific economic or politic interests, their audience will likely switch to other, more reliable sources of information. On the other hand, the readers of newspapers with a political allegiance usually expect (and largely require) a different and partisan way of reporting news items. Similarly, the readers of tabloids generally seek sensationalistic news and appreciate a more exaggerated tone. We therefore expect that the three largest and most reputable newspapers—*Corriere della Sera*, *La Repubblica*, and *La Stampa*—will face greater reputational risk than the other two outlets (*Il Giornale* and *Il Resto del Carlino*).

Insert Table 6 about here

To test if the magnitude of the conflict of interest varies across newspapers, we regress the articles' negative and legal tones on a newspaper–conflict dummy interaction variable, controlling for year and firm fixed effects (see Table 6). We do not include the conflict dummy, to avoid perfect multicollinearity. Although the results for legal tone are more mixed and not fully supportive of the trade-off hypothesis, the findings on negative tone confirm that the intensity of tone distortion when a company in conflict of interest is reported on varies across newspapers (in untabulated analysis, the differences across all the coefficients are always statistically significant at the 1% level). Among the outlets considered, the politically slanted *Il Giornale* exhibits the greatest indulgence toward firms in conflict of interest. Its articles show a significantly less negative tone (0.74% fewer negative words) when covering firms in conflict of interest. The coefficient of the interaction term is indeed four times greater than that of the more reputable *La Repubblica*. On the contrary, although statistically significant, the differences between the coefficients of the three largest and most reputable newspapers appear modest. When reporting about connected firms, these newspapers use 0.10–0.26% fewer negative words than for other (unconnected) companies. Surprisingly, the less reputable *Il Resto del Carlino* shows no effect in terms of the use of negative words for related companies.

Consistent with the previous approach, we also interact the newspaper dummy with the ownership share of companies in conflict of interest. Unlike the previous specification, in which we interact the newspaper dummy with the ownership stake, we also find an effect for *Il Resto del Carlino*: a one standard deviation increase in its related party ownership share (15.02%, untabulated results) is associated with 0.16% fewer negative terms in the news articles on firms with a conflict of interest. Although all five coefficients are negative and highly statistically significant, *Il Giornale* still presents the strongest effect. A one standard deviation in ownership share is associated with the use of 0.20%

fewer negative words (compared to 0.14% less, 0.05% less, and 0.09% less for the *Corriere della Sera*, *La Repubblica*, and *La Stampa*, respectively).¹⁶

4.2. Firms in conflict of interest and their coverage

As a final research question, we investigate whether the same type of conflict of interest also impacts the level of a newspaper's coverage. In other words, we aim to verify whether newspapers produce larger numbers of articles or allocate more room in their printed edition (as measured by the total number of words) when they report on firms to which they are connected through ownership ties.

While previous analyses have been carried out at the article level (as a unit of observation), in this investigation, we group the N articles that each newspaper i has produced on company j for every year t , and we compute the average number of hits and number of words (across the N articles). Since the relation between conflict of interest and coverage is hardly linear, we compute the logarithm of these two metrics and obtain the variables *Number of Articles* ($\log(1 + \text{number of hits})$) and *Total Number of Words* ($\log(1 + \text{number of words})$).¹⁷ Table 7 shows that companies in a conflict of interest receive significantly greater coverage in terms of both the number of articles (model (1)) and space allocated (i.e., number of words) in the printed edition of newspapers (model (2)). The coefficients are also economically important, since newspapers publish, on average, 6.7 more articles for a connected company than for an unrelated firm.¹⁸ Contrasting this figure with the unconditional average (111 articles per firm) or median (17 articles per firm), the evidence strongly supports the idea that conflict of interest affects newspaper coverage. The coefficient of the regression where we take into account the number of words (as a proxy for the space allocated within the pages of the printed version of the

¹⁶ The standard deviation of the ownership share for the five newspapers is as follows: 15.2% for the *Corriere della Sera*, 13.8% for *La Repubblica*, 35% for *La Stampa*, 5.2% for *Il Giornale*, and 15% for *Il Resto del Carlino*.

¹⁷ The different unit of observation obviously affects the observations in the regression analysis.

