Media Dynamics and Shareholder Voting: Mitigating Information Asymmetry in Corporate Decisions

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Abstract

This paper analyzes the role of the media in shareholder voting on management proposals. Management proposals deal with many critical corporate decisions, and shareholder dissent votes communicate information and have significant consequences for management. The results consistently show that both media coverage and sentiment significantly impact shareholder voting on management proposals. Media is an essential source of information, and shareholders rely more on media when there is more information asymmetry. More media coverage and positive sentiment increase shareholder support for management. Media coverage reduces information asymmetry and allows shareholders to make informed decisions. The instrumental variable approach is used to address the endogeneity issue with media variables.

Keywords: Media Coverage, Media Sentiment, Shareholder voting, Information Asymmetry

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1. Introduction

The role of the media in finance has received significant interest in the literature in recent years (Raimondo, 2019). Media accumulate and distribute information to diverse stakeholders and improve the information environment (Dyck & Zingales, 2002). For many outside stakeholders' the media might be the primary legitimate source of information (Deephouse, 2000). The media not only distributes firm information from press releases with a wide range of stakeholders but also creates information through investigative journalism and analytical reporting (Bushee, Core, Guay & Hamm, 2010). This paper focuses on the role of media in shareholders voting with management proposals. This paper analyzes the information intermediary role of media by reducing information asymmetry.

Management proposals deal with many critical corporate decisions like director elections, firm article amendments, and remuneration package approvals. Shareholders' right to vote on these proposals is fundamental to corporate governance (Yermack, 2010). Most of the management proposals pass in annual meetings and receive significant support (Cai, Garner & Walkling, 2009). However, a vote of shareholder dissent carries information and has substantial consequences for management, such as abnormal disciplinary chief executive officer (CEO) turnover (Del Guercio, Seery & Woidtke, 2008); removal or demotion of board member (Aggarwal, Dahiya, & Prabhala, 2019). Irrespective of the result, a vote against management recommendation pressures management to address specific issues regarding shareholders' dissent (Ertimur, Ferri & Oesch, 2018).

This paper asks how media coverage and sentiment impact shareholders' voting decisions. Shareholder voting data is collected from Institutional Shareholder Services (ISS). The percentage of shareholder votes following the management recommendation is used as the dependent variable. Media data are collected from Ravenpack. The number of relevant news

items (full articles) for 30 days before the meeting date is used to measure media coverage. Media sentiment is calculated from the average composite sentiment score reported by RavenPack for the same 30 days. Another measure included is Sentiment Differential, which is the difference between the number of positive and negative news items divided by the sum of these two. We control for firm characteristics, year, industry and proposal type in the analysis. This paper checks the information asymmetry channel, which suggests that the media's role would amplify when shareholders lack information. We include two measures of Information asymmetry. Analyst coverage is the number of analysts following the firm measures of inverse information asymmetry. Analyst Divergence is the standard deviation among analysts in recommendation measuring information asymmetry.

Existing research shows that the media affects firm reputation (Baloria & Heese, 2018), cost of capital (Kölbel, Busch & Jancso, 2017), investment decisions (Liu and McConnell, 2013), and stock returns (Fang & Peress, 2009). This paper analyzes the media's role in voting on management proposals and therefore complements and expands on work analyzing the media's role in the shareholder proposal's voting result (Aggarwal, Erel & Starks, 2014; Di Giuli & Petit-Romec, 2019). While shareholder proposals are nonbinding in nature, in contrast, management proposals' voting outcomes have significant implications for firms' operation and control. Votes on shareholder proposals may be motivated by many external factors, including environmental and social movements. Management proposals are primarily internal in nature, and thus, shareholder voting on management proposals clearly measures support for management. This paper also contributes to the literature on the voting behaviour of institutional investors by analyzing media as another information channel (Iliev & Lowry, 2015; Calluzzo & Kedia, 2019; Dikolli, Frank, Guo & Lynch, 2022; Michaely, Ordonez-Calafi & Rubio, 2021). An additional novel contribution of this paper is the information intermediary role of media by reducing information asymmetry in shareholder voting. We also include an

analysis of the market reaction to close votes to show media coverage helps shareholders make informed decisions (Cuñat, Gine & Guadalupe, 2012; Flammer, 2015).

How shareholders decide to vote on proposals is of particular interest. As mutual funds must disclose their voting record, mutual fund voting behaviours have been a topic of interest for regulators and researchers (Dikolli, Frank, Guo & Lynch, 2022; Michaely, Ordonez-Calafi & Rubio, 2021). Moreover, other institutional investors started to voluntarily share their voting records (Aggarwal, Erel & Starks, 2014). Institutional investors must ensure their voting decision reflects their shareholders' preferences. In this decision-making process, proxy advisors play a vital role as they accumulate information for proposals and provide recommendations for voting. As many voters blindly follow advisor recommendations, these recommendations carry significant power over the voting outcome (Shu, 2024). However, potential conflicts of interest and a one-size-fits-all approach are major concerns regarding proxy advisors, and they suggest that the recommendations are not always value-enhancing for shareholders (Li, 2018; Iliev & Lowry, 2015). Recent trends show that institutional investors' reliance on proxy advisors is declining, and they are becoming more active voters (Calluzzo & Dudley, 2019; Boone, Gillan & Towner, 2020).

With more scrutiny on voting behaviour, shareholders have more incentive to research before voting. Here, the media plays a vital role in addressing the gap in information for shareholders. Research shows that the media significantly impacts firm decision-making and stock performance (Bushee, Core, Guay & Hamm, 2010; Fang & Peress, 2009). Media power comes from the ability to gather information and reach stakeholders (Peress, 2014). Media can be a strong external force in corporate governance by keeping management in check (Aguilera, Desender, Bednar, & Lee, 2015; Dyck, Volchkova & Zingales, 2008). Media can improve corporate governance and firm performance by identifying and highlighting corporate wrongdoing (Dyck, Volchkova & Zingales, 2008; Dyck, Morse & Zingales, 2010) and

decreasing value-reducing acquisitions (Liu and McConnell, 2013). Managers are concerned about the media, as negative news coverage can significantly damage the firm and their own reputation (Baloria & Heese, 2018). Negative news coverage is associated with higher financial risk (Kölbel, Busch & Jancso, 2017) and lower merger premiums for a target (Maung, Wilson & Yu, 2020). Media coverage and negative news are positively associated with being targeted for shareholder-initiated proposals and support for those proposals (Di Giuli & Petit-Romec, 2019; Aggarwal, Erel & Starks, 2014).

Even after using control variables, media variables have endogeneity concerns as there can be possible omitted variables driving both media and shareholders' voting. To address this, we use the instrumental variable approach. For media coverage, we used two different instrumental variables; the Per capita number of reporters and correspondents in the firm's headquarters state (Gao, Wang, Wang, Wu & Dong, 2020) and industry median media coverage (An, Chen, Naiker & Wang, 2020). For media sentiment, we included six months past media variables as instrumental variables (Liu & McConnell, 2013). Our result suggests that after controlling for firm characteristics, year, industry, proposal agenda type, and proxy advisor recommendation, the media significantly impacts shareholder support for management; higher media coverage results in more support for management. We found strong results for the role of media in reducing information asymmetry, as the effect of media on shareholder voting is more prominent when high information asymmetry is present. With more media coverage, shareholders make informed voting decisions, resulting in positive market returns. Moreover, the results show that shareholders analyze the content of media as media sentiment has a significant impact on voting. Positive and negative media coverage show significant opposite impacts on shareholder votes for management recommendations.

The next section discusses literature and hypothesis; section 3 describes data source and methodology; section 4 reports results and analysis; and section 5 concludes.

2. Literature review and Hypothesis development

This paper's primary research question relates to the media's role in shareholder voting. We attempt to identify specific channels through which the media affects the information environment and voting decisions of shareholders. With higher information asymmetry, the media plays an enhanced role as an information intermediary.

