The Monitoring Role of the Media: Evidence from Earnings Management

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Abstract

This paper examines the effect of media coverage on managers' earnings management decisions. We find that media coverage is negatively associated with both accrual-based and real earnings management, suggesting that the media serves as an external monitor of firm financial reporting, which curbs managers' opportunistic earnings management behaviors. Further analyses show that the effect of media coverage on earnings management is more pronounced for firms with low audit quality and weak board monitoring, indicating that the media substitutes for other monitoring mechanisms. We further find that earnings-related news coverage is more effective at curbing accrual-based earnings management, whereas operation-related news coverage is more effective at curbing real earnings management. Our new evidence is timely and adds to the debate on potency of the U.S. media.

1. INTRODUCTION

As one of the most important information intermediaries in the capital market, business media is shown to improve information flow in the capital market and reduce information asymmetry between managers and outside stakeholders (Fang and Peress 2009; Bushee et al. 2010; Peress 2014; Drake et al. 2014; Guest 2018). Media reporting also enhances monitoring by drawing the attention of market participants to managerial opportunism and irregularities (Miller 2006; Joe et al. 2009; Dyck et al. 2010; Liu and McConnell 2013; Dai et al. 2015). Nevertheless, media reporting can be harmful if it is biased and excessive. Evidence suggests that the media tends to report sensational news to attract readership (DeAngelo et al. 1994, 1996) and that firms can manipulate media reporting for their purposes (Ahern and Sosyura 2015). The media may also impose short-term performance pressure on managers, which hurts firms' long-term growth (Dai et al. 2016). In this study, we examine the effect of media coverage on firms' earnings management practices.

Due to agency problems, managers have incentives to manage earnings for their own benefits. For example, prior studies show that firm managers whose wealth is closely tied to stock prices have incentives to manipulate earnings to inflate stock prices (Bergstresser and Philippon 2006; Cohen et al. 2008; Cheng and Warfield 2005). Other factors, such as capital market pressures and career-related motives, also incentivize managers to manipulate earnings (Healy and Wahlen 1999; Graham et al. 2005; Dichev et al. 2013). Earnings management is detrimental to shareholders, as it reduces the quality of financial disclosure and increases the cost of capital (Aboody et al. 2005; Kim and Sohn 2013). Because earnings management is a common way for managers to maximize their own benefits at the expense of long-term firm value, it is important to examine whether the media plays a positive or

negative role in earnings management, which in turn has an important information effect on the capital market.

On the one hand, the media may serve as an external monitor of managerial opportunism, which reduces corporate earnings management behavior. Survey evidence shows that financial journalists believe monitoring companies is one of their most important objectives (Call, Emett, Maksymov, and Sharp 2018). Numerous empirical studies also find that the media monitors many aspects of firms' corporate governance, such as financial fraud (Miller 2006; Dyck et al. 2010), governance violation and weakness (Dyck et al. 2008; Joe et al. 2009), mergers and acquisitions (Liu and McConnell 2013), and insider trading (Dai et al. 2015). Once managers engage in opportunistic earnings management, they risk that their activities will be detected and broadcasted by the media to the capital market, resulting in negative market consequences, such as stock price drops and increased litigation risk. Anticipating these consequences, managers in firms with high media coverage may engage in less opportunistic earnings management activities to avoid media scrutiny.

On the other hand, the media may impose short-term performance pressure on managers, which induces them to manipulate earnings. Prior studies show that the media tends to report news sensationally to attract readership (DeAngelo et al. 1994, 1996; Core et al. 2008; Call et al. 2018) and that sensational media reporting pressures managers to deviate from optimal corporate policies (Kuhnen and Niessen 2012). A recent survey reports that U.S. corporate executives often feel media pressure to pursue short-term performance and forgo long-term strategies (Bailey and Godsall 2013, McKinsey & Company). Consistent with this view, Dai et al. (2016) find that media reporting on firm earnings imposes excessive performance pressure on managers, leading to a decline in firms' investments in long-term innovation projects. Accordingly, firms may manage earnings to avoid announcing negative earnings news or to achieve short-term goals when media coverage is high, as the negative

consequences of unfavorable earnings will be magnified by sensational media reporting. This implies a positive relation between media coverage and earnings management.

It is thus an empirical question as to whether media coverage curbs or amplifies firm earnings management. We investigate this question using media coverage data from RavenPack, a leading global media database that has been increasingly used in recent accounting and finance studies (e.g., Drake et al. 2014; Dai et al. 2015; Twedt 2016). We measure media coverage as the log transformation of the total number of news articles about a firm in a given fiscal year. We examine the impact of media coverage on both accrual-based and real earnings management, which are the most common earnings management behaviors examined by researchers. Following Dechow et al. (1995), we measure accrual-based earnings management using the modified Jones (1991) model. We follow Roychowdhury (2006) and Cohen and Zarowin (2010) and measure real earnings management using abnormal production costs, abnormal discretionary expenses, and abnormal operating cash flows.

Using a large sample of U.S. listed firms for 2000–2014, we find strong evidence that media coverage is associated with less accrual-based and real earnings management. The results show that moving from the 1st to the 10th decile of media coverage reduces accrual-based earnings management by 0.036, which is 23.7% of the sample mean. Similarly, moving from the 1st to the 10th decile of media coverage reduces the two real earnings management measures by 0.054 and 0.045, or 35.1% and 57% of the corresponding sample mean, respectively. Therefore, the negative association between media coverage and earnings management is both statistically significant and economically meaningful. The findings are consistent with the argument that media coverage reduces managerial opportunism in earnings management by serving as an external monitor. As the monitoring role should manifest itself in mitigating firms' intention to report good news, we find that media

coverage mainly reduces income-increasing accruals management but has no effect on income-decreasing accruals management. These findings are consistent with the monitoring role of the media in financial reporting.

For robustness checks, we conduct tests using alternative earnings management and media coverage measures. To address the potential omitted variable problem, we conduct analysis on one-year changes in the variables. We also include additional control variables in the regression. Further, we follow Dai et al. (2015) and use an instrumental variable approach to further address the endogeneity problem. The instrument we use is the distance between firm headquarters and the nearest news branch. We also control for the effect of media sentiment on earnings management. All these tests support our main findings.

In the additional analyses, we find that the effect of media coverage on earnings management is more pronounced for the subsample of firms with low audit quality (i.e., firms audited by non-audit industry specialists or firms audited by small audit practice offices) and weak board monitoring (i.e., firms with low board independence or firms with dual CEO-chairman structure). These findings suggest that the media's role as external monitor is strengthened when other monitoring mechanisms are not effective, implying a substitutional role of the media in monitoring. Moreover, we examine media content to show the media's monitoring effect. We find that earnings-related news coverage is more effective at curbing accrual-based earnings management and that product and service-related news coverage is more effective at curbing real earnings management. The findings suggest that media coverage on different news topics has varying effects on the actual tools that firms adopt to manipulate earnings.

Our study makes several contributions to the literature. First, we add new empirical evidence to the continuing debate about the role of the media in the U.S. capital market from the perspective of earnings management. We show that media coverage has real

consequences on the market by curbing managers' earnings management activities. The findings are consistent with the literature about the monitoring role of the media in the capital market (Miller 2006; Dyck et al. 2010; Dyck et al. 2008; Joe et al. 2009; Liu and McConnell 2013; Dai et al. 2015). While some media reports may provide biased viewpoints or impose excessive pressure on managers, our study suggests that media coverage in general also positively affects the transparency of firm financial reporting.

Second, our study contributes to the earnings management literature by suggesting that the media is another important monitor on firm financial reporting. Prior literature suggests that various agents can help curb managers' opportunistic earnings management. These agents include auditors (Becker et al. 1998; Balsam et al. 2003; Francis and Yu 2009), corporate boards (Klein 2002), institutional investors (Cornett et al. 2008), financial analysts (Yu 2008), and short-sellers (Massa et al. 2015; Fang et al. 2016). We provide evidence that the media also serves as a public watchdog and restricts managers' earnings management activities. We further show that the media substitutes other monitoring agents, such as auditors and board of directors, when these agents are not effective monitors.

The rest of the paper is organized as follows. Section 2 reviews prior literature on earnings management and media coverage, and it introduces our hypotheses. Section 3 describes the data, variables, and empirical model. Section 4 presents the results of our main analysis, robustness checks, and tests on endogeneity issues. Section 5 shows results for cross-sectional tests by audit quality and board monitoring, as well as tests about different news topics. Section 6 concludes.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Earnings Management

Healy and Wahlen (1999) state that "earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers." Managers have large discretion in financial reporting. They have incentives to manage earnings to gain better contractual outcomes. They also have incentives to manage earnings to inflate stock prices, which in turn, increases their own wealth. Considerable evidence links performance-based CEO compensation practices with earnings management. Studies show that firms in which managers' wealth is more closely tied to stock prices have a greater magnitude of discretionary accruals (e.g., Bergstresser and Philippon 2006; Cohen et al. 2008; Cheng and Warfield 2005). Factors such as capital market pressures and career-related motives are also shown to incentivize managers to manipulate earnings (e.g., Healy and Wahlen 1999; Dichev et al. 2013). A survey by Graham et al. (2005) shows that 78% of executives report that they would forego profitable investment opportunities to inflate near-term earnings.