¹⁸ Since the natural logarithm is taken of the number of articles ($\text{Number of Articles} = \log(1 + \text{number of hits})$), exponentiating the regression coefficient (2.037) and subtracting one, we find the impact of the conflict dummy on the number of news reports.

newspaper) is similarly positive and statistically strongly significant, allowing us to draw conclusions similar to those discussed earlier.

Nevertheless, this argument is subject to a possible caveat. Since (a) the analysis of newspaper coverage is at the firm level and no firm fixed effects can be imposed and (b) newspaper coverage depends on firm characteristics (mainly size and industry), one could argue that, if companies with a conflict of interest possess attributes that make them more likely to be followed by the media, then the correlation with the conflict dummy might only be an indirect and spurious effect. We do not believe this to be the case, since the regression models control for newspaper and industry fixed effects.¹⁹ However, to dissipate this concern, we investigate the media coverage of the sample of connected firms and compare the number of hits (or total number of words) generated by the newspaper reporting on a company in conflict of interest to the number of articles produced by the other newspapers. Intuitively, in the within-sample regression models, the conflict of interest dummy indicates if a firm with a conflict of interest receives more coverage in its connected newspaper than in the other newspapers. We believe that this specification allows us to alleviate any concern about matching firm characteristics. Regression models (3) and (4) strongly confirm previous indications. The variable *Conflict Dummy* is positive and highly statistically significant, suggesting that companies are more widely covered by the newspapers they are connected to than by other, unrelated newspapers.

Insert Table 7 about here

5. Conclusions

The independence of the media is an essential attribute for guaranteeing that the information reported is not biased or slanted in favor of specific interests. This condition is highly necessary, given the profound influence the media can exert upon social, political, and economic life. While reputation can

¹⁹ The sample includes 19 different industries classified by two-digit Standard Industrial Classification codes.

act as a competing force against potential conflicts of interest that could pressure the media into publishing distorted information to favor subjects close to the publishing companies, the extent to which newspapers are effectively free of such concerns is an open and unaddressed question.

In this paper, we look at the potential conflict of interest arising from ownership relationships between the newspaper and the company about which it is reporting. We conjecture that newspapers can report more broadly and more favorably on companies with which they are connected through ownership ties. Measuring article tone with the fraction of words associated with specific sentiments (e.g., Loughran & McDonald, 2011) and the firm's news coverage (with the number of articles and their length), we test our hypothesis using approximately 123,000 articles from the five largest Italian newspapers.

We present evidence that conflict of interest affects the editorial style of newspapers. Newspapers use a more favorable tone (as measured by fewer negative words) and provide greater coverage for companies that are connected to the publishing firm through ownership ties. We also document that the news slant increases with the magnitude of the ownership stake and decreases with the newspaper's reputation.

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Table 1. Descriptive Statistics of the Top-Five Italian Newspapers

This table reports descriptive statistics for the top-five newspapers in Italy as of 2011. We report the political orientation of each newspaper, which varies from moderate/center-left to strong/right. We also report two measures of reputation, the first a quantitative measure (the number of international citations of each newspaper in the top UK and US newspapers), and the second a subjective evaluative measure (from low to very high). Also presented are the average weekday circulation in 2011 (data provided by *Accertamento e Diffusione Stampa*) and the market share (computed as the ratio of the newspaper's circulation to the total newspapers circulation).

| Newspaper | Political Orientation | International Citations | Reputation | Circulation | Market Share |
|-----------------------------|-----------------------|-------------------------|------------|-------------|--------------|
| <i>Corriere della Sera</i> | Moderate/Neutral | 1,051 | Very High | 590,648 | 9.62% |
| <i>La Repubblica</i> | Moderate/Center-left | 1,134 | High | 570,363 | 9.29% |
| <i>La Stampa</i> | Moderate/Neutral | 549 | High | 369,794 | 6.02% |
| <i>Il Giornale</i> | Strong/Right | 395 | Low | 248,251 | 4.04% |
| <i>Il Resto del Carlino</i> | Moderate/Center-right | 9 | Low | 173,427 | 2.82% |
| TOTAL | | | | 1,952,483 | 31.80% |

