Bad News Bearers:
The Negative Tilt of Financial Press

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Abstract

We show the financial press is more likely to cover firms with deteriorating performance. Specifically, we show greater media coverage foreshadows declines in firms' profitability and negative earnings surprises. Similarly, we find the media is more likely to cover firms' earnings announcements if they convey poor operating performance, suggesting the media tilts its selection process toward negative news. We estimate the size of the tilt in media coverage and find that, controlling for the content of news, a news story is approximately 22 percent more likely to be covered if it is negative. Greater media coverage also negatively forecasts future returns, primarily among firms with low return volatility and those receiving non-routine coverage, suggesting that media coverage conveys novel negative information. Given the important role financial media plays in capital markets, a central contribution of this paper is in showing that the media tilts its selection process toward negative news.

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1. Introduction

The financial press plays a critical role in capital markets by serving as an informational intermediary among market participants. Recognition of this role has given rise to a substantial literature that examines the influence of the financial press on various market outcomes including, but not limited to, investor attention, information asymmetries, and the efficiency of market prices. A central inference from this literature is that the financial press helps create, validate, and disseminate information to market participants.

Much of the prior research on the financial press takes media coverage as given and instead focuses on its impact on market outcomes. This focus has engendered a relative scarcity of research on the incentives that shape the amount and content of media coverage. As noted in Dougal et al. (2012), media coverage is often treated as stemming from a 'faceless institution,' rather than a byproduct of utility maximizing agents. Perhaps as a result, relatively little attention has been paid to the nature and implications of the financial press' incentives for which events it deems as newsworthy. Our study attempts to fill this void by studying the tilt in the media's selection process (i.e., the prioritization of certain stories) toward negative versus positive news about firms' performance.

Broadly speaking, one of the primary goals of this paper is to refine how researchers and market participants view media coverage. Specifically, we show there are at least two dimensions to media coverage: (1) how events are portrayed when providing coverage, and (2) the decision of what events or firms to cover. Whereas most prior research focuses on the former, this study focuses on the latter.

For some readers, the idea that the media prefers to cover more sensational stories is intuitive and perhaps even conventional wisdom. However, academic evidence documenting the media's preference for covering negative versus positive events remains elusive, in part, because doing so requires an objective benchmark for what the media's selection process would be like in its absence.

Prior research shows, for example, there is more media coverage of violent crime than property crime relative to their base rates (e.g., Marsh (1991)), and that news outlets are more likely to prioritize stories involving violence, conflict, or suffering (e.g., Johnson (1996)). However, in these contexts researchers lack the ability to observe the distribution of potentially covered events and/or objectively rank the underlying events in terms of their badness, which makes it unclear what media coverage would look like under the counterfactual where coverage is randomly allocated.

Our study differs from prior research in that we focus on the link between media coverage and earnings news of publicly traded firms. This approach allows us to simultaneously observe the distribution of potentially covered firms and objectively rank firms in terms of their fundamental performance. Moreover, our approach allows us to empirically disentangle the sign of news (i.e., good vs. bad) from its intensity (i.e., significant vs. insignificant), which is unavailable in most other research settings. Thus, an important innovation of our paper is in using firms' earnings news to establish and directly estimate the magnitude of the media's tilt toward negative versus positive events.

Our central hypothesis is that the media is more likely to tilt its coverage toward negative news for two primary reasons. The first is that the media relies on readership to sustain its operations and bad news may be viewed as sensational and draw attention from the public (e.g., Gieber (1955), Stone and Grusin (1984), Grabe and Kamhawi (2006)). This link may help to explain why news outlets are drawn toward conflicts and violence (Campbell and Jamieson (2006)). A second reason is that the media competes for the investing public's attention with alternative information sources such as sell-side analysts and firms that are more likely to focus on disseminating positive information (e.g., McNichols and O'Brien (1997), Beyer et al. (2010)). Thus, we expect that media coverage is titled toward negative news because it is more likely to be sensational and/or novel.

The tension underlying our main hypothesis reflects prior evidence that the media may cater to firms' preferences to maintain or strengthen informational and/or economic ex-

changes (e.g., Besley and Prat (2006), Reuter and Zitzewitz (2006)). For example, in the wake of the recent financial crisis, many commentators pointed blame toward both business and personal relationships between banks and the media for what is regarded as insufficient media coverage of the sector's financial distress (Starkman (2014)). Similarly, to the extent that institutional and/or market frictions, such as short-sale costs, reduce the usefulness of negative news for informing trading decisions, the media may focus on positive information to cater to the demands of its target audience.

The collective arguments from the literature on media incentives highlight the ex-ante ambiguity regarding the nature and severity of tilt in coverage decisions, and this association is therefore an open empirical question. Resolution of this ambiguity is hampered by the fact that most empirical media studies focus on the impact of media within an specific context, such as during SEC investigations or during labor strikes (e.g., Miller (2006); Peress (2014)). By contrast, we take a macro-level (or "bird's eye") view on the relationship between media coverage and firm performance. As we explain below, we build a large sample of national media stories and measure their predictive power for firms' operating performance. In doing so, our tests assess the magnitude of media tilt and establish several important regularities regarding the relation between media coverage and firms' performance.