Managers manipulate earnings via two main mechanisms: accrual-based and real earnings management. Accrual-based earnings management is conducted by changing the accounting methods or estimates used when presenting a given transaction in the financial statements (Zang 2012). Prior studies show that managers engage in accrual-based earnings management around major corporate events, such as initial public offerings (Teoh et al. 1998a), seasoned equity offerings (Rangan 1998; Teoh et al. 1998b), and share repurchases (Gong et al. 2008). Accrual-based earnings management makes firm financial reporting more opaque and less reliable, which increases firm information risk and thus cost of capital (Aboody et al. 2005; Francis et al. 2008; Kim and Qi 2010; Bhattacharya et al. 2013).

Real earnings management refers to managers using real activities to manipulate earnings. Roychowdhury (2006) defines real earnings management as "departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations." Real earnings management includes actions such as opportunistic reduction of discretionary spending (e.g., R&D, advertising, and maintenance), delay in starting a new project, overproduction, and acceleration of sales. According to a survey study, managers prefer to take economic actions rather than using accruals to manage earnings, as the former is harder to detect than the latter (Graham et al. 2005). Evidence shows that after the passage of the Sarbanes-Oxley Act, accrual-based earnings management decreased and real earnings management increased (Cohen et al. 2008). Real earnings management changes firm operations, so its negative effect on long-term firm value is even more severe than that of accrual-based earnings management (Cohen and Zarowin 2010).

Despite the widely documented phenomenon of earnings management, prior studies suggest that various internal and external agents provide governance that can curb earnings management. We list a few here. Auditors, who provide assurance of financial statement credibility, have been documented to reduce earnings management. For example, Becker et al. (1998) show that clients of non-Big Six auditors report income-increasing discretionary accruals more than clients of Big Six auditors. Balsam et al. (2003) find that clients of industry specialist auditors have lower absolute discretionary accruals and higher earnings response coefficients than clients of non-specialist auditors. Francis and Yu (2009) suggest that firms audited by large audit practice offices have less aggressive earnings management behavior. Further, Klein (2002) shows that audit committee independence is associated with low magnitudes of discretionary accruals. Cornett et al. (2008) find that earnings management is lower when there is more monitoring of management discretion (e.g., higher

institutional ownership, institutional representation on the board, and independent outside directors on the board). Yu (2008) shows that firms followed by more financial analysts engage in less accrual-based earnings management. Massa et al. (2015) and Fang et al. (2016) suggest that short sellers also curb earnings management by disciplining managers from engaging in such activities. Our study provides evidence on the media as another external monitoring mechanism.

2.2. The Effect of the Media on the Capital Market

The media plays an information role in the stock market through rebroadcasting existing information and creating new information. By collecting information from various sources and disseminating it to a broad audience, the media helps to incorporate such information into stock prices (Peress 2014). Information dissemination by the media significantly affects stock market outcomes, even if the reporting does not reveal any new information (Huberman and Regev 2001; Dai et al. 2015). The media also creates new information by undertaking original investigations and analyses (Miller 2006). New information created by the media also is incorporated into stock prices, which results in stock market movements (Bushee et al. 2010).

Evidence shows that media reporting can alleviate information frictions and affect security pricing (Fang and Peress 2009). Bushee et al. (2010) show that high media coverage is associated with lower spreads and greater depth around earnings announcements, suggesting that media reports help reduce firm information asymmetry. Drake et al. (2014) find that media coverage of earnings announcement mitigates cash flow mispricing but not accruals mispricing, suggesting that the media can help the market better understand accounting information. Twedt (2016) shows that greater media dissemination of

management earnings forecasts is associated with larger initial stock price reaction and greater speed with which earnings forecast information is incorporated into stock prices.

Prior literature documents that media reporting helps discover and broadcast managerial opportunism and irregularities, which enhances monitoring by attracting the attention of shareholders, policy makers, board members, and the public. For example, Miller (2006) finds that media reporting helps identify accounting fraud early by undertaking original investigation and analysis and by rebroadcasting information from other sources. Similarly, Dyck et al. (2010) find that, together with employees and industry regulators, the media plays an essential role in corporate whistleblowing. Dyck et al. (2008) find that media reporting on a corporate governance violation increases the probability of subsequent reversal of that violation, as negative media reports on the violation can damage firm reputation and increase the risk of enforcement or litigation. Joe et al. (2009) show that after the media publishes negative news about a firm's corporate governance weakness, many firms try to improve the quality of their governance (e.g., replacing the CEO and board chairman, increasing outside board members). These studies show the strong ex post effect of media monitoring on firm behavior after transgressions.

Studies show that the media also has a monitoring effect ex ante, as media attention may cause reputation loss and litigation risk. For example, Liu and McConnell (2013) find that managers consider the level and tone of media attention in deciding whether to abandon a value-reducing acquisition attempt, suggesting that the media helps to align manager and shareholder interests in merger and acquisition decisions. Dai et al. (2015) document that the media reduces insiders' future trading profits by disseminating news about prior insider trades from regulatory filings, suggesting that media reporting deters managers from engaging in opportunistic insider trading activities.

Survey evidence also shows that financial journalists serve as a "watch dog" in corporate governance. Unlike other financial intermediaries, such as analysts, financial journalists view monitoring companies as one of their most important objectives (Call et al. 2018). Journalists believe articles portraying companies in an unfavorable light is more impactful and unfavorable articles are more likely to trigger stock prices decreases and attract more readers. Financial analysts, on the other hand, do not focus on monitoring companies because their compensation is largely determined by their success in generating underwriting business or trading commissions (Brown, Call, Clement, and Sharp 2015). Thus, there is clear conflict of interest between users of sell-side research and sell-side analysts.

Other evidence suggests that the media does not serve a monitoring role. Jensen (1979) argues that the media is simply an entertainer and does not provide valuable information to the market. To attract readership, the media often reports sensational news, which can lead to suboptimal economic consequences (DeAngelo et al. 1994, 1996). For example, Core et al. (2008) find that negative media coverage is greater for CEOs with more option exercises, demonstrating media sensationalism in reporting management compensation. They also find that firms being reported do not change their compensation policies in response to negative media coverage. However, Kuhnen and Niessen (2012) show that media coverage of CEO compensation does affect firms' compensation policies. Firms reduce stock options granted to CEOs when the media reports negative news about these firms' CEO pay, and the effect is stronger for firms whose CEOs and board of directors have strong reputation concerns.

Further, Gurun and Butler (2012) show that local media attempts to increase advertising revenue by using fewer negative words than non-local media when reporting on local firms. Ahern and Sosyura (2015) find that bidding firms manage media coverage to influence their stock prices during merger negotiations, suggesting that the timing and content of media coverage could be biased by firm manipulation. Another type of negative

impact comes from the externality of media reporting in that media coverage may induce managers to be more short-term oriented. Dai et al. (2016) find that media reporting on firm earnings imposes excessive performance pressure on managers and induces knowledge leaks to rivals, which results in a decline in firms' innovation output.

2.3. Hypothesis Development

The previous discussion suggests that managers have large discretion in firm financial reporting. Due to agency problems, managers have incentives to manipulate earnings for their own interests, but at the expense of shareholders. Various external and internal corporate governance mechanisms can mitigate managers' abilities and incentives to manage earnings. Based on prior literature, media coverage has two confounding effects on firm earnings management practices.

The first confounding effect is that the media may serve as an external monitor of firm financial reporting, which reduces managers' earnings management activities. With high media coverage, managers risk that their opportunistic earnings management behaviors will be detected and broadcasted by the media to the capital market. Prior study shows that media helps investors analyze firms' earnings (Guest 2018). Even if the media does not detect earnings management, media coverage draws public's attention on the companies' financial reporting and increases the risk of the revelation of any earnings manipulation behavior. If earnings manipulation is detected, related media reporting might lead to negative market consequences, such as stock price drops and increase risk of firm litigation. Prior studies show that the stock market reacts strongly to media articles related to earnings (Bushee et al. 2010; Drake et al. 2014; Guest 2018). Therefore, high media coverage may deter managers from engaging in earnings management activities, which results in a negative relation between media coverage and earnings management. This induces our first hypothesis.

Hypothesis 1: High media coverage is associated with less earnings management activities by managers.

The second confounding effect is that the media may impose short-term performance pressure on managers, which induces them to engage in opportunistic earnings management activities. High media coverage brings attention to firms such that any news about the firm is disseminated by the media to a broad audience in the capital market. Bad news, such as negative earnings surprises or consecutive earnings declines, may attract media attention and result in sensational media reporting, which magnifies the negative stock market consequences. Because managers' compensation and career concerns are closely related to stock prices, they may try to inflate earnings (e.g., via earnings management) when media coverage is high. Therefore, high media coverage may induce managers to engage more in earnings management activities, which results in a positive relation between media coverage and earnings management. This induces our second hypothesis.

Hypothesis 2: High media coverage is associated with more earnings management activities by managers.

These two hypotheses have opposite predictions. Thus, it is an empirical question as to whether media coverage curbs or amplifies firm earnings management. We answer this question by investigating the effect of media coverage on firms' accrual-based and real earnings management activities.

3. RESEARCH DESIGN

3.1. Sample Selection

We obtain data on media coverage of U.S. publicly listed firms from RavenPack, a leading global media database that has been increasingly used in recent accounting and finance studies (e.g., Drake et al. 2014; Dai et al. 2015; Twedt 2016). RavenPack gathers and

analyses news articles from three major sources: (1) the Dow Jones newswires, regional editions of the *Wall Street Journal*, and Barron's; (2) business publishers, national and local news, blog sites, and government and regulatory updates; and (3) press releases and regulatory, corporate, and news services, including PR Newswire, the CNW Group (formerly the Canadian News Wire), and the Regulatory News Service.