Table 2. Ownership Structure of the Top-Five Italian Newspapers

This table reports descriptive statistics on the ownership structure of the top-five newspapers in Italy as of 2011. For each newspaper, we report the publishing firm, whether it is listed on an exchange, the type of control (PC = public company, FF = family firm as the ultimate shareholder, SA = shareholder agreement), the type of equity structure (DC = dual class, 1S1V = one share, one vote), the name of the largest shareholder, and the percentage of voting rights held by the largest and second largest shareholders. We also report for the whole sample period (2007–2011) the number of listed firms with a conflict of interest (COI), yearly average, the total number of articles with a COI, and their percentages of total number of news articles.

| Newspaper | Publishing Firm | Listed | Type of control | Equity Structure | 1st Shareholder | 1st Shar. Voting Rights | 2nd Shar. Voting Rights | # Firms in c. of interest | | Number of Articles | | |
|-----------------------------|----------------------------------|--------|-----------------|------------------|-----------------|-------------------------|-------------------------|---------------------------|-----------|--------------------|---------------|---------------|
| | | | | | | | | Year avg | All | Total | In COI | % |
| <i>Corriere della Sera</i> | RCS Mediagroup SPA | Yes | SA | DC | Mediobanca SPA | 14.94% | 10.50% | 18.80 | 21 | 24,130 | 8,723 | 36.15% |
| <i>La Repubblica</i> | Gruppo Editoriale L'Espresso SPA | Yes | FF | 1S1V | CIR SPA | 53.88% | 11.95% | 5.00 | 5 | 32,119 | 1,381 | 4.30% |
| <i>La Stampa</i> | Editrice La Stampa SPA | No | FF | 1S1V | Fiat SPA | 100.00% | -- | 4.00 | 5 | 19,946 | 3,249 | 16.29% |
| <i>Il Giornale</i> | Società Europea di Edizioni SPA | No | FF | 1S1V | PBF SRL | 46.02% | 36.89% | 3.00 | 3 | 22,498 | 1,783 | 7.93% |
| <i>Il Resto del Carlino</i> | Poligrafici Editoriale SPA | Yes | FF | 1S1V | Monrif SPA | 64.37% | 10.26% | 2.60 | 3 | 24,703 | 751 | 3.04% |
| TOTAL | | | | | | | | 33.40 | 37 | 123,396 | 15,887 | 12.85% |

Table 3. Descriptive Statistics for the Sample of Newspaper Articles

This table reports descriptive statistics for all the variables at the article level. Panel A reports descriptive statistics for the article tone (positive, negative, uncertain, legal, weak modal, or strong modal, following Loughran and McDonald, 2011), together with the number of words in each article. The average frequencies are then reported for articles on firms with and without a conflict of interest, and the results of tests of the mean difference are reported in the last column. Panel B reports descriptive statistics in terms of the quantity of coverage and its distribution among firms with and without a conflict of interest. We report the statistics for both the whole sample (*Number of articles*) and for the sample of firms in conflict with at least one newspaper (*Number of articles, within sample*). Panel C reports descriptive statistics for the ownership data, as defined by the presence of a conflict of interest (*Conflict Dummy*), as the ownership share (*Ownership Share*), or as the controlling shareholder (*Control Dummy*). *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively.

| Panel A: Coverage - Articles Level | | | | | | | | | |
|------------------------------------|---------|--------|--------|-----------|----------|-----------------|--------|--------------|-----|
| | Obs | Mean | Median | Std. Dev. | Conflict | Not in Conflict | Diff | t-statistics | |
| <i>Words (number)</i> | 123,396 | 340.29 | 262 | 241.43 | 388.13 | 333.24 | 54.89 | 26.83 | *** |
| <i>Positive (%)</i> | 123,396 | 1.69% | 1.41% | 1.29% | 1.67% | 1.69% | -0.02% | -2.21 | ** |
| <i>Negative (%)</i> | 123,396 | 2.24% | 2.01% | 1.54% | 2.05% | 2.26% | -0.22% | -16.72 | *** |
| <i>Uncertain (%)</i> | 123,396 | 1.12% | 1.04% | 0.91% | 1.12% | 1.11% | 0.01% | 9.25 | *** |
| <i>Legal (%)</i> | 123,396 | 1.25% | 0.97% | 1.18% | 1.11% | 1.27% | -0.16% | -15.17 | *** |
| <i>Weak modal (%)</i> | 123,396 | 0.41% | 0.28% | 0.51% | 0.46% | 0.40% | 0.06% | 14.00 | *** |
| <i>Strong modal (%)</i> | 123,396 | 0.45% | 0.38% | 0.49% | 0.49% | 0.45% | 0.04% | 10.43 | *** |