Media carries important information to the broad population of investors (Tetlock, 2010; Peress, 2014). Previous studies reported mixed results about media coverage and shareholders' reactions. Higher press coverage is associated with more trade and higher stock prices (Bushee, Core, Guay & Hamm, 2010; Li, Ramesh & Shen, 2011). On the contrary, Fang & Peress (2009) report that overall media coverage is negatively associated with stock return. Regarding voting behaviour, more media coverage is associated with higher support for shareholder proposals, which implies shareholder voting against management (Aggarwal, Erel & Starks, 2014). This study focuses on management proposals and how shareholder support changes with media coverage. Management proposals, in general, receive significant support from shareholders (Cai, Garner & Walkling, 2009). More media coverage implies better information dissemination (Tetlock, 2010), making shareholders feel more confident in management and voting according to management recommendations. On contrary, increased media coverage can result in more public scrutiny to discipline management activities (Baloria & Heese, 2018), suggesting a negative relation between media coverage and shareholder support. Another view is that the media over-sensationalizes news and may have no real impact on shareholder

decisions (Core, Guay & Larcker, 2008). Based on these observations, the first hypothesis is formulated as:

H1a: By improved information dissemination, media coverage increases shareholder's confidence in management. For firms with more media coverage during the month before the meeting date, shareholders would vote more in line with management recommendations.

H1b: By increasing scrutiny, media coverage reduces shareholder's support for management. For firms with more media coverage during the month before the meeting date, shareholders would vote more against management recommendations.

Media reduce information asymmetry and work as an information intermediary (Tetlock, 2010; Bushee, Core, Guay & Hamm, 2010). Analyst reports are an essential source of information for investors/shareholders, and analyst coverage is associated with a lower asymmetric information environment (Chang, Dasgupta & Hilary, 2006; Martens & Sextroh, 2021). If there is more disagreement among analysts regarding recommendations, it indicates there is more information asymmetry. Media would fill the gap and facilitate voting decision-making for firms with smaller analyst coverage and higher analyst divergence. This suggests that the impact of media would be more significant for firms with higher asymmetric information.

H2: The marginal effect of media coverage on shareholder voting with management would be greater for proposals with higher information asymmetry. Media impact would be lower for firms with higher analyst coverage. Media impact would be higher for firms with higher analyst divergence.

With the advancement of computational linguistic techniques, researchers are able to analyze media tone and sentiment in a financial decision context (Raimondo, 2019). News sentiment is very important in determining how it affects stock market reaction (Groß-Klußmann &

Hautsch, 2011). While overall media coverage is important, it is crucial to acknowledge the combination of positive and negative news, as they would have opposite reactions. Many studies specifically focused on negative media coverage. Coverage of news with negative words can predict lower financial performance (Tetlock, Saar-Tsechansky & Macskassy, 2008) and increase financial costs (Kölbel, Busch & Jancso, 2017). Negative media coverage is found to be positively related to more support for shareholder proposals and votes against management (Aggarwal, Erel & Starks, 2014; Di Giuli & Petit-Romec, 2019). If a firm has positive media sentiment, shareholders will vote more according to management recommendations.

H3: Media sentiment is positively associated with shareholder voting supporting management recommendations.

3. Data and Methodology:

Management proposals and voting data are collected from the ISS (formerly RiskMetrics) Voting Analytics database. Data collected for this study range from 2003 to 2020. For each proposal, records provide the meeting date, firm CUSIP, proposal agenda, ISS recommendation, Management recommendation, number of votes (for, against, withheld, abstained), and vote result (pass, fail). Proposals which were omitted or did not have voting results were excluded. The main dependent variable is the percentage of shareholder vote that follows management recommendations. These variables can better measure shareholders' support for management than the success of proposals. A binary variable ISS_against is created, taking value one if ISS recommendation is against management recommendations and 0 otherwise.

Media data is collected from RavenPack. This database provides individual news items related to the firm and a time stamp. Each news item includes a relevance score (0-100), news

sentiment score, news type (Press release, Article, Newsflash), and Composite sentiment score. A higher relevance score indicates the entity is the active part of the news item. For this study, we included news items with relevance scores above 80. First, data was summarized on a daily basis by the number of news items and the average Composite Sentiment Score (CSS). Data was merged with the meeting date and CUSIP. Following other researchers, we excluded press-release (An, Chen, Naiker & Wang, 2020) and only included full articles which consist of a headline and a body. The main independent variable, news coverage, is the log of one plus the number of news items over the 30 days before the meeting date. The news sentiment is measured by Composite Sentiment Score (CSS), which ranges from -1 to +1, providing an overall view of the firm in media. Positive and negative news coverage is calculated using the Event Sentiment Score, which identifies sentiment related to specific news items. We also included a sentiment proxy, Sentiment Differential, which was measured by the difference between the number of positive and negative news divided by the summation of the number of positive and negative news.

Analyst coverage data is collected from I/B/E/S Consensus Recommendations from the number of analyst recommendations. Analyst coverage is measured as a natural log of one plus the number of analysts providing recommendations. Analysts provide recommendations on a 1 to 5 scale, with 1 indicating strong buy and 5 indicating sell. Analyst divergence is calculated from the standard deviation of recommendations in real numbers. Control variables are collected from Compustat. The natural log of one plus total asset is included for size, Return on Asset as performance and total debt to asset (leverage), and capital expenditure to total asset (capex) are included as control variables. All accounting variables were winsorized at 1% and 99% to exclude extreme values. The final dataset includes 5715 unique firms with 49241 firm shareholder meetings and 375,890 management proposals from 2003-2020. To test hypotheses, the following is the base model:

$$withmgmt_{rate}$$

$$= \alpha + \beta_M \times Media + \beta_{AC} \times \text{Analyst coverage}$$

$$+ \beta_{\text{MAC}} \times (Media \times Analyst\ coverage\ )$$

$$+ \beta_{\text{MAD}} \times (Media \times Analyst\ divergence\ ) + \beta_{ISS} \times \text{ISS against}$$

$$+ \beta_{\text{MISS}} \times (Media \times ISS\ against) + \text{Controls} + \text{Year\_FE} + \text{Industry\_FE}$$

$$+ \text{Proposal\_Agenda\_type\_FE}\ ) - - - - - (1)$$

Media coverage would be included in the model for the first two hypotheses. Following hypothesis 1a, a positive coefficient is expected for media coverage β_M. Hypothesis 2 would suggest that the interaction term between media and Analyst coverage β_{MAC} would be the opposite of β_M Analyst coverage would reduce information asymmetry, and media impact would decrease with lower information asymmetry. The interaction term between media coverage and analyst divergence should be the same as β_M, higher divergence suggests higher information asymmetry. For hypothesis 3, media sentiment and positive and negative media coverage are included as media variables. We expect positive and negative coefficients for positive and negative news, respectively.

Any model with a media variable has endogeneity concerns, as unobservable variables may affect both media and output variables (Engelberg & Parsons, 2011). This paper uses instrumental variables to address these concerns. We included two different instrumental variables for media coverage. Following Gao, Wang, Wang, Wu & Dong (2020), media coverage is instrumented by the number of news reporters and correspondents per capita in a firm's headquarters state. This instrument would be very useful as it is expected to be highly correlated with media coverage; however, it is not directly related to voting decisions and is unlikely to be related to other omitted variables affecting voting decisions. The data would be collected from the U.S. Bureau of Labor Statistics. The number of employees under the news reporters and correspondent category is divided by the number of total employees for each state

and multiplied by 1000. The value is interpolated for missing values in a few years from the previous and following years. The second instrument is the median media coverage value for the industry (An, Chen, Naiker & Wang, 2020). Industry median coverage should be related to firm media coverage, but it is unlikely to affect individual firm shareholders' voting decisions.

Following Liu & McConnell (2013), media sentiment is instrumented by media sentiment scores from previous times. Instrument sentiment is calculated for 30 days from 210 to 180 before the meeting date. The main assumption is that six months of lagged media sentiment should be highly correlated with media sentiment during the voting decision period (Inclusion Criteria); however, media sentiment six months early does not affect voting decisions or other omitted variables which affect voting decisions (exclusion criteria). While inclusion criteria are strongly met, exclusion criteria are open for debate. Table 1 provides a list of variables and definitions for this study.

4. Results and Analysis

4.1 Descriptive statistics

Table 2 reports the descriptive statistics for the variables used for regressions. As management proposals receive significant support, the average shareholder voting with management is 93.92%. Media coverage variables were transformed by the log of one plus the number of news items. Accounting variables were winsorized at 1% and 99% to ensure extreme variables did not affect our results. The number of positive news items is significantly higher than negative news items; in our sample, the average positive news item is 16 compared to 7 negative news items. Table 4 reports the number of firms and proposals by industry. The manufacturing and finance industries have the most companies and proposals. Table 5 shows the number of proposals and average support for management by year.

Figure 1 shows news coverage over the year categorized by shareholders' support. Figure 3 depicts the average sentiment score over the years. The decrease in sentiment score in 2008-09

represents the financial crisis period. Overall, news coverage and sentiment seem higher for firms that receive more support for management recommendations. This would suggest media coverage is positively associated with shareholder support.