Our initial sample consists of firms in the intersection of media coverage data from RavenPack, financial data from Compustat, and stock return data from the Center for Research in Security Prices (CRSP) for 2000–2014. We start from 2000, because it is the first year that RavenPack starts its coverage. We impose the following sample selection criteria. First, we exclude firms from the financial (SIC codes 6000–6999) and utility (SIC codes 4000–4999) industries. Second, we exclude firm-year observations with missing data for any of the variables in the regression analysis. All independent variables are lagged for one year in the regression, which further reduces the sample size. To mitigate the effects of outliers, we winsorize all variables (except for dummies) at both the upper and lower 0.5 percentiles of their distributions. Our final sample comprises 40,202 firm-year observations.

3.2. Measurement of Media Coverage

To construct our media coverage measure, we first count the news articles with a relevance score equal to 100 for each firm in each fiscal year. RavenPack assigns each news article a relevance score from 0 to 100 that indicates how strong the relationship is between the firm and the underlying news story. To ensure that the article is primarily about the firm under discussion, we follow prior studies (e.g., Drake et al. 2014; Dai et al. 2015) and focus on news articles with a relevance score of 100. Next, we use as our primary measure of media coverage the log number of news articles (*NEWS*), which is defined as the natural logarithm of one plus the number of news articles for a firm during the fiscal year. For firm-years with

no news coverage, we set the value of *NEWS* to zero. We conduct robustness tests in section 4.3 and show that our findings are robust to alternative measurements of media coverage, such as using a news coverage dummy and excluding observations with zero news articles in the RavenPack database.

3.3. Measurement of Earnings Management

3.3.1. The estimation of accrual-based earnings management

Our primary model to estimate accrual-based earnings management is the modified Jones (1991) model, as described in Dechow et al. (1995). The model specification is as follows:

$$\frac{TA_{i,t}}{AT_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{AT_{i,t-1}} + \beta_2 (\frac{\Delta REV_{i,t}}{AT_{i,t-1}} - \frac{\Delta AR_{i,t}}{AT_{i,t-1}}) + \beta_3 \frac{PPE_{i,t}}{AT_{i,t-1}} + \varepsilon_{i,t} \tag{1}$$

where *i* denotes firm, *t* denotes year, and *ε* is the error term; *TA* is total accruals, calculated as the difference between income before extraordinary items and operating cash flows; *AT* is book assets; *ΔREV* is the change in sales from year *t-1* to *t*; *ΔAR* is the change in accounts receivable from year *t-1* to *t*; and *PPE* is gross property, plant, and equipment. We estimate the regression in each year for each two-digit SIC code industry and require each industry-year to have at least 20 observations. We calculate discretionary accruals as the residuals from the previously described industry-year regressions. Because discretionary accruals can be either income-increasing or income-decreasing, we define the accrual-based earnings management measure (*AEM*) as the absolute value of discretionary accruals. Hence, high values of *AEM* indicate more accrual-based earnings management.

3.3.2. The estimation of real earnings management

Following prior literature (Roychowdhury 2006; Cohen and Zarowin 2010), we measure real earnings management using abnormal production costs, abnormal discretionary expenses, and abnormal operating cash flows. Specifically, using the model developed by Dechow et al. (1998) and implemented by Roychowdhury (2006), we estimate abnormal production costs as follows:

$$\frac{PROD_{i,t}}{AT_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{AT_{i,t-1}} + \beta_2 \frac{SALE_{i,t}}{AT_{i,t-1}} + \beta_3 \frac{\Delta SALE_{i,t}}{AT_{i,t-1}} + \beta_3 \frac{\Delta SALE_{i,t-1}}{AT_{i,t-1}} + \varepsilon_{i,t} \qquad (2)$$

where i denotes firm, t denotes year, and $PROD$ is the sum of the cost of goods sold and the change in inventory from year t-1 to t; AT is the firm's book assets; $SALE$ is the firm's sales revenue; and ε is the error term. We estimate the equation for each two-digit SIC code industry in each year and require each industry-year to have at least 20 observations. Abnormal production costs ($ABPROD$) are defined as the regression residuals from the industry-year regressions. Higher values of $ABPROD$ indicate more real earnings management.

Further, we estimate abnormal discretionary expenses as follows:

$$\frac{DISX_{i,t}}{AT_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{AT_{i,t-1}} + \beta_2 \frac{SALE_{i,t-1}}{AT_{i,t-1}} + \varepsilon_{i,t} \qquad (3)$$

where $DISX$ is the sum of R&D, advertising, and selling, general and administrative expenses. Following Cohen and Zarowin (2010), we set R&D and advertising expenses to zero if they are missing. All other variables are as defined in Equation (2). We conduct the same industry-year regressions and define abnormal discretionary expenses ($ABDISX$) as the residuals from these regressions. Lower values of $ABDISX$ indicate more real earnings management.

Last, we estimate abnormal operating cash flows as follows:

$$\frac{CFO_{i,t}}{AT_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{AT_{i,t-1}} + \beta_2 \frac{SALE_{i,t}}{AT_{i,t-1}} + \beta_3 \frac{\Delta SALE_{i,t}}{AT_{i,t-1}} + \varepsilon_{i,t} \qquad (4)$$

where CFO is the firm's operating cash flows. All other variables are as defined in Equation (2). We conduct the same industry-year regressions and define abnormal operating cash flows

(*ABCFO*) as the residuals from these regressions. Lower values of *ABCFO* indicate more real

earnings management.

To capture the aggregate effects of real earnings management, we follow Cohen and

Zarowin (2010) and combine the three individual measures into two comprehensive real

earnings management measures as follows:

$$REM1_{i,t} = ABPROD_{i,t} + (-1)ABDISX_{i,t} \tag{5}$$

$$REM2_{i,t} = (-1)ABDISX_{i,t} + (-1)ABCFO_{i,t} \tag{6}$$

We multiply *ABDISX* and *ABCFO* by negative one so that higher values of each aggregate

measure indicate more real earnings management.

3.4. Empirical Model

To examine the impact of media coverage on firm earnings management, we estimate

the following regression model:

$$\begin{aligned} EM_{i,t} = &\ \beta_0 + \beta_1 NEWS_{i,t-1} + \beta_2 SIZE_{i,t-1} + \beta_3 SG_{i,t-1} + \beta_4 CF_{i,t-1} + \beta_5 CFV_{i,t-1} \\ &+ \beta_6 DEBT_{i,t-1} + \beta_7 LOSS_{i,t-1} + \beta_8 AZ_{i,t-1} + \beta_9 MB_{i,t-1} + \beta_{10} RET_{i,t-1} + \beta_{11} SRV_{i,t-1} \\ &+ Year + Industry + \varepsilon_{i,t} \end{aligned} \tag{7}$$

where *i* denotes firm, *t* denotes year, and ε is the error term. *EM* is firm earnings management,

measured by either accrual-based earnings management (*AEM*) or real earnings management

(*REM1* or *REM2*). *Year* denotes the year fixed effects, and *Industry* denotes the industry fixed

effects based on two-digit SIC codes. The variable of interest in Equation (7) is *NEWS*, which

is our measure of media coverage. A negative and significant coefficient on *NEWS* suggests

that the media serves as an effective monitoring role in curbing earnings management

behavior, and a positive and significant coefficient suggests that the media imposes short-

term performance pressure on managers that induces them to engage in more earnings

management.

We follow prior studies (e.g., Bergstresser and Philippon 2006; Yu 2008) to control for several firm-level characteristics that could affect earnings management. Firm size (*SIZE*) is the natural log of the firm's book assets, and sales growth (*SG*) is the annual percentage increase in the firm's sales revenue. Sales growth volatility (*SGV*) is the standard deviation of sales growth over the past three years. Cash flow (*CF*) is the ratio of the firm's cash flow from operations to its book assets. Cash flow volatility (*CFV*) is the standard deviation of *CF* over the past three years. Debt ratio (*DEBT*) is the ratio of the firm's total debt to its book assets. Loss dummy (*LOSS*) is a dummy variable equal to one if the firm's operating income is negative and zero otherwise. Altman's Z-score (*AZ*) is a bankruptcy probability measure of Altman (1968). Market-to-book (*MB*) is the ratio of the firm's market value of assets to its book assets. Stock returns (*RET*) are cumulative monthly stock returns over the fiscal year. Stock return volatility (*SRV*) is the standard deviation of monthly stock returns over the past two years. Appendix A provides detailed definitions of these variables.

4. EMPIRICAL RESULTS

4.1. Summary Statistics

Table 1 presents the summary statistics of the variables in the regression analysis. The mean value of media coverage is 2.852, indicating an average of 17 news articles about one firm over the year. The mean values of our earnings management measures *AEM*, *REM1*, and *REM2* are 0.152, 0.154, and 0.079, respectively. These statistics are in line with those reported in prior studies (e.g., Roychowdhury 2006; Cohen et al. 2008; Kim et al. 2012). For the control variables, the summary statistics show that the average firm size in our is 6.1, which is equivalent to approximately $446 million. On average, these firms have a sales growth of 7.5%, cash flow of 4.5%, cash flow volatility of 0.089, and debt ratio of 19.8%. Further, 33.9% of the sample firms report losses in operation. These firms also have an

average Altman's Z-score of 0.65, market-to-book of 1.56, stock returns of 14.7%, and stock return volatility of 0.123.