| Panel B: Coverage - Newspaper level | | | | | | | | | |
|---|-------|------|--------|-----------|----------|-----------------|------|--------------|-----|
| | Obs | Mean | Median | Std. Dev. | Conflict | Not in Conflict | Diff | t-statistics | |
| <i>Number of Articles</i> | 1,106 | 112 | 17 | 264 | 532 | 100 | 432 | 9.17 | *** |
| <i>Number of Articles (Within Sample)</i> | 151 | 374 | 206 | 501 | | | | | |

| Panel C: Ownership | | | | | | | |
|------------------------|---------|-------|--------|-----------|-------|---------|--|
| | Obs | Mean | Median | Std. Dev. | Min | Max | |
| <i>Conflict Dummy</i> | 123,396 | 0.13 | 0.00 | 0.33 | 0.00 | 1.00 | |
| <i>Ownership Share</i> | 123,396 | 5.07% | 0.00% | 19.13% | 0.00% | 100.00% | |
| <i>Control Dummy</i> | 123,396 | 0.05 | 0.00 | 0.22 | 0.00 | 1.00 | |

Table 4. Regression Analyses of the Tone of Newspaper Articles on the Presence of Conflict of Interest

This table reports the results of the main Tobit regressions. We regress article tone (positive, negative, uncertain, weak modal, or strongly modal, following Loughran and McDonald, 2011) on a dummy variable equal to 1 when the article reports on a firm in a conflict of interest (*Conflict Dummy*). The regressions include fixed effects to control for the newspaper (*Newspaper Fixed Effects*), the year the article was published (*Year Fixed Effects*), and the firm covered by the article (*Firm Fixed Effects*). *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--------------------------------|----------------------|-----------------------|----------------------|----------------------|-----------------------|-----------------------|
| | Positive | Negative | Uncertain | Legal | Modal Weak | Modal Strong |
| <i>Conflict Dummy</i> | -0.0244 (-1.64) | -0.277*** (-15.59) | -0.0129 (-1.08) | 0.0377*** (-2.80) | -0.0103 (-1.15) | 0.00411 (0.50) |
| <i>Constant</i> | 0.0147*** (36.25) | 0.0234*** (48.37) | 0.0118*** (36.57) | 0.0160*** (43.50) | 0.00258*** (10.62) | 0.00328*** (14.64) |
| <i>Newspaper Fixed Effects</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| <i>Year Fixed Effects</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| <i>Firm Fixed Effects</i> | Yes | Yes | Yes | Yes | Yes | Yes |
| <i>Observations</i> | 123,396 | 123,396 | 123,396 | 123,396 | 123,396 | 123,396 |

Table 5. Regression Analyses of the Tone of Newspaper Articles on Extent of Conflict of Interest

This table reports the Tobit regressions of the negative and legal article tone on a set of different variables measuring the extent of the conflict of interest. A dummy indicating the presence of a conflict of interest (*Conflict Dummy*) is reported together with the magnitude of the conflict (*Ownership Share*) in models (1) and (2) and with whether the firm is the newspaper's controlling shareholder (*Control Dummy*) in models (3) and (4). Newspaper, year, and firm fixed effects are also included. *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively.