Figure 1: News coverage by shareholder vote for management

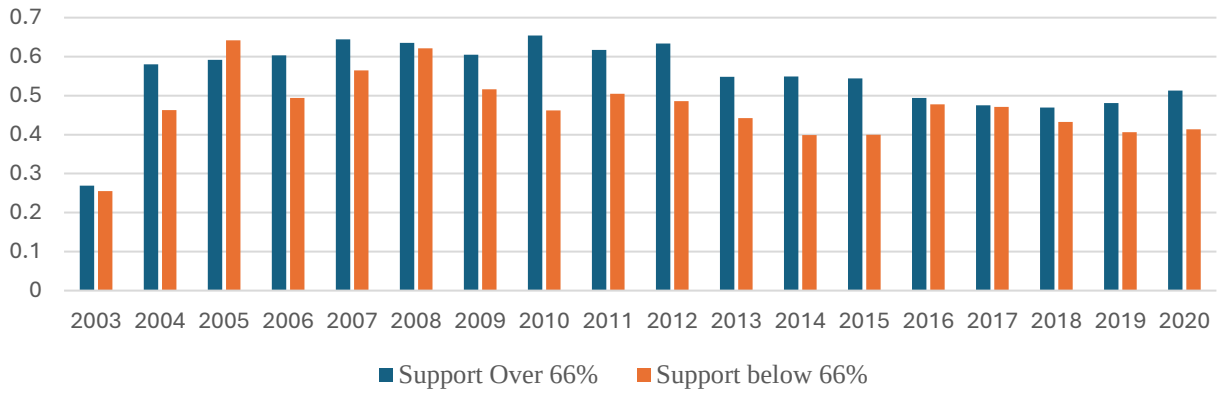

Figure 2: Average Media Sentiment by Shareholder vote for Management

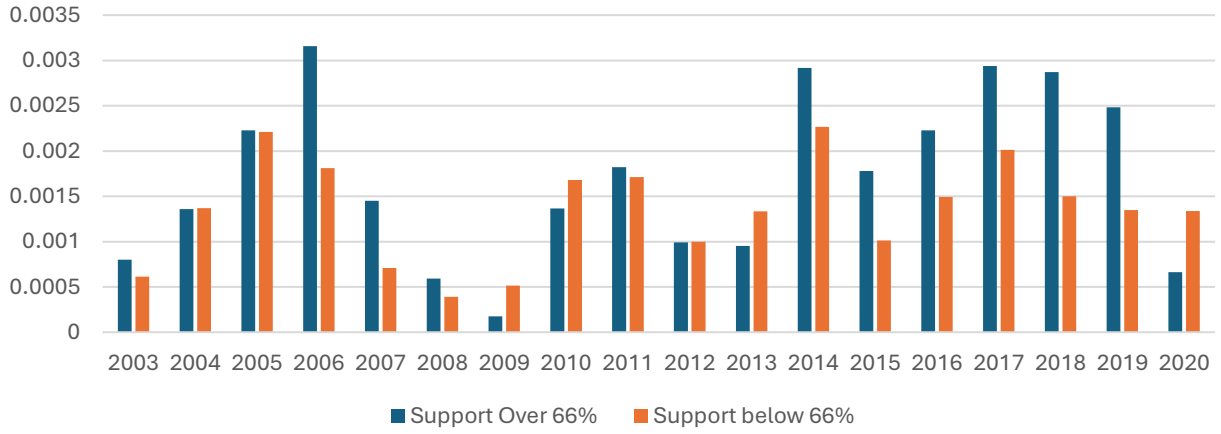

Table 5 reports the correlation matrix for the variables. As expected ISS_against has a negative correlation with percentage of shareholder vote with management. Media coverage variables have small positive correlations with shareholder support. Size (Total asset) shows moderate positive correlations between media coverage variables and analyst coverage. Large firms are expected to have more media coverage and analyst coverage.

4.2 Media Coverage

To test our hypotheses, we run regression on the percentage of shareholder votes with management recommendations against media coverage and sentiment. Table 6 reports our base regression. The model includes control variables and a fixed effect for year, industry and ISS agenda type. The media coverage variable has a positive statistically significant coefficient supporting hypothesis 1a: media coverage is positively associated with shareholder support for management. The analyst divergence coefficient is negative and statistically significant, suggesting shareholders reduce support for management when there is uncertainty in analyst recommendation. In columns 3 and 4, our sample size decreased as we lost firms which had no analyst recommendation. The analyst coverage coefficient is negative but not statistically significant. We find support for our hypothesis 2 information asymmetry channel, which states that the marginal effect of media coverage will be negatively related to analyst coverage from the negative coefficient of media coverage and analyst coverage. This suggests that for firms with less analyst coverage and more information asymmetry, the impact of media coverage is higher for shareholder support. As expected, ISS against recommendations has a strong negative impact on shareholder support. ISS recommendation against management decreases shareholder vote with management by 14.9 percentage points. Interaction between ISS_against and media coverage is negative and significant, which suggests the media coverage effect is lower for firms receiving negative ISS recommendations. As firms receive negative recommendations from ISS, shareholders discount the media coverage content. Shareholder support for management is positively associated with firm size, accounting performance, leverage and capital expenditure. Variance inflation factor (VIF) suggests models do not have significant multicollinearity.

We used two instrumental variables to address possible endogeneity issues with media coverage variables. Table 7 uses the industry median coverage as an instrument for media

coverage. Industry median media coverage should be correlated to firm media coverage; however, it should not directly relate to shareholder voting decisions (An, Chen, Naiker & Wang, 2020). Table 8 shows results using the proportion of reporters as an instrumental variable for media coverage. News reporters and correspondents create reports and articles for the media, and the per capita number of reporters in the state should be positively related to the number of articles published about firms in the headquarter state (Gao, Wang, Wang, Wu & Dong, 2020). Weak instrument test and Wu-Hausman suggest we have a strong enough instrument, and the IV model is preferred over OLS. Media and interaction variables have the same sign and significance, which supports our hypotheses 1 and 2. Media coverage reduces information asymmetry and increases support for management. Two variables switched signs are total asset and analyst coverage, which may result from multicollinearity. However, our main variables of interest remained consistent.

4.3 Media Sentiment (CSS)

Table 9 reports the regression of media sentiment on shareholder support. The media sentiment variable is calculated from the Composite Sentiment Score (CSS) reported by RavenPack. Media sentiment variables show positive and significant coefficients in columns 1 and 2, supporting hypothesis 3. As we include interaction with analyst divergence, it is no longer significant individually. However, it is consistently positive and statistically significant for interaction with ISS_against. Compared to our result for media coverage, this has an important implication. When a firm receives a negative ISS recommendation, shareholders analyze for quality information in media as measured by Composite Sentiment Score but discount quantity of news. This also implies shareholders do not view the quantity and sentiment of news in a similar manner. Table 11 reports media coverage and sentiment results together, and results remain similar. Column 4 shows a positive and statistically significant coefficient for the

interaction between media coverage and sentiment. Interaction with ISS_against remained positive for media sentiment and negative for media coverage.

In Table 10, media sentiment was instrumented by variables from 30 days ending 180 days prior to the meeting date. Media sentiment from a significant lagged period should be related to firm sentiment in the meeting period but should not be directly linked to the meeting decision (Liu & McConnell, 2013). Results remain similar to Table 9. One limitation of this variable is that the CSS score is averaged daily and then averaged again for 30 days. By construction, this variable may be diluted, which may explain our result with the correct sign but insignificant results.

4.4 Positive and negative media coverage

Our results from the previous section suggest media coverage and sentiment both play roles in shareholders' vote decision-making process and are not unidirectional. To analyze this further, we will work with media coverage of positive and negative news in this section. First, we created Sentiment Differential as (No. of Positive news -No. of negative news)/(No. of Positive news + No. of Negative news). Table 12 reports the regression results, which show a positive and significant coefficient dor sentiment differential. The result supports our hypothesis 3, which is that positive sentiment leads to more support for management. The interaction of sentiment differential with analyst coverage is negative, suggesting the impact of media decreases with lower information asymmetry. The interaction of sentiment differential with analyst divergence is positive, implying that media's impact increases with more information asymmetry. Like media coverage, the interaction between sentimental differential and ISS_against is negative. Table 13 reports the results with an instrument of the previous sentiment differential. The coefficient of sentiment differential and interaction with analyst coverage remains the same.