[Insert Table 1 here]

Table 2 reports the Pearson correlations among the three earnings management measures, media coverage, and control variables. The panel shows that media coverage is negatively and significantly correlated with both accrual-based earnings management (-0.051 with *AEM*) and real earnings management measures (-0.007 with *REM1* and -0.038 with *REM2*). This provides univariant evidence that firms with high media coverage are less likely to engage in both accrual-based and real earnings management, compared with their low-media-coverage counterparts. The results are consistent with the monitoring role of the media in earnings management. Accrual-based earnings management is positively correlated with sales growth, cash flow volatility, debt ratio, loss dummy, market-to-book, stock returns, and stock return volatility, and it is negatively correlated with firm size, cash flow, and Altman's Z-score. The two real earnings management measures are both positively correlated with firm size, debt ratio, and Altman's Z-score and negatively correlated with cash flow volatility, market-to-book, stock returns, and stock return volatility.

[Insert Table 2 here]

4.2. Regression Results

To examine the influence of media coverage on firm earnings management, we estimate Equation (7) using ordinary least squares (OLS). All independent variables are lagged for one year. When estimating the coefficient standard errors, we correct for heteroskedasticity following White (1980) and cluster observations at the firm level to control for serial dependence across years for a given firm (Petersen 2009).

Table 3 presents our baseline results. In column (1), we examine the effect of media coverage on accrual-based earnings management (*AEM*). The results show that the coefficient of our variable of interest, *NEWS*, is negative and statistically significant (coefficient -0.002 with *t*-statistic -4.044), suggesting that firms with high media coverage engage less in accrual-based earnings management, as compared with firms with low media coverage. Similarly, columns (2) and (3) report the results when we use the two measures of real earnings management (*REM1* and *REM2*) as the dependent variable. For both real earnings management measures, the coefficient of *NEWS* is negative and statistically significant (coefficient -0.008 with *t*-statistic -3.812 for *REM1*; coefficient -0.006 with *t*-statistic -4.812 for *REM2*), suggesting that firms with high media coverage engage less in real earnings management.

[Insert Table 3 here]

The coefficients on control variables are generally consistent with prior literature (e.g., Roychowdhury 2006; Cohen et al. 2008; Kim et al. 2012). Accrual-based earnings management is positively and significantly related to sales growth, cash flow volatility, debt ratio, and stock return, and it is negatively and significantly related to firm size, loss dummy, and Altman's Z-score. Real earnings management is in general positively and significantly related to firm size, sales growth, debt ratio, and Altman's Z-score, and it is negatively and significantly related to cash flow, cash flow volatility, and market-to-book ratio.

To look closer at how media coverage affects earnings management, we focus on specific aspects of earnings management. First, as accrual-based earnings management can involve either income-increasing or income-decreasing accruals, we follow Yu (2008) and split the sample into subsamples with positive and negative discretionary accruals. Results reported in columns (1) and (2) of Table 4 show that the negative association between media coverage and accrual-based earnings management exists only for the subsample with positive

(i.e., income-increasing) discretionary accruals. Because managers are more likely to inflate earnings through positive discretionary accruals for their own benefit, this evidence confirms the media's monitoring role in managerial discretion over financial reporting.

[Insert Table 4 here]

Next, we focus on the three individual real earnings management measures, namely, abnormal productions (*ABPROD*), abnormal discretionary expenses (*ABDISX*), and abnormal operating cash flow (*ABCFO*). Results reported in columns (3), (4), and (5) of Table 4 suggest that managers in firms with high media coverage engage less in overproduction and abnormal cuts to discretionary expenses, but media coverage does not affect abnormal operating cash flows. The insignificant results for abnormal operating cash flows are likely due to the offsetting effects of abnormal production costs and abnormal discretionary expenses, as price discounts and overproduction have a negative effect on abnormal operating cash flows, whereas reducing discretionary expenses has a positive effect (Roychowdhury 2006). Overall, the results of the baseline regressions provide evidence in support of the monitoring role of the media in curbing both accrual-based and real earnings management activities. The findings are consistent with the monitoring role of the media in firm earnings management.

4.3. Robustness Checks

In this section, we conduct numerous tests to check the economic significance of the media's effect on earnings management and the robustness of our findings to alternative specifications and omitted variable concerns. Table 5 presents the results. For the sake of brevity, we report only the coefficient of media coverage throughout the table.

4.3.1. Economic significance

To assess the economic significance of our main results reported in Table 3, we take the decile ranking (ranging from 1 to 10) of each independent variable in Equation (7) for each year. Then, we re-estimate our baseline regressions by regressing *AEM*, *REM1*, and *REM2* on the decile rankings of independent variables. Panel A of Table 5 presents the results. The magnitude of the coefficient suggests that moving from the 1st to the 10th decile of media coverage reduces *AEM* by 0.004*(10–1) = 0.036, which is a change equivalent to 23.7% of the sample mean. Similarly, moving from the 1st to the 10th decile of media coverage reduces *REM1* by 0.006 *(10–1) = 0.054, which is a change equivalent to 35.1% of the sample mean, and it reduces *REM2* by 0.005*(10–1) = 0.045, which is a change equivalent to 57% of the sample mean. Collectively, the results confirm that the negative association between media coverage and earnings management is both statistically significant and economically meaningful.

[Insert Table 5 here]

4.3.2. Alternative news coverage measures and samples

In this section, we check whether our main empirical results are robust to using alternative media coverage measures and samples. In our main test, we follow prior literature and set media coverage of firms without any information in the RavenPack database to zero. We conduct the following two tests to make sure that our findings are not driven by this choice. First, instead of using a continuous variable of media coverage (i.e., log number of news articles), we use a dummy variable that equals one for firms with at least one news article in RavenPack database over the fiscal year and zero otherwise. Second, we restrict our sample to firms that are covered by the RavenPack database (i.e., firms with at least one news article over the fiscal year) and use the log transformation of number of news articles in the database. The purpose of these two tests is to check whether our findings are driven by the

difference between firms with and without coverage in the RavenPack database. Panel B of Table 5 presents the results, which show that the coefficient of media coverage is negative and significant in both regression specifications. The results suggest robustness of our findings in the main tests.

4.3.3. Alternative accruals measures

As described in Section 3.3.1, our primary measure of accrual-based earnings management is discretionary accruals based on the modified Jones (1991) model by Dechow et al. (1995). In this section, we consider five alternative models of calculating discretionary accruals to examine whether the findings in the main test are driven by our choice of the discretionary accruals model. Specifically, we re-estimate Equation (7) using discretionary accruals, which are calculated following Jones (1991), Larcker and Richardson (2004), Kothari et al. (2005), Dechow and Dichev (2002), McNichols (2002), and Owens et al. (2017). Panel C of Table 5 presents the results, which show that the coefficient of media coverage remains negative and significant in all the regressions. The findings suggest that our main findings are insensitive to the use of alternative discretionary accruals models.

4.3.4. Omitted variables

Although we find consistent results of a negative association between media coverage and earnings management, it is possible that media coverage and earnings management are simultaneously determined by other variables that are omitted from the regression. To mitigate the concern for correlated omitted variables, we re-estimate our regressions using alternative model specifications. First, we conduct regression analysis on the one-year change in the variables. Specifically, we replace all variables in Equation (7) by their first differences. Row (1) of Panel D, Table 5 presents the results and shows that the coefficient on *ΔNEWS* is

significantly negative at 10% in regressions with ΔAEM or $\Delta REM2$ as the dependent variable and at 5% with $\Delta REM1$ as the dependent variable, suggesting that changes in media coverage are negatively associated with changes in both accrual-based and real earnings management.

Further, we include several additional control variables in the regression. These variables include the Big 4 dummy, audit industry specialization, audit office size, dedicated institutional ownership, CEO duality, board size, board independence, and the E-index. Specifically, the Big 4 dummy is a dummy variable equal to one if the firm is audited by a Big 4 auditor and zero otherwise. Audit office size is the log of the aggregate audit fees collected by the audit practice office that performs audits on the firm. Audit industry specialization is a dummy variable equal to one if the firm is audited by an industry specialist auditor and zero otherwise, where an industry specialist auditor is the auditor with the largest market share in the firm's two-digit SIC industry during the year. Dedicated institutional ownership is the proportion of shares held by dedicated institutional investors (i.e., institutional investors with large shareholding and long investment horizons). CEO duality is a dummy variable equal to one if the CEO and the chairman of the board are the same person and zero otherwise. Board size is the log of number of directors on the board. Board independence is the proportion of independent directors on the board. The E-index is the entrenchment index proposed by Bebchuk et al. (2009).

Due to data availability of the additional control variables, the sample size of this test is reduced to 7,620 firm-year observations. Row (2) of Panel D, Table 5 shows the regression results. The coefficient of $NEWS$ is significantly negative at 5% in regressions with AEM and $REM1$ as the dependent variables and at 1% in regression with $REM2$ as the dependent variable, demonstrating that the relation between media coverage and earnings management is not driven by omitted audit quality and corporate governance variables.

4.4. Endogeneity

4.4.1. Instrumental variable

One potential concern of the baseline analysis is that media coverage may be endogenously determined. For example, to capture readership, the media must cater to public demand and report sensational news (Jensen 1979). Thus, the media is more likely to follow firms with certain characteristics, such as large and high-profile firms. From this point of view, rather than the monitoring effect of the media, better corporate governance at large and high-profile firms may deter managers from engaging in earnings management. Even if we control for firm characteristics in the regression and include additional corporate governance controls, as in Section 4.3.4, we cannot rule out this possibility. In this section, we conduct a formal test on the potential endogeneity issue in media coverage.