The construct of interest in our study is the "tilt" of the financial press that captures the likelihood that the media covers firms experiencing deteriorating, compared to improving, fundamental performance. Our empirical tests rely on a sample of manually-collected articles from four of the largest national newspapers: the Wall Street Journal, USA Today, New York Times, and Washington Post. We match our news database to a broad cross-section of roughly 4,000 firms each quarter, which spans approximately 264 thousand firm-quarters from 2001 through 2015.

Our main tests examine whether media coverage predicts levels of, and changes in, firms' reported earnings. Specifically, we measure the extent of media coverage prior to firms' earnings announcements and its relation to multiple proxies for firms' subsequently announced

performance information. To the extent that media coverage is tilted toward negative events, we expect that a greater number of pre-announcement articles foreshadows firm underperformance in the form of negative earnings announcement news.

Our first main result is that the presence and intensity of media coverage is a robust negative predictor of both the level of, and changes in, firms' earnings. These effects are strongest for news coverage by the Wall Street Journal and New York Times, which tend to be more oriented toward financial news. This relation is robust to the use of firm-fixed effects and standard controls including equity returns contemporaneous with the news coverage. These results indicate that the media tends to cover firms with deteriorating performance and, in doing so, foreshadows negative performance information to market participants. We also show that the media's tilt toward negative news is more pronounced among print articles than news-wire articles, which is consistent with space constraints playing a role in the media's selection process.

An important appeal of our manually-collected news sample is that it allows us to simultaneously quantify the amount of media coverage (i.e., the number of stories) and its content (i.e., the sentiment of the text), which facilitates studying one dimension while holding the other constant. We leverage this feature by showing that the extent of coverage provides incremental explanatory power above its content for predicting firms' performance, suggesting that the two metrics capture distinct dimensions of the news dissemination process.

In related tests, we show that greater media coverage negatively predicts subsequently announced analyst-based earnings surprises. These findings suggest analysts fail to update their forecasts of firms' performance in response to media coverage and thus provides further evidence that the media conveys novel negative information to market participants.

Having established the media's tilt toward negative news, we next turn to estimating its magnitude. We do so by examining the media's reaction during earnings announcements where we can directly measure the underlying news. We first confirm that negative earnings news is more likely to receive media coverage. In terms of magnitude, we show that a firm

is 22 percent more likely to receive news coverage conditional on the sign of the underlying news being negative. These tests indicate that the magnitude of the tilt in the financial press is economically large and thus is relevant for the way academics study news coverage in financial markets.

To understand the asset pricing implications of the media's negative tilt, we show that an investment strategy that bets against firms with high coverage and bets on firms with low coverage produces an average factor-adjusted alpha of 30 basis points per month. These findings mirror those in Fang and Peress (2009), which argue that higher coverage lowers firms' expected returns by garnering greater visibility and liquidity.

Building upon Fang and Peress (2009), we explore media tilt as an alternative and mutually-non-exclusive explanation for why news negatively forecasts future returns by conditioning our portfolio sorts based on firms' recent performance. Our findings indicate that the predictive power of media coverage for returns is concentrated among high momentum stocks and those with low volatility, suggesting that the media is more likely to convey novel negative information when coverage applies to firms that appear to be performing well based on contemporaneous market outcomes.

Our final analyses examine the role of 'routine' media coverage on its predictive power for firms' performance. The intuition for these tests is the media has historically covered certain firms on a periodic basis, for example bellwether firms such as Alcoa when announcing earnings, which makes the amount of coverage a noisier signal for forecasting firms' performance prospects. Consistent with this intuition, we document stronger return predictability when decomposing firms' media coverage into routine versus non-routine coverage, where the latter is more likely to reflect a negative tilt.

We show that the negative predictive power of media coverage for firms' future returns is most pronounced for firms receiving non-routine coverage. Similar in spirit to the classification of routine versus non-routine insider trading in Cohen et al. (2012), we show that our findings are most pronounced for coverage that deviates from the amount received in the

same month of the prior year. We also show non-routine (i.e., abnormal-month) coverage outperforms the level of coverage, as well as changes in coverage relative to the prior calendar year, in forecasting firms' future returns. These tests suggest that firms often receive routine coverage that are not indicative of the media's tilt and thus that identifying non-routine coverage improves the ability of news-based proxies to forecast firms' performance.

The broader contribution of this paper extends beyond the study of forecasting firm performance. In particular, our findings help inform the extensive literature that uses media coverage as a proxy for the extent of information dissemination. Because firms' performance influences which investors choose to hold a stock, how frequently they trade, and the price they pay when trading, the performance component of the media's selection process can create a mechanical correlation between media coverage proxies and various market outcomes – such as price discovery, liquidity, and investor composition. Thus, a key inference from our paper is that researchers may incorrectly attribute this mechanical correlation to the impact of the media's role as intermediary, when the associations are likely confounded by their tendency to cover firms with deteriorating operating performance.