Table 14 shows regression results for positive and negative news items. These results support our hypothesis 2 and 3. Shareholders analyze news content, and positive and negative news affect shareholder support for management in a significant and opposite direction. Positive and negative coverage show positive and negative coefficients, respectively. Table 14 supports our hypothesis 2, that media interaction has the same sign for analyst divergence and the opposite sign for analyst coverage. Positive news coverage has a positive sign for interaction with analyst divergence and a negative sign for interaction with analyst coverage. Following the same pattern, negative news coverage has a negative sign for interaction with analyst divergence and a positive sign for interaction with analyst coverage. These results strongly suggest that the media improves firms' information environment and reduces information asymmetry. Table 15 reports the instrumental variable analysis for positive and negative news, and the results remain very similar.

4.5 Media coverage and stock return

Our results show more media coverage increases shareholders' support for management. We analyze stock returns around close votes to test if shareholders' voting on media coverage is informative. For proposals that pass or fail by a close margin, create a unique setting where price reaction results from the proposal outcome (Cuñat, Gine & Guadalupe, 2012; Flammer, 2015). We create a sample of proposals that pass or fail by a margin of 2 %. The market does not necessarily anticipate the voting outcome beforehand; hence, price reaction is mostly driven by the proposal outcome. Results are reported in Table 16. Cumulative Abnormal Return (CAR) is calculated for [0,+1], [0,+2] and [0,+4] with 0 being the meeting date. Media coverage is the log of 1 plus the number of full article items over the 30-day period before the meeting date. Withmgmt is a binary variable taking value 1 if the voting outcome is according to management recommendation. ISS_withmgmt is also a binary variable, taking value 1 if ISS recommendation is with management. The coefficient of interaction between

media coverage and withmgmt is positive and significant, suggesting media coverage is informative and increases shareholder support and positive stock return.

4.6 Abnormal Media Coverage

In this section, we use different measures for media coverage. To identify media coverage mostly related to meetings, we set a monthly baseline media coverage of 120 days (between 90 and 210 days) divided by four. We get our abnormal media coverage measure after deducting baseline media coverage from our 30 days of media coverage immediately before the meeting date. Tables 17, 18, and 19 report regression results for media coverage, Sentiment Differential and positive-negative media coverage results respectively. The results are very consistent with our previous findings. These results also suggest that firms receive most of their media coverage during the meeting period.

4.7 Final notes

The results consistently show that media significantly impacts shareholder voting on management proposals. Media is an essential source of information, and shareholders rely more on media when there is more information asymmetry. This paper also shows that news sentiment is very important as it drives shareholder support. Both sentiment score and positive-negative media coverage show evidence that shareholders gather information from the media during voting decision-making. The use of instrumental variables would address the endogeneity issue of media variables. The results also establish the information asymmetry channel as the media effect on shareholder support is prominent when there is more information asymmetry and less analyst coverage. The results remain consistent with different measures of media coverage and sentiment and instrumental variable analysis.

5. Conclusions:

This paper focuses on the role of media in the corporate governance process through shareholder voting on management proposals. Using the RavenPack database, both the number of news items and the media sentiment are analyzed. The instrumental variable is used to address the endogeneity issue of the media variable. Results support media effect voting support even after controlling proxy advisor recommendation and analyst coverage. More specifically, the marginal effect of media on voting support increases in lower analyst coverage and higher information asymmetry. Media sentiment is also very important in garnering shareholder support for management, as overall sentiment significantly affects voting decisions. Our result also shows positive and negative news have clear and opposite impacts on shareholder support. Shareholder voting on media coverage is informative, which can be seen from the price reaction of close-call proposals. The results hold even after controlling for firm characteristics, year, industry and proposal agenda type.

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Table 1: List of variables

Variable	Definition
withmgmt_rate	Percentage of Vote received with management recommendation (0-100)
ISS against management	Binary value 1 if ISS recommendation is different from management recommendation and 0 otherwise
Media Coverage (full articles)	Number of news items (Full Article) over 30 days before the meeting date. Log transformed. Log(1+coverage).
Number_positive_news	Number of news items with Event Sentiment Score (ESS)>0 over 30 days before the meeting date. Log transformed. Log(1+coverage).
Number_negative_news	Number of news items with Event Sentiment Score (ESS)<0 over 30 days before the meeting date. Log transformed. Log(1+coverage).
Media Sentiment (CSS)	Average Composite Sentiment Score (CSS) score over 30 days before meeting date
Sentiment Differential	(No. of Positive news -No. of negative news)/(No. of Positive news + No. of Negative news)
Analyst_coverage	Natural log of 1 plus the number of analysts providing recommendations. Log(1+Number of Analysts). The variable is centred to zero by deducting the mean from each value.
Analyst_Divergence	The standard deviation of recommendations for firms. Analysts provide recommendations with 1-5.
ROA	Return on Asset (ROA) Net Income divided by total asset. Winsorized (1%-99%).
Ln_total_asset	Natural log of Total Asset plus one. Winsorized (1%-99%).
Leverage	Total liability divided by Total assets. Winsorized (1%-99%).
Capex	Capital expenditure to total asset. Winsorized (1%-99%).
Journal_prop	Number of news analysts, reporters, and correspondents per 1000 employees in the headquarters state of the firm.
Industry_median_coverage	On a yearly basis, median media coverage is calculated for 30 days before the meeting date for each industry.
Abnormal_Media Coverage	The difference between Media_coverage 30 days before the meeting date and the average 30 days of media coverage for days 210 and 90 (120 Days/4) before the meeting date.

Table 2: Summary Statistics

This table reports summary statistics over the full sample. Media coverage variables are in their original form before transformation.

Variable	Mean	SD	Min	Q1	Median	Q3	Max
Withmgmt_rate	93.92	9.84	0	93.57	97.60	99.05	100
News coverage (Full Article)	10.83	41.22	0	0	2.00	8.00	2198
News coverage (Log)	1.31	1.29	0	0	1.099	2.197	7.696
Abnormal news coverage (log)	1.137	1.306	-1.30	-0.037	0.966	1.988	7.586
News Sentiment (CSS)	0.002	0.007	-0.097	-0.001	0.002	0.005	0.055
Sentiment Differential	0.369	0.51	-1	0	0.44	0.78	1
Abnormal Sentiment Differential	0.366	0.529	-1.45	0.005	0.439	0.797	1.416
Number_positive_news	16.85	28.29	0	3	10	20	685
Positive news (Log)	2.221	1.194	0	1.386	2.398	3.045	6.531
Abnormal positive news (log)	2.029	1.205	-0.96	1.268	2.18	2.840	6.344
Number_negative_news	7.09	14.81	0	0	3	8	1030
Negative news (Log)	1.437	1.11	0	0	1.386	2.197	6.938
Abnormal negative news (log)	1.255	1.125	-1.22	0	1.28	2.079	6.90
ISS against management	0.12	0.33	0	0	0	0	1
Analyst_coverage	8.74	8.89	0	1	6	14	57
Analyst_Divergence	0.86	0.359	0	0.74	0.90	1.04	2.83
ROA	-0.013	0.202	-1.202	-0.001	0.024	0.065	0.281
Ln_total_asset	7.38	2.14	2.29	5.97	7.38	8.78	12.59
Leverage	0.60	0.28	0.06	0.40	0.59	0.81	1.58
Capex	0.03	0.05	0	0.003	0.02	0.05	0.26
Journal_prop	0.35	0.20	0.11	0.25	0.33	0.40	3.75

Table 3: Number of firms and proposals by industry

This table reports the number of unique firms by the industry and the number of proposals received by the industry.