To perform the test, we follow prior studies and use an instrumental variable estimation framework. Specifically, following Dai et al. (2015), we adopt the distance-to-news-branch (*DSTC*) as our instrumental variable, defined as the log of the minimum distance (in kilometers) between firm headquarters and any of the Dow Jones news branches. A good instrumental variable in our setting, by definition, should be a strong indicator of media coverage but should not directly influence a firm's earnings management behavior (i.e., exclusion restriction). As documented by Gurun and Butler (2012), the longer distance between a firm and news branches, the less news coverage received by the firm. Meanwhile, there is no economic intuition that firms' distance to news branches correlates with their earnings management practices. Therefore, we conclude that distance-to-news-branch is a valid instrument in our setting (Larcker and Rusticus 2010).

We follow the standard two-stage least squares (2SLS) estimation to address the endogeneity concern in media coverage. In the first-stage regression, we regress the endogenous variable *NEWS* on the instrumental variable *DSTC*, as well as the same set of

control variables specified in Equation (7). In the second-stage regression, we re-estimate Equation (7) by replacing the endogenous variable *NEWS* with its fitted value from the first-stage regression.

[Insert Table 6 here]

Table 6 reports our findings. First, we conduct the Durbin-Wu-Hauseman test for endogeneity and find the Wu-Hauseman *F*-statistic is 47.382 (p-value < 0.001), which rejects the null of non-endogeneity. Therefore, it is necessary to use the instrumental variable approach to control for endogeneity. Second, we test the strength of our instrumental variable, *DSTC*. The weak instrument test strongly rejects the null of the weak instrument (*F*-statistic 505.571), suggesting that our choice of instrumental variable following Dai et al. (2015) is appropriate. Third, the coefficient on *DSTC* in the first stage is significantly negative (*t*-statistic -22.498), suggesting that firms with a longer distance to news branches receive less news coverage, which is consistent with Gurun and Butler (2012) and Dai et al. (2015). Finally, the coefficient of the fitted value of media coverage, *Fitted NEWS*, is significantly negative for each earnings management measure. This suggests that media monitoring plays a significant role in curbing firm earnings management even after controlling for endogeneity.

4.4.2. News sentiment

To mitigate the endogeneity issue further, we examine the effect of media coverage (i.e., whether media reporting tone in the news article is positive or negative) on earnings management after controlling for media sentiment. If our finding is driven by more effective monitoring induced by media coverage, we do not expect that high media sentiment will be associated with subsequent earnings management behavior. Instead, if our finding is driven by the media catering to sensational news (either good or bad), we expect media sentiment to

be associated with earnings management and the association between media coverage and earnings management to weaken or even disappear.

[Insert Table 7 here]

To measure media sentiment, we use the news Composite Sentiment Score for news articles provided by RavenPack, which employs a variety of advanced textual analysis techniques to create the scores. The Composite Sentiment Score ranges from 0 to 100, with a score above 50 indicating positive news, a score below 50 indicating negative news, and a score equal to 50 indicating neutral news. We calculate media sentiment (*SENTI*) as the average Composite Sentiment Score for all news articles released for each firm within each fiscal year, scaled by 100. We modify Equation (7) by adding *SENTI* into the regression models. Table 7 reports the regression results, which show that the coefficient on *SENTI* is statistically insignificant and that the coefficient on *NEWS* remains negative and significant. These results suggest that our main findings that media coverage reduces both accrual-based and real earnings management are unlikely to be driven by endogeneity issues.

5. ADDITIONAL ANALYSIS

The findings in the main analysis are consistent with the hypothesis that the media serves as an external monitor of firm financial reporting and thus reduces managers' earnings management activities. In this section, we first extend our main analysis by examining whether the association between media coverage and earnings management varies cross-sectionally on variables that capture the strength of monitoring from other sources. Given that both media monitoring and other forms of monitoring mechanisms are likely to constrain managers' earnings management activities, we expect that the media plays an important role in curbing earnings management for firms with weak monitoring. Then, we examine whether there is any heterogeneity among different topics of news articles in curbing managers'

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earnings management activities. Because different topics of news articles cover different aspects of firm operations, we expect them to affect firm earnings management in varying ways.

5.1. The Role of Audit Quality

Extensive literature focuses on the effect of audit quality on firm earnings management (e.g., Balsam et al. 2003; Gul et al. 2009; Francis and Yu 2009). High-quality auditors can detect managerial opportunism in financial reports and take corrective actions that help increase earnings quality for the firms they audit. Because monitoring in these firms is already high, the scope for the media to further monitor managers and mitigate earnings management is low. Therefore, we expect the effect of media coverage on earnings management to be attenuated when the firm has high audit quality.

We employ two measures of audit quality, following prior studies (Balsam et al. 2003; Gul et al. 2009; Francis and Yu 2009). Audit industry specialization is a dummy variable equal to one if the firm is audited by an industry specialist auditor and zero otherwise, where an industry specialist auditor is the auditor with the largest market share in the firm's two-digit SIC industry during the year. Audit office size is the log of the aggregate audit fees collected by the audit practice office that performs audits on the firm. In general, industry specialist auditors and large audit practice offices provide high-quality audit services to their client firms and thus can better monitor firm earnings management.

[Insert Table 8 here]

To test the role of audit quality on the relation between media coverage and earnings management, we divide our sample into subsamples based on whether the firm is audited by an industry specialist auditor. We then re-estimate Equation (7) for each subsample. Panel A of Table 8 presents the results, which show that for both accrual-based and real earnings

management, the negative association between media coverage and earnings management measures is stronger for the subsample of firms audited by non-industry specialist auditors. Next, we divide our sample into subsamples based on the size of the audit office that provides audit services to the firm. Again, we re-estimate Equation (7) for each subsample and report the results in Panel B of Table 8. The panel shows that the negative association between media coverage and earnings management measures is stronger for the subsample of firms audited by small audit offices. Overall, the results are consistent with our expectation that when monitoring from external monitors (such as auditors) is weak, the media plays a more important role in monitoring firm financial reporting, which curbs managers' earnings management activities.

5.2. The Role of Board Monitoring

In addition to external monitors, internal monitors such as a board of directors also play an essential role in restricting managerial opportunism in financial reporting. Prior studies document that independent boards can observe and make objective judgments on managerial activities. They also have power to correct managerial misbehaviors. For example, Beasley (1996) finds that the inclusion of an outside director reduces the probability of financial statement fraud. Klein (2002) documents that a greater proportion of independent directors on the board is associated with lower abnormal accruals. Cornett et al. (2008) show that institutional investor representation and independent directors on the board reduce the use of discretionary accruals. Firms with independent boards are likely to have better monitoring on firm financial reporting. Thus, we expect the effect of media coverage on earnings management to be attenuated for such firms.

[Insert Table 9 here]

We measure the strength of board monitoring using board independence, defined as the proportion of independent directors on the board, and CEO duality, which is a dummy variable equal to one if the CEO and the chairman of the board are the same person and zero otherwise. Higher board independence indicates stronger board monitoring, whereas dual CEO-chairman structure (i.e., greater CEO power) indicates weaker board monitoring.

We first divide our sample into subsamples based on the proportion of independent directors on the board and then re-estimate Equation (7) for each subsample. Panel A of Table 9 presents the results, which show that for both accrual-based and real earnings management, the negative association between media coverage and earnings management measures is stronger for the subsample of firms whose boards have low proportions of independent members. Then, we divide our sample into subsamples based on whether the firm has a dual CEO-chairman structure. We re-estimate Equation (7) for each subsample and present the results in Panel B of Table 9. The results show that the effect of media coverage on both accruals-based and real earnings management is stronger for the subsample of firms for which the CEO and the chairman of the board are the same person. Overall, the findings in this section are consistent with our expectation that when board monitoring is weak, monitoring from the media becomes essential in restricting managers' earning management activities. The results corroborate our main findings about the media's role in monitoring managerial opportunistic behavior in financial reporting.

5.3. The Role of News Topics

After documenting a relation between overall media coverage and earnings management, in this section we examine how the coverage of different news topics affects firms' earnings management. A unique feature of the RavenPack database is that it classifies news stories into different news topics according to the news contents. For example, a news

story can be classified under the topics such as *Earnings, Products and Services, Assets, Equity Actions, Credit, Insider Trading, Labor Issues,* and so on. News articles about earnings focus on earnings releases, earnings guidance, and earnings revision. News articles about products and services focus on market demand, product releases, product prices, and regulatory changes. These two news topics have the largest proportions of news articles in the RavenPack database.

The media coverage variable in our main regression in Table 3 is calculated based on news articles of all the topics. Given that accrual-based earnings management involves manipulating earnings components, it is likely that news articles under the topic of *Earnings* are more relevant to monitoring accrual-based earnings management. Similarly, real earnings management is more related to real production and firm operations. Thus, we expect news articles under the topic of *Product and Services* to be more likely to curb real earnings management.