| | (1) | (2) | (3) | (4) |
|--------------------------------|-----------------------|-----------------------|------------------------|-------------------------|
| | Negative | Legal | Negative | Legal |
| <i>Conflict Dummy</i> | 0.00137*** (-6.57) | -0.000307* (-1.96) | -0.00164*** (-8.35) | -0.000393*** (-2.67) |
| <i>Ownership Share</i> | 0.00322*** (-8.86) | -0.000176 (-0.64) | | |
| <i>Control Dummy</i> | | | -0.00254*** (-8.25) | 0.0000674 (0.29) |
| <i>Constant</i> | 0.0147*** (36.18) | 0.0230*** (47.50) | 0.0117*** (36.08) | 0.0159*** (43.22) |
| <i>Newspaper Fixed Effects</i> | Yes | Yes | Yes | Yes |
| <i>Year Fixed Effects</i> | Yes | Yes | Yes | Yes |
| <i>Firm Fixed Effects</i> | Yes | Yes | Yes | Yes |
| <i>Observations</i> | 123,396 | 123,396 | 123,396 | 123,396 |

Table 6. Regression Analyses of the Tone of Newspaper Articles on the Interaction between Conflict of Interest and Newspaper Fixed Effects

This table reports how the effects of conflict of interest on the tone of news vary across newspapers. It reports Tobit regressions of negative article tone on the interaction between the newspaper and a dummy variable for firms with a conflict of interest (i.e., the dummy variables for *Corriere della Sera* dummy, *La Repubblica*, *La Stampa*, *Il Giornale*, and *Il Resto del Carlino* dummy, respectively, interacted with the *Conflict of Interest* dummy). The models control for year and firm fixed effects. *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively.

| Dependent Variable: | Negative Tone | Negative Tone |
|------------------------------|-------------------------|-------------------------|
| Interaction Variables (with) | (Conflict Dummy) | (Ownership Share) |
| <i>Corriere della Sera</i> | -0.00221*** (-11.36) | -0.00907*** (-11.35) |
| <i>La Repubblica</i> | -0.00180*** (-3.19) | -0.00352*** (-4.07) |
| <i>La Stampa</i> | -0.00264*** (-7.80) | -0.00257*** (-7.58) |
| <i>Il Giornale</i> | -0.00742*** (-14.01) | -0.0382*** (-14.04) |
| <i>Il Resto del Carlino</i> | 0.00165 (1.37) | -0.0104*** (-3.16) |
| <i>Constant</i> | 0.0242*** (52.98) | 0.0242*** (52.95) |
| <i>Year Fixed Effects</i> | <i>Yes</i> | <i>Yes</i> |
| <i>Firm Fixed Effects</i> | <i>Yes</i> | <i>Yes</i> |
| <i>Observations</i> | 123,396 | 123,396 |

Table 7. Regression Analyses of the Amount of Coverage on the Presence of Conflict of Interest

This table reports the results of regression analyses in which we consider how conflict of interest affects the amount of coverage a firm receives. We compute the ordinary least squares regressions of a firm's coverage in each newspaper, as explained by year fixed effects and the *Conflict Dummy* (which is equal to 1 when the firm mentioned in the news has a conflict of interest with the newspaper covering it). Coverage is computed as the total number of articles and the total number of words associated with a firm in each newspaper for the base year in the whole sample period (2007–2011). Two specifications are provided: the first specification (All Sample) refers to the entire sample of both connected and unconnected firms. The second specification (Within Sample) considers only firms with a conflict of interest with at least one newspaper. *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively.

| | All Sample | | Within Sample | |
|-------------------------------|-----------------------|--------------------------|-----------------------|--------------------------|
| | (1) | (2) | (1) | (2) |
| | Number of Articles | Total Number of Words | Number of Articles | Total Number of Words |
| <i>Conflict Dummy</i> | 2.037*** (7.09) | 2.404*** (7.02) | 0.695*** (2.91) | 0.929*** (3.34) |
| <i>Constant</i> | 2.343*** (5.70) | 7.944*** (16.22) | 3.786*** (12.70) | 9.332*** (26.91) |
| <i>Year Fixed Effects</i> | Yes | Yes | Yes | Yes |
| <i>Industry Fixed Effects</i> | Yes | Yes | Yes | Yes |
| <i>Observations</i> | 1106 | 1106 | 151 | 151 |