Industry	Number of firms	Number of Proposals
Agriculture	9	672
Construction	59	4958
Finance	1439	101189
Manufacturing	2175	136000
Mining	225	13385
Retail Trade	295	23289
Services	987	52858
Transportation	350	32047
Wholesale Trade	138	10128
Non-classifiable	38	1364

Total	5715	375890

Table 4: Number of management proposals by year and average support for management recommendations

Year	Number of proposals	Average withmgmt_rate
2003	13010	94.36
2004	12707	93.74
2005	13982	92.53
2006	14879	94.89
2007	14039	94.52
2008	15350	94.49
2009	17390	92.72
2010	17152	93.77
2011	23885	91.70
2012	23700	93.86
2013	25115	93.64
2014	25441	94.60
2015	25649	94.76
2016	25622	94.67
2017	27668	93.80
2018	26020	94.43
2019	26624	93.89
2020	27657	94.04
Total	375890	93.91

Table 5: Correlation Matrix

Variable Name		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Withmgmt_rate	1	1.000	0.025	0.014	0.033	0.053	0.021	-0.581	0.066	0.015	0.058	0.104	0.051	0.004	-0.011
News coverage (Full Article)	2		1.000	0.059	-0.015	0.610	0.602	-0.063	0.504	0.162	0.175	0.464	0.050	0.076	0.071
News Sentiment (CSS)	3			1.000	0.287	0.213	-0.086	-0.011	0.076	-0.008	0.045	0.093	0.024	0.011	-0.018
Sentiment Differential	4				1.000	0.416	-0.443	-0.027	0.019	-0.001	0.144	0.093	0.029	-0.010	0.008
News coverage (Positive)	5					1.000	0.568	-0.090	0.438	0.117	0.207	0.471	0.100	0.039	0.000
News coverage (Negative)	6						1.000	-0.058	0.402	0.109	0.047	0.369	0.082	0.044	-0.015
ISS against	7							1.000	-0.119	-0.058	-0.092	-0.128	-0.026	0.003	0.012
Analyst_coverage	8								1.000	0.378	0.195	0.645	0.051	0.113	-0.012
Analyst_Divergence	9									1.000	0.133	0.166	-0.062	0.083	0.046
ROA	10										1.000	0.328	-0.092	0.055	0.041
Ln_total_asset	11											1.000	0.394	-0.062	0.007
leverage	12												1.000	-0.103	-0.017
Capex	13													1.000	-0.035
Journal_prop	14														1.000

Table 6: Shareholder support and Media coverage

This table reports OLS regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *Media coverage* is natural log of 1 plus the number of news (Full article) in 30 days before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management	1	2	3	4
	OLS	OLS	OLS	OLS
Media Coverage (full articles)	0.038*** (0.013)	0.060*** (0.014)	0.111*** (0.037)	0.171*** (0.037)
Analyst Coverage		-0.008 (0.019)		-0.037 (0.034)
Media Coverage *Analyst Coverage		-0.036*** (0.008)		-0.122*** (0.015)
Analyst Divergence			-0.239*** (0.051)	-0.275*** (0.056)
Media Coverage* Analyst Divergence			-0.105*** (0.038)	-0.033 (0.039)
ISS recommendation against management	-12.567*** (0.053)	-12.555*** (0.053)	-14.945*** (0.061)	-14.917*** (0.062)
ISS against* Media Coverage	-1.979*** (0.032)	-1.994*** (0.032)	-1.625*** (0.035)	-1.649*** (0.035)
Log_Total_Asset	0.094*** (0.009)	0.111*** (0.010)	0.080*** (0.010)	0.140*** (0.013)
ROA	0.734*** (0.073)	0.713*** (0.073)	0.269*** (0.092)	0.131 (0.093)
leverage	0.730*** (0.052)	0.697*** (0.053)	0.749*** (0.059)	0.639*** (0.061)
Capex	2.262*** (0.348)	2.328*** (0.349)	2.924*** (0.386)	3.084*** (0.387)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	110.959*** (2.172)	110.812*** (2.172)	117.657*** (5.078)	116.998*** (5.078)
Observation	375,902	375,902	293,187	293,187
Adjusted R-squared	0.381	0.381	0.435	0.436

Table 7: IV Model for Shareholder support and Media coverage (IV: Industry Median)

This table reports IV regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *Media coverage* is natural log of 1 plus the number of news (Full article) in 30 days before the meeting date. The yearly industry median of *Media coverage* is used as an instrument. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centered to zero by deducting the mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management	1	2	3	4	5
	IV: Industry Median				
Media Coverage (full articles)	0.644** (0.300)	0.864*** (0.291)	0.923*** (0.293)	1.222*** (0.368)	1.362*** (0.396)
Analyst Coverage			0.593*** (0.054)		0.824***
Media Coverage (full articles)*Analyst Coverage			-0.498*** (0.050)		-1.000*** (0.107)
Analyst Divergence				0.217 (0.135)	-0.703*** (0.156)
Media Coverage (full articles)* Analyst Divergence				-0.573*** (0.140)	0.096 (0.140)
ISS recommendation against management	-14.717*** (0.041)	-12.722*** (0.142)	-12.437*** (0.133)	-14.461*** (0.158)	-14.056*** (0.151)
Media Coverage (full articles)* ISS against management		-1.853*** (0.123)	-2.062*** (0.115)	-2.037*** (0.124)	-2.326*** (0.119)
Log_Total_Asset	-0.210* (0.113)	-0.221** (0.112)	-0.146 (0.099)	-0.197 (0.124)	0.087 (0.079)
ROA	0.984*** (0.143)	1.070*** (0.139)	0.820*** (0.119)	0.577*** (0.164)	-0.115 (0.105)
leverage	0.988*** (0.104)	0.982*** (0.104)	0.918*** (0.089)	1.055*** (0.147)	0.600*** (0.084)
Capex	2.124*** (0.355)	2.134*** (0.353)	2.171*** (0.352)	2.827*** (0.391)	3.212*** (0.395)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes	Yes
Constant	114.040*** (2.239)	112.329*** (2.244)	112.371*** (2.235)	117.738*** (5.109)	115.221*** (5.127)
Observation	375,902	375,902	375,902	293,187	293,187
Adjusted R-squared	0.368	0.374	0.372	0.430	0.426
Weak instruments: News item	677.3***	464.3***	831.5***	277.9***	482.4***
Weak instruments: News item* Analyst Coverage			11635.1***		3706.9***
Weak instruments: News item* Analyst Divergence				1954.9***	1940.1***
Weak instruments: News item* ISS Against		17213.3***	11561.6***	8843.2***	6727.8***
Wu-Hausman	7.37***	4.17***	60.0***	10.95***	42.39***

Table 8: IV Model for Shareholder support and Media coverage (IV: Proportion Reporters)

This table reports IV regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *Media coverage* is natural log of 1 plus the number of news (Full article) in 30 days before the meeting date. The Number of News analysts, reporters, and correspondents per 1000 total employees in the headquarters state of the firm is used as an instrument. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management	1	2	3	4	5
	IV: Proportion Reporters				
Media Coverage (full articles)	1.715*** (0.532)	1.847*** (0.523)	2.331*** (0.557)	3.528*** (1.279)	2.755** (1.112)
Analyst Coverage			1.756*** (0.120)		4.995*** (0.911)
Media Coverage (full articles)*Analyst Coverage			-1.370*** (0.091)		-4.546*** (0.950)
Analyst Divergence				2.048*** (0.578)	-4.598*** (1.254)
Media Coverage (full articles)* Analyst Divergence				-2.623*** (0.630)	2.598** (1.072)
ISS recommendation against management	-14.741*** (0.043)	-13.000*** (0.412)	-11.831*** (0.435)	-13.656*** (0.699)	-11.300*** (0.820)
Media Coverage (full articles)* ISS against management		-1.616*** (0.378)	-2.538*** (0.396)	-2.698*** (0.575)	-4.412*** (0.666)
Log_Total_Asset	-0.613*** (0.200)	-0.600*** (0.200)	-0.545*** (0.189)	-0.380 (0.362)	0.339** (0.158)
ROA	1.420*** (0.229)	1.471*** (0.226)	0.936*** (0.212)	0.665* (0.391)	-1.409*** (0.240)
leverage	1.308*** (0.168)	1.285*** (0.168)	1.274*** (0.145)	1.305*** (0.405)	0.035 (0.126)
Capex	1.962*** (0.369)	1.980*** (0.367)	1.884*** (0.369)	2.842*** (0.416)	3.315*** (0.472)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes	Yes
Constant	115.635*** (2.381)	114.053*** (2.423)	114.692*** (2.443)	116.536*** (5.231)	110.138*** (5.977)
Observation	375,902	375,902	375,902	293,187	293,187
Adjusted R-squared	0.338	0.345	0.311	0.413	0.256
Weak instruments: News item	225.3***	118.1***	99.6***	41.4***	155.7***
Weak instruments: News item* Analyst Coverage			1500.9***		388.4***
Weak instruments: News item* Analyst Divergence				175.9***	300.3***
Weak instruments: News item* ISS Against		1385.4***	926.2***	381.4***	283.3***
Wu-Hausman	13.24***	6.41***	86.36***	8.27***	30.93***