[Insert Table 10 here]

To test our predictions, we construct our media coverage measure by dividing news articles into three groups, namely *Earnings*, *Product and Service*, and *Other*. The *Other* group includes news articles that are not in the *Earnings* and *Product and Service* groups. Then, we count the number of news articles within each group and include their log transformation in the regression. Table 10 reports the results, which show that higher earnings-related media coverage is associated with lower accrual-based earnings management but not with real earnings management and that higher product- and service-related media coverage or other media coverage is associated with lower real earnings management but not with accrual-based earnings management. The results are consistent with our prediction that earnings-related media coverage is more relevant to accrual-based earnings management,

whereas product- and service-related media coverage is more relevant to real earnings management.

6. CONCLUSION

This paper examines the role of media in corporate governance within the context of earnings management in financial reporting. Using measures of both accrual-based and real earnings management, we find that media coverage curbs firms' earnings management activities. Our results are robust to alternative media coverage measures, different discretionary accrual measures, and alternative model specifications. We further address the endogeneity concern using an instrumental variable approach, with the distance-to-news-branch as the instrument. Our results hold. In the additional analyses, we find that the effect of media coverage on earnings management is more pronounced for firms with low audit quality or firms with weak board monitoring. This suggests that the media serves as an external monitor and that its monitoring role is strengthened when other monitoring mechanisms are not effective. Further, we find that different news topics have different effects on earnings management. Earnings-related news coverage is more effective at curbing accrual-based earnings management, and product- and service-related news coverage is more effective at curbing real earnings management.

This study contributes to the debate on the role of the media in corporate governance. Prior literature about the effect of media on the capital market falls into two strands. One strand of literature argues that the media serves as an external monitor of managers by detecting and disseminating information about their opportunistic behaviors. The other strand of literature argues that the media provides little valuable information to the stock market. Instead, sensational media reporting even leads to negative consequences in the capital market (e.g., excessive performance pressure on managers). Our study provides new evidence

that media coverage can curb managers' opportunistic earnings management behaviors and that the monitoring role of the media is stronger when the traditional monitoring mechanisms are weak. Our findings are supportive of the strand of literature about the bright side of media coverage in the capital market. More broadly, our study extends the information intermediary literature by investigating how media coverage affects firms' disclosure behavior. Future studies can add to this research by examining how media coverage affects firms' voluntary disclosure policies, such as management earnings forecasts and conference calls.

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Appendix. Variables and Definitions

Variable	Definition
ABCFO	Abnormal operating cash flows, estimated following Roychowdhury (2006).
ABDISX	Abnormal discretionary expenses, estimated following Roychowdhury (2006).
ABPROD	Abnormal production costs, estimated following Roychowdhury (2006).
AEM	Discretionary accruals, defined as the absolute value of abnormal accruals estimated from the modified Jones model of Dechow et al. (1995).
AZ	Altman's Z-score, defined as (3.3 * Operating income (IOADP) + Sales (SALE) + 1.4 * Retained earnings (RE) + 1.2 * (Current assets (ACT) - Current Liability (LCT))) / Total Assets (AT).
CF	Cash flows, defined as cash flow from operations (OANCF) / total assets (AT).
CFV	Standard deviation of cash flows over the past three years.
DEBT	Debt ratio, defined as (Long-term debt (DLTT) + Debt in current liabilities (DLC)) / Total assets (AT).
DSTC	Distance to news branch, defined as the log of the minimum distance (in kilometers) between firm headquarters and any of the Dow Jones news branches.
LOSS	Dummy variable equal to 1 if operating income (IB) is negative and zero otherwise.
MB	Market-to-book ratio, defined as (Stock price (PRCC_F) * Shares outstanding (CSHPRI) + Long-term debt (DLTT) + Debt in current Liabilities (DLC)) / Total assets (AT).
NEWS	News coverage, defined as the log of one plus the number of news articles for a firm-year. We set the number of news articles to zero if there is no news information in RavenPack for a firm-year.
REM1	Real earnings management index 1, defined as ABPROD plus (-1)*ABDISX.
REM2	Real earnings management index 2, defined as (-1)*ABCFO plus (-1)*ABDISX.
RET	Stock returns, defined as cumulative stock returns over the fiscal year.
SENTI	News sentiment, defined as the average event sentiment score across all the news articles for a firm-year. The event sentiment score ranges from 0 to 100, so we divide the score by 100 for ease of interpretation.
SG	Annual growth rate of sales (SALE), where sales are deflated to 2009 dollars.
SIZE	Firm size, defined as the natural logarithm of total assets (AT), where total assets are deflated to 2009 dollars.
SRV	Stock return volatility, defined as the standard deviation of monthly stock returns over the preceding two years.

Table 1. Summary Statistics

This table presents the summary statistics of the variables for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. Variable definitions are provided in Appendix.

	Mean	S.D.	25%	Median	75%
AEM_t	0.165	0.185	0.037	0.104	0.223
$REM1_t$	0.115	0.462	-0.070	0.086	0.351
$REM2_t$	0.054	0.299	-0.070	0.042	0.208
$NEWS_{t-1}$	3.156	2.241	0.000	3.761	4.949
$SIZE_{t-1}$	6.179	2.046	4.732	6.152	7.530
SG_{t-1}	0.071	0.314	-0.053	0.055	0.182
CF_{t-1}	0.045	0.170	0.010	0.070	0.127
CFV_{t-1}	0.089	0.080	0.040	0.065	0.107
$DEBT_{t-1}$	0.202	0.208	0.012	0.150	0.319
$LOSS_{t-1}$	0.337	0.473	0.000	0.000	1.000
AZ_{t-1}	0.619	3.430	0.184	1.247	2.233
MB_{t-1}	1.563	1.450	0.729	1.125	1.858
RET_{t-1}	0.126	0.648	-0.272	0.028	0.359
SRV_{t-1}	0.120	0.071	0.067	0.104	0.160
Obs.			45,670		

Table 2. Correlation Matrix

This table presents the correlation matrix of the variables for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. Variable definitions are provided in Appendix.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) AEM_t	1.000													
(2) $REM1_t$	0.132	1.000												
(3) $REM2_t$	0.114	0.897	1.000											
(4) $NEWS_{t-1}$	-0.024	-0.015	-0.023	1.000										
(5) $SIZE_{t-1}$	-0.143	0.168	0.108	0.211	1.000									
(6) SG_{t-1}	0.041	-0.011	-0.049	0.015	0.030	1.000								
(7) CF_{t-1}	-0.102	0.147	0.007	0.165	0.342	0.042	1.000							
(8) CFV_{t-1}	0.191	-0.158	-0.092	-0.126	-0.492	0.025	-0.425	1.000						
(9) $DEBT_{t-1}$	0.024	0.070	0.097	-0.011	0.253	-0.012	-0.006	-0.136	1.000					
(10) $LOSS_{t-1}$	0.083	-0.071	0.008	-0.151	-0.321	-0.130	-0.471	0.322	0.066	1.000				
(11) AZ_{t-1}	-0.126	0.222	0.106	0.149	0.317	0.059	0.686	-0.434	-0.050	-0.442	1.000			
(12) MB_{t-1}	0.146	-0.228	-0.252	0.092	-0.165	0.193	-0.039	0.267	-0.106	-0.022	-0.146	1.000		
(13) RET_{t-1}	0.037	-0.014	-0.058	0.035	0.000	0.102	0.160	-0.028	-0.030	-0.180	0.081	0.239	1.000	
(14) SRV_{t-1}	0.021	-0.051	-0.035	-0.178	-0.189	0.037	-0.126	0.114	0.009	0.165	-0.106	-0.002	-0.101	1.000

Table 3. Regressions of Earnings Management on News Coverage: Baseline Results

This table presents the results of baseline regression analysis on the relation between earnings management and news coverage for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. The regressions are performed by ordinary least squares, with the t-statistics (in parentheses) computed using standard errors robust to both clustering at the firm level and heteroskedasticity. Constant, industry fixed effects based on two-digit SIC codes and year fixed effects are included. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix.

Dependent Variable:	AEM_t	$REM1_t$	$REM2_t$
	(1)	(2)	(3)
$NEWS_{t-1}$	-0.002	-0.006	-0.006
	(-3.824)***	(-2.946)***	(-4.086)***
$SIZE_{t-1}$	-0.008	0.025	0.012
	(-11.186)***	(7.989)***	(6.458)***
SG_{t-1}	0.009	0.011	-0.014
	(2.836)***	(1.388)	(-2.522)**
CF_{t-1}	-0.009	-0.038	-0.219
	(-0.795)	(-0.894)	(-8.175)***
CFV_{t-1}	0.069	-0.406	-0.178
	(3.673)***	(-5.214)***	(-3.701)***
$DEBT_{t-1}$	0.056	0.201	0.154
	(7.349)***	(8.664)***	(10.785)***
$LOSS_{t-1}$	-0.010	-0.006	-0.003
	(-3.770)***	(-0.867)	(-0.562)
AZ_{t-1}	-0.002	0.029	0.015
	(-2.790)***	(9.674)***	(8.583)***
MB_{t-1}	0.003	-0.096	-0.063
	(2.531)**	(-22.427)***	(-21.109)***
RET_{t-1}	0.006	0.011	-0.002
	(3.510)***	(2.642)***	(-0.767)
SRV_{t-1}	0.020	0.011	-0.027
	(1.413)	(0.255)	(-0.964)
Obs.	45,670	45,670	45,670
Adj. R^2	0.204	0.263	0.189

Table 4. Regressions of Earnings Management on News Coverage: Different Aspects of Earnings Management

This table presents the results of regression analysis on the relation between different aspects of earnings management and news coverage for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. The regressions are performed by ordinary least squares, with the t-statistics (in parentheses) computed using standard errors robust to both clustering at the firm level and heteroskedasticity. Constant, industry fixed effects based on two-digit SIC codes and year fixed effects are included. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix.

	Positive Discretionary Accruals Subsample	Negative Discretionary Accruals Subsample	Full Sample	Full Sample	Full Sample
Dependent Variable:	AEM_t	AEM_t	$ABPROD_t$	$ABDISX_t$	$ABCFO_t$
	(1)	(2)	(3)	(3)	(3)
$NEWS_{t-1}$	-0.003	-0.001	-0.002	0.005	0.000
	(-3.881)***	(-1.053)	(-2.325)**	(3.622)***	(0.750)
$SIZE_{t-1}$	-0.009	-0.006	0.004	-0.020	0.008
	(-10.894)***	(-6.498)***	(3.087)***	(-9.595)***	(11.764)***
SG_{t-1}	0.005	0.017	0.009	0.000	0.013
	(1.240)	(3.064)***	(2.623)***	(0.077)	(3.934)***
CF_{t-1}	-0.000	-0.027	-0.316	-0.271	0.499
	(-0.024)	(-1.837)*	(-17.494)***	(-9.437)***	(42.383)***
CFV_{t-1}	0.046	0.195	-0.121	0.286	-0.104
	(2.021)**	(7.367)***	(-3.664)***	(5.407)***	(-5.022)***
$DEBT_{t-1}$	0.081	0.005	0.052	-0.148	-0.001
	(8.069)***	(0.637)	(4.883)***	(-10.066)***	(-0.240)
$LOSS_{t-1}$	-0.017	0.016	0.007	0.014	-0.013
	(-5.209)***	(4.764)***	(2.347)**	(2.895)***	(-6.013)***
AZ_{t-1}	-0.001	-0.005	0.010	-0.020	0.003
	(-1.069)	(-5.347)***	(8.034)***	(-9.932)***	(5.035)***
MB_{t-1}	0.003	0.004	-0.038	0.057	0.007
	(2.116)**	(2.859)***	(-20.759)***	(17.042)***	(5.864)***
RET_{t-1}	0.012	-0.007	0.010	-0.000	0.002
	(5.743)***	(-2.966)***	(5.716)***	(-0.054)	(1.156)
SRV_{t-1}	0.010	0.053	-0.005	-0.007	0.031
	(0.560)	(2.632)***	(-0.240)	(-0.242)	(2.415)**
Obs.	30,860	14,810	45,670	45,670	45,670
Adj. R^2	0.211	0.205	0.135	0.354	0.441

Table 5. Regressions of Earnings Management on News Coverage: Robustness Checks

This table presents the results of robustness checks on the relation between earnings management and news coverage for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. The regressions are performed by ordinary least squares, with the t-statistics (in parentheses) computed using standard errors robust to both clustering at the firm level and heteroskedasticity. All the control variables, constant, industry fixed effects based on two-digit SIC codes and year fixed effects are included. For the sake of brevity, we only report the coefficient of news coverage. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix.

Dependent variable:	Coefficient of $NEWS_{t-1}$		
	AEM_t	$REM1_t$	$REM2_t$
	(1)	(2)	(3)
Panel A. Economic significance			
(1) Decile ranking of independent variables	-0.002	-0.003	-0.003
	(-3.643)***	(-1.950)*	(-2.869)***
Panel B. Alternative news coverage measures and samples			
(1) News coverage dummy	-0.008	-0.010	-0.013
	(-3.368)***	(-1.041)	(-2.219)**
(2) Subsample with news coverage data	-0.007	-0.074	-0.047
	(-3.445)***	(-10.566)***	(-10.362)***
Panel C. Alternative accruals measures			
(1) Jones (1991)	-0.002	-	-
	(-4.053)***	-	-
(2) Larcker and Richardson (2004)	-0.003	-	-
	(-5.583)***	-	-
(3) Kothari et al. (2005)	-0.001	-	-
	(-3.914)***	-	-
(4) Dechow and Dichev (2002)	-0.001	-	-
	(-4.027)***	-	-
(5) McNichols (2002)	-0.001	-	-
	(-4.333)***	-	-
(6) Owens et al. (2017)	-0.001	-	-
	(2.694)***	-	-
Panel D. Additional controls			
	-0.004	-0.016	-0.014
	(-1.693)*	(-2.161)**	(-3.452)***

Table 6. Regressions of Earnings Management on News Coverage: Instrumental Variable Approach

This table presents the results of instrumental variable approach on the relation between earnings management and news coverage for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. The regressions are performed by two-stage least squares (2SLS), with the t-statistics (in parentheses) computed using standard errors robust to both clustering at the firm level and heteroskedasticity. Constant, industry fixed effects based on two-digit SIC codes and year fixed effects are included. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix.

	First-Stage Regression	Second-Stage Regression		
Dependent Variable:	$NEWS_{t-1}$	AEM_t	$REM1_t$	$REM2_t$
	(1)	(2)	(3)	(4)
$DSTC_{t-1}$	-0.151			
	(-15.437)***			
Fitted $NEWS_{t-1}$		-0.021	-0.054	-0.034
		(-6.792)***	(-4.264)***	(-4.505)***
$SIZE_{t-1}$	0.162	-0.005	0.031	0.016
	(8.975)***	(-5.771)***	(8.480)***	(7.149)***
SG_{t-1}	0.061	0.011	0.014	-0.012
	(1.726)*	(3.131)***	(1.743)*	(-2.167)**
CF_{t-1}	0.249	-0.004	-0.027	-0.212
	(1.697)*	(-0.359)	(-0.624)	(-7.980)***
CFV_{t-1}	-0.715	0.057	-0.435	-0.196
	(-2.071)**	(2.800)***	(-5.505)***	(-4.036)***
$DEBT_{t-1}$	-0.069	0.054	0.197	0.151
	(-0.604)	(6.897)***	(8.234)***	(10.319)***
$LOSS_{t-1}$	-0.183	-0.013	-0.014	-0.007
	(-5.263)***	(-4.697)***	(-1.789)*	(-1.449)
AZ_{t-1}	0.048	-0.001	0.032	0.017
	(5.013)***	(-1.309)	(10.258)***	(9.230)***
MB_{t-1}	0.179	0.006	-0.087	-0.058
	(11.537)***	(5.302)***	(-17.621)***	(-17.622)***
RET_{t-1}	0.012	0.006	0.011	-0.002
	(0.797)	(3.519)***	(2.645)***	(-0.737)
SRV_{t-1}	-0.716	0.001	-0.035	-0.055
	(-3.440)***	(0.094)	(-0.769)	(-1.876)*
Obs.	45,670	45,670	45,670	45,670
Adj. R^2	0.320	0.166	0.225	0.155

Table 7. Regressions of Earnings Management on News Coverage: The Effect of News Sentiment

This table presents the results of baseline regression analysis on the relation between earnings management and news sentiment for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. The regressions are performed by ordinary least squares, with the t-statistics (in parentheses) computed using standard errors robust to both clustering at the firm level and heteroskedasticity. Constant, industry fixed effects based on two-digit SIC codes and year fixed effects are included. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix.

Dependent Variable:	AEM_t	$REM1_t$	$REM2_t$
	(1)	(2)	(3)
$SENTI_{t-1}$	0.009	-0.068	-0.009
	(0.338)	(-0.803)	(-0.170)
$NEWS_{t-1}$	-0.007	-0.073	-0.046
	(-3.479)***	(-10.350)***	(-10.180)***
$SIZE_{t-1}$	-0.007	0.049	0.027
	(-6.373)***	(10.298)***	(9.385)***
SG_{t-1}	0.004	0.009	-0.017
	(0.976)	(0.922)	(-2.454)**
CF_{t-1}	-0.021	-0.126	-0.249
	(-1.585)	(-2.494)**	(-7.668)***
CFV_{t-1}	0.067	-0.429	-0.220
	(3.047)***	(-4.533)***	(-3.740)***
$DEBT_{t-1}$	0.052	0.196	0.146
	(6.175)***	(7.209)***	(8.544)***
$LOSS_{t-1}$	-0.010	-0.013	-0.007
	(-3.539)***	(-1.515)	(-1.256)
AZ_{t-1}	-0.001	0.033	0.017
	(-1.419)	(9.924)***	(8.434)***
MB_{t-1}	0.003	-0.093	-0.062
	(2.675)***	(-19.325)***	(-18.449)***
RET_{t-1}	0.006	0.016	0.001
	(2.819)***	(3.272)***	(0.346)
SRV_{t-1}	0.013	0.033	-0.012
	(0.848)	(0.641)	(-0.379)
Obs.	32,593	32,593	32,593
Adj. R^2	0.229	0.286	0.219

Table 8. Regressions of Earnings Management on News Coverage: The Role of Audit Quality

This table presents the results of the effect of audit quality on the relation between earnings management and news coverage for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. The regressions are performed by ordinary least squares, with the t-statistics (in parentheses) computed using standard errors robust to both clustering at the firm level and heteroskedasticity. All the control variables, constant, industry fixed effects based on two-digit SIC codes and year fixed effects are included. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix.