Table 9: Shareholder support and Media sentiment

This table reports OLS regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *Media Sentiment (CSS)* is the average Composite Sentiment Score (CSS) for 30 days before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management recommendation	1	2	3	4
	OLS	OLS	OLS	OLS
Media Sentiment (CSS)	4.253**	4.751**	3.262	1.096
	(1.913)	(2.076)	(6.432)	(6.512)
Analyst Coverage		-0.079***		-0.249***
		(0.014)		(0.028)
Media Sentiment (CSS)* Analyst Coverage		-0.804		5.963**
		(1.577)		(2.674)
Analyst Divergence			-0.366***	-0.245***
			(0.041)	(0.043)
Media Sentiment (CSS)*Analyst Divergence			-2.025	-5.502
			(6.766)	(6.931)
ISS recommendation Against management	-14.739***	-14.750***	-16.949***	-16.963***
	(0.042)	(0.042)	(0.046)	(0.046)
Media Sentiment (CSS)*ISS Against	24.380***	23.963***	26.671***	27.861***
	(6.134)	(6.181)	(6.523)	(6.558)
Log_Total_Asset	0.029***	0.058***	0.027***	0.096***
	(0.007)	(0.009)	(0.009)	(0.012)
ROA	0.720***	0.704***	0.241***	0.118
	(0.073)	(0.073)	(0.092)	(0.093)
leverage	0.796***	0.741***	0.816***	0.694***
	(0.052)	(0.053)	(0.059)	(0.061)
Capex	2.223***	2.327***	2.921***	3.129***
	(0.350)	(0.351)	(0.388)	(0.389)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	113.103***	112.825***	118.690***	118.016***
	(2.183)	(2.183)	(5.098)	(5.098)
Observation	375,902	375,902	293,187	293,187
Adjusted R-squared	0.375	0.375	0.431	0.431

Table 10: IV Model for Shareholder support and Media sentiment

This table reports IV regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *Media Sentiment (CSS)* is the average Composite Sentiment Score (CSS) for 30 days before the meeting date. The instrument is created from media variable for 30-day period between 210 and 180 days before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting the mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management	1	2	3	4	5
	IV: Previous Media				
Media sentiment (CSS)	36.143*** (6.500)	36.435*** (6.793)	39.895*** (8.182)	34.123 (27.266)	32.554 (28.319)
Analyst Coverage			-0.075*** (0.016)		-0.239*** (0.033)
Media sentiment*Analyst Coverage			-4.866 (5.288)		3.454 (9.505)
Analyst Divergence				-0.335*** (0.061)	-0.219*** (0.063)
Media sentiment*Analyst Divergence				-10.246 (28.847)	-12.618 (29.087)
ISS recommendation Against management	-14.747*** (0.041)	-14.742*** (0.051)	-14.749*** (0.052)	-16.986*** (0.058)	-17.000*** (0.058)
Media sentiment *ISS Against		-3.100 (20.801)	-5.543 (20.985)	28.931 (21.677)	30.257 (21.835)
Log_Total_Asset	0.021*** (0.008)	0.021*** (0.008)	0.052*** (0.009)	0.017* (0.009)	0.086*** (0.012)
ROA	0.730*** (0.073)	0.729*** (0.073)	0.711*** (0.074)	0.238*** (0.092)	0.119 (0.093)
leverage	0.782*** (0.052)	0.782*** (0.052)	0.726*** (0.053)	0.807*** (0.060)	0.687*** (0.061)
Capex	2.166*** (0.350)	2.166*** (0.350)	2.271*** (0.351)	2.916*** (0.388)	3.118*** (0.389)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes	Yes
Constant	113.232*** (2.182)	113.231*** (2.182)	112.951*** (2.182)	118.784*** (5.096)	118.124*** (5.096)
Observation	374,887	374,887	374,887	292,661	292,661
Adjusted R-squared	0.375	0.375	0.375	0.431	0.432
Weak instruments: Media sentiment	31948.6***	15974.3***	10892.7***	8356.9***	6598.5***
Weak instruments: Media sentiment*Analyst Coverage			15780.2***		10457.9***
Weak instruments: Media sentiment*Analyst Divergence				8270.9***	6483.0***
Weak instruments: Media sentiment*ISS Against		17676.4***	11799.2***	9645.1***	7256.7***
Wu-Hausman	22.71***	12.29***	8.279***	4.72***	3.41***

Table 11: Shareholder support and Media coverage & media sentiment

This table reports OLS regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *Media coverage* is natural log of 1 plus the number of news (Full article) in 30 days before the meeting date. The media coverage variable is centred to zero by deducting the mean from all observations. *Media Sentiment (CSS)* is the average Composite Sentiment Score (CSS) for 30 days before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management	1	2	3	4
	OLS	OLS	OLS	OLS
Media Coverage(Full article)*Media sentiment (CSS)				3.427**
				(1.403)
Media Coverage (Full Article)	0.061***	0.108***	0.168***	0.161***
	(0.014)	(0.037)	(0.037)	(0.038)
Media Sentiment (CSS)	2.731	5.500	2.738	2.829
	(2.067)	(6.408)	(6.487)	(6.488)
Analyst Coverage	-0.056***		-0.213***	-0.205***
	(0.014)		(0.029)	(0.029)
Media Coverage (Full Article)*Analyst Coverage	-0.038***		-0.129***	-0.132***
	(0.008)		(0.015)	(0.015)
Media Sentiment (CSS)*Analyst Coverage	0.111		9.126***	5.342*
	(1.573)		(2.677)	(3.092)
Analyst Divergence		-0.362***	-0.296***	-0.297***
		(0.044)	(0.046)	(0.046)
Media Coverage (Full Article)*Analyst Divergence		-0.101***	-0.024	-0.022
		(0.038)	(0.039)	(0.039)
Media Sentiment (CSS)* Analyst Divergence		-6.337	-11.002	-10.979
		(6.741)	(6.907)	(6.907)
ISS recommendation against management	-15.235***	-17.149***	-17.157***	-17.156***
	(0.042)	(0.046)	(0.046)	(0.046)
Media Coverage (Full Article) *ISS Against	-2.000***	-1.634***	-1.659***	-1.659***
	(0.032)	(0.035)	(0.035)	(0.035)
Media Sentiment (CSS) *ISS Against	37.157***	39.208***	41.338***	40.969***
	(6.152)	(6.504)	(6.538)	(6.540)
Log_Total_Asset	0.109***	0.078***	0.137***	0.137***
	(0.010)	(0.010)	(0.013)	(0.013)
ROA	0.712***	0.273***	0.129	0.132
	(0.073)	(0.092)	(0.093)	(0.093)
leverage	0.697***	0.752***	0.644***	0.644***
	(0.053)	(0.059)	(0.061)	(0.061)
Capex	2.330***	2.932***	3.095***	3.085***
	(0.349)	(0.386)	(0.387)	(0.387)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	110.912***	117.789***	117.199***	117.208***
	(2.172)	(5.078)	(5.077)	(5.077)
Observation	375,902	293,187	293,187	293,187
Adjusted R-squared	0.381	0.436	0.436	0.436

Table 12: Shareholder support and Sentiment Differential

This table reports OLS regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. The independent variable of sentiment differential is (No. of Positive news -No. of negative news)/(No. of Positive news + No. of Negative news). Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management recommendation	1	2	3	4
	OLS	OLS	OLS	OLS
Sentiment Differential	0.278***	0.278***	0.233***	0.182***
	(0.027)	(0.028)	(0.065)	(0.066)
Analyst Coverage		-0.081***		-0.171***
		(0.016)		(0.032)
Sentiment Differential*Analyst Coverage		0.003		-0.158***
		(0.023)		(0.041)
Analyst Divergence			-0.386***	-0.323***
			(0.047)	(0.050)
Sentiment Differential*Analyst Divergence			0.066	0.184**
			(0.068)	(0.075)
ISS recommendation Against management	-14.611***	-14.622***	-16.885***	-16.887***
	(0.047)	(0.047)	(0.053)	(0.053)
Sentiment Differential* ISS Against	-0.259***	-0.259***	-0.038	-0.071
	(0.071)	(0.071)	(0.080)	(0.081)
Log_Total_Asset	0.029***	0.057***	0.025***	0.095***
	(0.007)	(0.009)	(0.008)	(0.012)
ROA	0.655***	0.640***	0.134	0.017
	(0.073)	(0.074)	(0.092)	(0.093)
leverage	0.794***	0.740***	0.810***	0.688***
	(0.052)	(0.053)	(0.059)	(0.061)
Capex	2.180***	2.283***	2.879***	3.063***
	(0.350)	(0.351)	(0.388)	(0.389)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	113.021***	112.744***	118.544***	117.911***
	(2.183)	(2.183)	(5.097)	(5.097)
Observation	375,902	375,902	293,187	293,187
Adjusted R-squared	0.375	0.375	0.431	0.431