Dependent Variable:	AEM_t	$REM1_t$	$REM2_t$	AEM_t	$REM1_t$	$REM2_t$
	(1)	(2)	(3)	(4)	(5)	(6)
$NEWS_{t-1}$	-0.002	-0.008	-0.006	-0.006	-0.014	-0.011
	(-3.904)***	(-3.370)***	(-4.338)***	(-6.085)***	(-3.883)***	(-4.835)***
$NEWS_{t-1}*AUDSPEC_{t-1}$	0.001	0.007	0.004			
	(1.436)	(2.161)**	(1.946)*			
$AUDSPEC_{t-1}$	-0.013	-0.058	-0.033			
	(-3.243)***	(-4.392)***	(-4.086)***			
$NEWS_{t-1}*AUDTNR_{t-1}$				0.002	0.004	0.003
				(5.195)***	(2.549)**	(2.920)***
$AUDTNR_{t-1}$				-0.011	-0.009	-0.007
				(-5.543)***	(-1.478)	(-1.581)
$SIZE_{t-1}$	-0.008	0.026	0.013	-0.008	0.024	0.011
	(-10.553)***	(8.439)***	(6.924)***	(-10.864)***	(7.592)***	(5.990)***
SG_{t-1}	0.009	0.011	-0.014	0.009	0.012	-0.013
	(2.841)***	(1.395)	(-2.515)**	(2.646)***	(1.556)	(-2.349)**
CF_{t-1}	-0.009	-0.039	-0.219	-0.007	-0.038	-0.219
	(-0.801)	(-0.907)	(-8.211)***	(-0.667)	(-0.874)	(-8.155)***
CFV_{t-1}	0.069	-0.407	-0.179	0.068	-0.415	-0.185
	(3.660)***	(-5.229)***	(-3.716)***	(3.624)***	(-5.317)***	(-3.830)***
$DEBT_{t-1}$	0.055	0.199	0.153	0.055	0.202	0.155
	(7.274)***	(8.575)***	(10.703)***	(7.333)***	(8.686)***	(10.815)***
$LOSS_{t-1}$	-0.010	-0.006	-0.002	-0.010	-0.006	-0.002

	(-3.733)***	(-0.807)	(-0.507)	(-3.803)***	(-0.778)	(-0.458)
AZ_{t-1}	-0.002	0.029	0.015	-0.002	0.029	0.015
	(-2.839)***	(9.668)***	(8.564)***	(-2.791)***	(9.654)***	(8.561)***
MB_{t-1}	0.003	-0.096	-0.063	0.003	-0.096	-0.063
	(2.544)**	(-22.487)***	(-21.147)***	(2.542)**	(-22.414)***	(-21.081)***
RET_{t-1}	0.006	0.011	-0.002	0.006	0.011	-0.002
	(3.542)***	(2.707)***	(-0.720)	(3.641)***	(2.671)***	(-0.734)
SRV_{t-1}	0.020	0.013	-0.026	0.015	0.015	-0.024
	(1.441)	(0.291)	(-0.930)	(1.042)	(0.351)	(-0.871)
Obs.	45,670	45,670	45,670	45,670	45,670	45,670
Adj. R^2	0.204	0.264	0.189	0.205	0.264	0.189

Table 9. Regressions of Earnings Management on News Coverage: The Role of Performance Pressure

This table presents the results of the effect of performance pressure on the relation between earnings management and news coverage for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. The regressions are performed by ordinary least squares, with the t-statistics (in parentheses) computed using standard errors robust to both clustering at the firm level and heteroskedasticity. All the control variables, constant, industry fixed effects based on two-digit SIC codes and year fixed effects are included. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix.

Dependent Variable:	AEM_t	$REM1_t$	$REM2_t$	AEM_t	$REM1_t$	$REM2_t$
	(1)	(2)	(3)	(4)	(5)	(6)
$NEWS_{t-1}$	-0.002	-0.002	-0.002	-0.000	0.001	-0.001
	(-2.312)**	(-0.784)	(-1.382)	(-0.327)	(0.287)	(-0.351)
$NEWS_{t-1}*ERROR_{t-1}$	-0.002	-0.004	-0.003			
	(-2.493)**	(-2.679)***	(-3.134)***			
$ERROR_{t-1}$	-0.001	-0.023	-0.016			
	(-0.240)	(-4.034)***	(-4.175)***			
$NEWS_{t-1}*TRAIO_{t-1}$				-0.006	-0.039	-0.024
				(-2.062)**	(-2.025)**	(-1.916)*
$TRAIO_{t-1}$				0.002	-0.040	-0.060
				(0.173)	(-0.374)	(-1.059)
$NEWS_{t-1}*QIXIO_{t-1}$				0.001	-0.006	-0.005
				(0.559)	(-0.502)	(-0.885)
$QIXIO_{t-1}$				-0.023	0.045	0.044
				(-3.378)***	(0.814)	(1.609)
$NEWS_{t-1}*DEDIO_{t-1}$				0.002	-0.022	-0.015
				(0.320)	(-0.715)	(-0.839)
$DEDIO_{t-1}$				-0.023	-0.077	-0.012
				(-0.923)	(-0.720)	(-0.154)
$SIZE_{t-1}$	-0.007	0.032	0.016	-0.007	0.027	0.013
	(-6.902)***	(7.653)***	(6.545)***	(-9.688)***	(4.181)***	(7.162)***
SG_{t-1}	0.009	0.017	-0.017	0.010	0.015	-0.011

	(1.795)*	(1.368)	(-1.941)*	(2.876)***	(1.268)	(-1.957)*
CF_{t-1}	0.043	-0.196	-0.305	-0.008	-0.036	-0.217
	(2.382)**	(-2.811)***	(-6.905)***	(-0.755)	(-0.945)	(-8.124)***
CFV_{t-1}	0.021	-0.509	-0.291	0.066	-0.402	-0.173
	(0.838)	(-4.595)***	(-4.307)***	(3.512)***	(-6.203)***	(-3.622)***
$DEBT_{t-1}$	0.035	0.188	0.148	0.054	0.204	0.156
	(3.506)***	(6.467)***	(8.346)***	(7.188)***	(4.712)***	(10.912)***
$LOSS_{t-1}$	-0.001	-0.035	-0.020	-0.010	-0.005	-0.002
	(-0.280)	(-3.783)***	(-3.152)***	(-3.966)***	(-0.342)	(-0.350)
AZ_{t-1}	-0.001	0.031	0.017	-0.002	0.029	0.015
	(-1.446)	(6.142)***	(5.848)***	(-2.679)***	(14.955)***	(8.561)***
MB_{t-1}	0.001	-0.103	-0.071	0.003	-0.095	-0.062
	(0.702)	(-16.963)***	(-18.486)***	(2.872)***	(-11.680)***	(-20.753)***
RET_{t-1}	0.007	0.013	0.003	0.006	0.013	-0.001
	(2.802)***	(2.286)**	(0.817)	(3.540)***	(1.762)*	(-0.178)
SRV_{t-1}	0.030	0.012	-0.036	0.020	0.022	-0.018
	(1.486)	(0.220)	(-0.999)	(1.424)	(0.569)	(-0.648)
Obs.	21,120	21,120	21,120	45,670	45,670	45,670
Adj. R^2	0.246	0.327	0.272	0.204	0.265	0.191

Table 10. Regressions of Earnings Management on News Coverage: Different News Topics

This table presents the results of regression analysis on the relation between earnings management and coverage of different news topics for the sample period 2000–2016. Our initial sample consists of all firms in the Compustat database. We merge the sample with the news coverage data from RavenPack and stock returns data from CRSP. We require each firm–year observation to have non-missing values for the variables in the baseline analysis, and we winsorize all variables at both the 1st and 99th percentiles. The regressions are performed by ordinary least squares, with the t-statistics (in parentheses) computed using standard errors robust to both clustering at the firm level and heteroskedasticity. Constant, industry fixed effects based on two-digit SIC codes and year fixed effects are included. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Variable definitions are provided in Appendix.

Dependent Variable:	AEM_t	$REM1_t$	$REM2_t$
	(1)	(2)	(3)
$NEWS_{t-1}$–Earnings	-0.002	0.004	0.002
	(-1.695)*	(1.147)	(0.817)
$NEWS_{t-1}$–Products and Services	-0.002	-0.014	-0.011
	(-1.980)**	(-3.393)***	(-4.575)***
$NEWS_{t-1}$–Other	0.000	-0.005	-0.002
	(0.446)	(-2.261)**	(-1.803)*
$SIZE_{t-1}$	-0.008	0.028	0.014
	(-10.573)***	(8.720)***	(7.412)***
SG_{t-1}	0.010	0.013	-0.013
	(2.853)***	(1.602)	(-2.311)**
CF_{t-1}	-0.009	-0.040	-0.221
	(-0.807)	(-0.944)	(-8.248)***
CFV_{t-1}	0.071	-0.380	-0.159
	(3.808)***	(-4.884)***	(-3.308)***
$DEBT_{t-1}$	0.055	0.198	0.152
	(7.333)***	(8.512)***	(10.605)***
$LOSS_{t-1}$	-0.009	-0.003	-0.000
	(-3.682)***	(-0.395)	(-0.021)
AZ_{t-1}	-0.002	0.029	0.015
	(-2.841)***	(9.588)***	(8.457)***
MB_{t-1}	0.003	-0.095	-0.063
	(2.514)**	(-22.327)***	(-20.991)***
RET_{t-1}	0.006	0.011	-0.002
	(3.540)***	(2.736)***	(-0.668)
SRV_{t-1}	0.020	0.012	-0.026
	(1.416)	(0.282)	(-0.944)
Obs.	45,670	45,670	45,670
Adj. R^2	0.204	0.265	0.191