Table 13: IV Model for Shareholder support and Sentiment Differential

This table reports IV regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *Sentiment Differential* is (No. of Positive news -No. of negative news)/(No. of Positive news + No. of Negative news). The instrument is created from media variable for 30-day period between 210 and 180 days before the meeting date.
Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management	1	2	3	4	5
	IV: Previous Media				
Sentiment Differential	0.756*** (0.104)	1.283*** (0.112)	1.261*** (0.112)	1.759*** (0.265)	1.558*** (0.270)
Analyst Coverage			-0.007 (0.034)		-0.010 (0.065)
Sentiment Differential*Analyst Coverage			-0.210** (0.087)		-0.563*** (0.155)
Analyst Divergence				-0.081 (0.112)	-0.164 (0.125)
Sentiment Differential*Analyst Divergence				-0.705** (0.283)	-0.223 (0.314)
ISS recommendation Against management	-14.731*** (0.041)	-13.481*** (0.102)	-13.466*** (0.102)	-15.805*** (0.118)	-15.778*** (0.119)
Sentiment Differential*ISS Against		-3.767*** (0.280)	-3.847*** (0.282)	-3.221*** (0.315)	-3.341*** (0.316)
Log_Total_Asset	0.025*** (0.007)	0.025*** (0.007)	0.056*** (0.009)	0.021** (0.009)	0.091*** (0.012)
ROA	0.538*** (0.079)	0.518*** (0.079)	0.489*** (0.079)	-0.026 (0.101)	-0.152 (0.102)
leverage	0.786*** (0.052)	0.771*** (0.052)	0.718*** (0.053)	0.778*** (0.060)	0.652*** (0.061)
Capex	2.023*** (0.351)	2.060*** (0.352)	2.148*** (0.353)	2.832*** (0.390)	2.961*** (0.391)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes	Yes
Constant	112.780*** (2.182)	113.553*** (2.190)	113.256*** (2.191)	119.277*** (5.120)	118.730*** (5.120)
Observation	374,887	374,887	374,887	292,661	292,661
Adjusted R-squared	0.375	0.371	0.371	0.428	0.428
Weak instruments: Sentiment Differential	23752.9***	11876.5***	7922.4***	6132.9***	4605.4***
Weak instruments: Sentiment Differential*Analyst Coverage			9176.9***		5713.1***
Weak instruments: Sentiment Differential*Analyst Divergence				5974.0***	4496.2***
Weak instruments: Sentiment Differential*ISS Against		12697.6***	8465.4***	6778.3***	5079.8***
Wu-Hausman	25.77***	97.89***	67.2***	45.63***	35.98***

Table 14: Shareholder support and number of positive and negative news

This table reports OLS regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *positive news* is natural log of 1 plus the number of news items with positive Event Sentiment Score (ESS) in 30 days before the meeting date. *negative news* is natural log of 1 plus number of news items with negative Event Sentiment Score (ESS) in 30 days before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management recommendation	1	2	3	4
	OLS	OLS	OLS	OLS
Positive news	0.195***	0.198***	0.167***	0.150***
	(0.015)	(0.015)	(0.037)	(0.038)
Negative news	-0.112***	-0.109***	-0.124***	-0.094**
	(0.016)	(0.016)	(0.039)	(0.040)
Analyst Coverage		-0.026		0.045
		(0.025)		(0.047)
Positive news*Analyst Coverage		-0.040***		-0.142***
		(0.012)		(0.021)
Negative news*Analyst Coverage		0.033***		0.054**
		(0.012)		(0.022)
Analyst Divergence			-0.304***	-0.411***
			(0.077)	(0.086)
Positive news*Analyst Divergence			0.0002	0.107**
			(0.039)	(0.042)
Negative news*Analyst Divergence			-0.012	-0.053
			(0.041)	(0.044)
ISS recommendation against management	-10.564***	-10.554***	-13.548***	-13.494***
	(0.075)	(0.076)	(0.090)	(0.091)
Positive news *ISS against	-1.590***	-1.607***	-1.206***	-1.240***
	(0.039)	(0.040)	(0.044)	(0.044)
Negative news *ISS against	-0.885***	-0.873***	-0.639***	-0.629***
	(0.042)	(0.042)	(0.046)	(0.047)
Log_Total_Asset	0.080***	0.103***	0.059***	0.125***
	(0.009)	(0.010)	(0.010)	(0.013)
ROA	0.648***	0.625***	0.156*	0.024
	(0.073)	(0.073)	(0.092)	(0.094)
leverage	0.785***	0.743***	0.817***	0.695***
	(0.052)	(0.053)	(0.059)	(0.061)
Capex	2.208***	2.273***	2.789***	2.900***
	(0.348)	(0.348)	(0.387)	(0.387)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	109.693***	109.492***	115.877***	115.357***
	(2.170)	(2.170)	(5.080)	(5.080)
Observation	375,902	375,902	293,187	293,187
Adjusted R-squared	0.382	0.382	0.435	0.435

Table 15: IV Model for Shareholder support and number of positive and negative news

This table reports IV regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *positive news* is natural log of 1 plus the number of news items with positive Event Sentiment Score (ESS) in 30 days before the meeting date. *negative news* is natural log of 1 plus number of news items with negative Event Sentiment Score (ESS) in 30 days before the meeting date. Two instruments are created from media variables for a 30-day period between 210 and 180 days before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management	1	2	3	4
	IV: Previous sentiment			
Positive news	0.571*** (0.044)	0.587*** (0.045)	0.648*** (0.108)	0.584*** (0.109)
Negative news	-0.456*** (0.048)	-0.442*** (0.048)	-0.672*** (0.117)	-0.564*** (0.119)
Analyst Coverage		0.170*** (0.037)		0.204*** (0.070)
Positive news*Analyst Coverage		-0.200*** (0.033)		-0.313*** (0.058)
Negative news*Analyst Coverage		0.150*** (0.036)		0.240*** (0.064)
Analyst Divergence			-0.172 (0.136)	-0.403*** (0.151)
Positive news*Analyst Divergence			-0.219* (0.113)	0.043 (0.125)
Negative news*Analyst Divergence			0.286** (0.124)	0.068 (0.137)
ISS recommendation against management	-6.738*** (0.118)	-6.626*** (0.120)	-8.983*** (0.148)	-8.894*** (0.149)
Positive news *ISS against	-4.326*** (0.114)	-4.412*** (0.114)	-3.963*** (0.126)	-4.032*** (0.127)
Negative news *ISS against	0.223* (0.123)	0.268** (0.123)	0.186 (0.134)	0.225* (0.134)
Log_Total_Asset	0.118*** (0.012)	0.135*** (0.012)	0.102*** (0.013)	0.152*** (0.014)
ROA	0.581*** (0.079)	0.516*** (0.080)	0.115 (0.101)	-0.009 (0.102)
leverage	0.755*** (0.052)	0.724*** (0.053)	0.788*** (0.060)	0.686*** (0.062)
Capex	2.126*** (0.351)	2.090*** (0.352)	2.646*** (0.390)	2.653*** (0.391)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	107.253*** (2.184)	107.200*** (2.185)	112.642*** (5.116)	112.322*** (5.116)
Observation	374,887	374,887	292,661	292,661
Adjusted R-squared	0.375	0.374	0.427	0.427
Weak instruments: Positive News	30157***	20000.5***	15956.1***	11749***

Weak instruments: Negative News	27402***	18096.1***	13651.1***	9863***
Weak instruments: Positive News* Analyst Coverage		53605.3***		27966***
Weak instruments: Negative News* Analyst Coverage		47124.8***		22547***
Weak instruments: Positive News* Analyst Divergence			16992.0***	12703***
Weak instruments: Negative News* Analyst Divergence			14519.6***	10699***
Weak instruments: Positive News* ISS against	49935***	33276.9***	23393.1***	17537***
Weak instruments: Negative News* ISS against	50010***	33336.6***	23403.3***	17522***
Wu-Hausman	518***	349.7***	295.7***	222***

Table 16: Close-call market reaction

This table reports OLS regression results for a sample of close calls. Observation included are proposals which received a vote for management within ±2% of the requirement for passing. The dependent variable is Cumulative Abnormal Return (CAR) adjusted for the market. CAR (0, +1), CAR (0, +2) and CAR (0,+4) are returns from the meeting date and days 1, 2 and 4 respectively. Independent variable *Media coverage* is natural log of 1 plus the number of news (Full article) in 30 days before the meeting date. *withmgmt* is a binary variable taking value 1 if the vote outcome is with management recommendation and 0 otherwise. ISS_withmgmt is a binary variable taking value 1 if ISS recommends with management. Standard errors are reported in parentheses. ***, **, *,^ refer to significance at 1%, 5%, 10%, and 15% respectively.

(Sample Vote rate ±2% requirement)	1	2	3
Dependent Variable	CAR (0, +1)	CAR (0, +2)	CAR (0, +4)
Media_coverage (Full Article)	-0.0005 (0.001)	0.0001 (0.001)	0.003* (0.001)
withmgmt	-0.003 (0.004)	-0.003 (0.004)	-0.003 (0.005)
Media_coverage*withmgmt	0.003^ (0.002)	0.004** (0.002)	0.002 (0.003)
iss_withmgmt	0.009^ (0.006)	0.009* (0.006)	0.021*** (0.008)
iss_withmgmt*withmgmt	-0.007 (0.007)	-0.013* (0.007)	-0.016^ (0.010)
Constant	-0.001 (0.003)	-0.001 (0.003)	-0.007* (0.004)
Observation	437	511	511
Adjusted R-squared	0.001	0.008	0.021

Table 17: Shareholder support and Abnormal Media coverage

This table reports OLS regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable Abn_*Media coverage* is the difference between Media_coverage 30 days before the meeting date and the average 30 days of media coverage for days 210 and 90 before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management recommendation	1 OLS	2 OLS	3 OLS	4 OLS
Abn_Media Coverage (full articles)	0.035*** (0.013)	0.056*** (0.013)	0.145*** (0.036)	0.200*** (0.036)
Analyst Coverage		-0.016 (0.018)		-0.055* (0.032)
Abn_Media Coverage *Analyst Coverage		-0.037*** (0.008)		-0.127*** (0.015)
Analyst Divergence			-0.239*** (0.047)	-0.265*** (0.051)
Abn_Media Coverage * Analyst Divergence			-0.141*** (0.037)	-0.064* (0.038)
ISS recommendation against management	-13.083*** (0.050)	-13.074*** (0.050)	-15.375*** (0.057)	-15.350*** (0.057)
ISS against* Abn_Media Coverage	-1.832*** (0.032)	-1.847*** (0.032)	-1.524*** (0.034)	-1.549*** (0.035)
Log_Total_Asset	0.089*** (0.009)	0.108*** (0.010)	0.076*** (0.010)	0.139*** (0.013)
ROA	0.755*** (0.073)	0.733*** (0.073)	0.272*** (0.092)	0.129 (0.093)
leverage	0.734*** (0.052)	0.697*** (0.053)	0.752*** (0.059)	0.637*** (0.061)
Capex	2.192*** (0.349)	2.261*** (0.349)	2.903*** (0.387)	3.062*** (0.387)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	111.362*** (2.171)	111.198*** (2.172)	117.642*** (5.077)	116.989*** (5.076)
Observation	374,887	374,887	292,661	292,661
Adjusted R-squared	0.381	0.381	0.436	0.436

Table 18: Shareholder support and Abnormal Sentiment Differential

This table reports OLS regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Sentiment Differential is (No. of Positive news -No. of negative news)/(No. of Positive news + No. of Negative news). Abn_Sentiment Differential is the difference between the Sentiment Differential of 30 days before the meeting date and the average 30 days Sentiment Differential for days 210 and 90 before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management recommendation	1	2	3	4
	OLS	OLS	OLS	OLS
Abn_Sentiment Differential	0.261***	0.261***	0.182***	0.129**
	(0.026)	(0.027)	(0.063)	(0.064)
Analyst Coverage		-0.079***		-0.164***
		(0.016)		(0.032)
Abn_Sentiment Differential*Analyst Coverage		-0.003		-0.164***
		(0.022)		(0.040)
Analyst Divergence			-0.399***	-0.339***
			(0.046)	(0.050)
Abn_Sentiment Differential*Analyst Divergence			0.104	0.226***
			(0.066)	(0.073)
ISS recommendation Against management	-14.652***	-14.663***	-16.914***	-16.915***
	(0.046)	(0.047)	(0.052)	(0.052)
Abn_Sentiment Differential* ISS Against	-0.276***	-0.279***	-0.050	-0.084
	(0.068)	(0.069)	(0.078)	(0.078)
Log_Total_Asset	0.031***	0.060***	0.027***	0.095***
	(0.007)	(0.009)	(0.009)	(0.012)
ROA	0.678***	0.663***	0.142	0.026
	(0.074)	(0.074)	(0.093)	(0.094)
leverage	0.785***	0.732***	0.802***	0.681***
	(0.052)	(0.053)	(0.059)	(0.061)
Capex	2.119***	2.222***	2.848***	3.025***
	(0.350)	(0.351)	(0.388)	(0.389)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	113.092***	112.814***	118.635***	118.013***
	(2.181)	(2.181)	(5.094)	(5.094)
Observation	374,887	374,887	292,661	292,661
Adjusted R-squared	0.376	0.376	0.432	0.432

Table 19: Shareholder support and Abnormal number of positive and negative news

This table reports OLS regression results for all management proposals. The dependent variable is the percentage of Shareholder votes following management recommendations. Independent variable *positive news* is natural log of 1 plus the number of news items with positive Event Sentiment Score (ESS) in 30 days before the meeting date. *negative news* is natural log of 1 plus number of news items with negative Event Sentiment Score (ESS) in 30 days before the meeting date. Independent variable Abn_Media coverage (Positive and Negative) is the difference between Media_coverage 30 days before the meeting date and the average 30 days media coverage for days 210 and 90 before the meeting date. Analyst coverage is log of 1 plus the number of analysts providing recommendations (centred to zero by deducting mean from all observations). Analyst Divergence is the standard deviation of recommendations (1-5 scale). ISS_against is a binary variable taking value 1 if ISS recommends against management. Standard errors are reported in parentheses. ***, **, *, refer to significance at 1%, 5%, and 10%, respectively.

Shareholder vote rate with management recommendation	1	2	3	4
	OLS	OLS	OLS	OLS
Abn_Positive news	0.184***	0.186***	0.147***	0.130***
	(0.015)	(0.015)	(0.036)	(0.037)
Abn_Negative news	-0.103***	-0.101***	-0.080**	-0.054
	(0.015)	(0.015)	(0.038)	(0.038)
Analyst Coverage		-0.030		0.034
		(0.024)		(0.044)
Abn_Positive news*Analyst Coverage		-0.037***		-0.141***
		(0.011)		(0.020)
Abn_Negative news*Analyst Coverage		0.029**		0.047**
		(0.012)		(0.021)
Analyst Divergence			-0.294***	-0.396***
			(0.071)	(0.079)
Abn_Positive news*Analyst Divergence			0.011	0.117***
			(0.038)	(0.041)
Abn_Negative news*Analyst Divergence			-0.050	-0.085**
			(0.040)	(0.043)
ISS recommendation against management	-11.213***	-11.205***	-14.045***	-13.996***
	(0.069)	(0.070)	(0.083)	(0.083)
Abn_Positive news *ISS against	-1.566***	-1.581***	-1.189***	-1.223***
	(0.038)	(0.038)	(0.043)	(0.043)
Abn_Negative news *ISS against	-0.779***	-0.769***	-0.565***	-0.556***
	(0.041)	(0.041)	(0.045)	(0.045)
Log_Total_Asset	0.078***	0.101***	0.058***	0.126***
	(0.009)	(0.010)	(0.010)	(0.013)
ROA	0.678***	0.655***	0.166*	0.031
	(0.073)	(0.074)	(0.093)	(0.094)
leverage	0.781***	0.736***	0.810***	0.686***
	(0.052)	(0.053)	(0.059)	(0.061)
Capex	2.160***	2.227***	2.772***	2.880***
	(0.348)	(0.349)	(0.387)	(0.388)
Fixed Effect (Year, Industry, Proposal Agenda)	Yes	Yes	Yes	Yes
Constant	110.055***	109.849***	115.811***	115.295***
	(2.169)	(2.170)	(5.078)	(5.078)
Observation	374,887	374,887	292,661	292,661
Adjusted R-squared	0.383	0.383	0.435	0.436