In sum, this paper provides three main insights. Conceptually, this study contributes to our understanding of the media's role as informational intermediaries by showing that media tends to allocate coverage inversely to firms' operating performance. Practically, this study provides a simple methodology for identifying novel news in media articles by contrasting the extent of coverage with contemporaneous patterns in firms' stock prices and past coverage behavior. Finally, methodologically, this study shows that the use of media coverage in capital market settings is complicated by the fact that this proxy also reflects information about firms' operating performance.

The rest of the paper is organized as follows. Section 2 discusses our data, Section 3 shows the main empirical tests, Section 4 estimates the size of the 'tilt' in media coverage, Section 5 explores the predictive power of coverage for returns and Section 6 discusses routine versus non-routine coverage. Section 7 concludes.

2. Data

Our main dataset of newspaper articles comes from Factiva.com (a business information tool owned by Dow Jones & Company). To construct our dataset, we first restrict our sample to firms for which we can obtain stock price and quarterly accounting information from CRSP and COMPUSTAT. We then manually match firm names to the corresponding Factiva Data Codes, and use these codes to search for articles about each firm in The Wall Street Journal (WSJ), the New York Times (NYT), USA Today (USAT), and the Washington Post (WP), between 2001 and 2015 (the time period during which Factiva has consistent coverage of these newspapers).

For each article about a given firm, we record its date, title, and location of the article in the paper. The Wall Street Journal, the New York Times, and USA Today are the top three newspapers by weekday circulation, and the Washington Post is the seventh top paper by weekday circulation in the US.[1] Factiva's academic license does not allow us to access articles for the other newspapers on the top circulation list. However, these four newspapers are in line with national newspaper coverage used in the prior literature (e.g., Fang and Peress (2009); Gurun and Butler (2012); and Solomon et al. (2014)).

Our main analyses examine the predictive link between pre-announcement media coverage and firms' subsequently reported quarterly performance information. We conduct these tests by measuring media coverage in the 50 trading days ending 5 days before firms' quarterly earnings announcements. We exclude the five days prior to the announcement to avoid the influence of the media conveying pre-announced earnings as well as articles more than 50 trading days prior to avoid coverage pertaining to the previous announcement.

We present the summary statistics for our media dataset in Table 1, Panel A. Overall we have 264,313 firm-quarter observations covering 9,870 unique firms. The first two columns show the distribution of firm-quarter observations by year as well as the percent of those

[1]Source: https://en.wikipedia.org/wiki/List_of_newspapers_in_the_United_States#Top_25_newspapers.

firm-quarters the firm received media coverage (where media coverage is defined as having at least one article in one of the four news papers).

Overall, we have 282,996 firm-article observations (if an article is relevant to two firms, then the article will be counted twice towards this number - once for each firm). The third column of Panel A displays how the number of firm-article observations varies across years, and the remaining columns show the breakdown by year and newspaper. Consistent with being the most business-oriented newspaper, the Wall Street Journal has the highest number of articles that cover firms. However, the number of business-related articles in the WSJ has declined in recent years consistent with the paper's move to become a more general audience newspaper.[2]

In Panel B, we examine how the average firm characteristics relate to the amount of media coverage firms receive. Every quarter we sort firms into terciles, based on the number of articles about the firm during the quarter. On average, 3,617 firms receive no coverage during the quarter, 479 firms receive medium amount of coverage (1.3 articles, on average) and 309 firms receive a high amount of coverage (13.3 articles, on average). Firms with the high level of coverage tend to be larger, have slightly higher book to market ratios and slightly lower momentum compared to firms with no or medium amount of coverage. Furthermore, firms that receive at least some media coverage have a much higher average turnover during the quarter than firms that receive no coverage. This is consistent with media coverage being associated with higher levels of trading (Barber and Odean (2008)).

In Panel C, in the first three rows, we show the distributions of our main outcome variables: SUE, ROA, and SURP. SUE is defined as the seasonally-adjusted change in earnings scaled by the standard deviation of seasonally-adjusted change over the prior eight quarters, ROA is defined as net income scaled by total assets, and SURP is defined as the firm's earnings per share minus the consensus median analyst forecast measured five days before the firm's earnings announcement scaled by beginning of quarter price.

[2]Source: http://www.journalism.org/2011/07/20/wall-street-journal-under-rupert-murdoch/.

The last row shows the distribution of the number of articles about the firms per quarter in our sample. Similar to what we observe in Panel B, the distribution of articles at the firm/quarter level is highly skewed - with many firms receiving no media coverage and some firms receiving a lot of media coverage.

3. Media Coverage and Firm Performance

Prior literature shows that firms with high levels of media coverage experience negative returns in the future (e.g., Fang and Peress (2009)). A common explanation for this phenomenon is that the media attracts attention from individual investors, which drives up stock prices in the short run, and then prices revert at a later date. However, another, non-mutually-exclusive explanation is that the media has a tilt towards covering negative events. This tilt may occur to the extent that negative news attracts greater readership (Grabe and Kamhawi (2006)), and therefore high media coverage may negatively predict future returns because they reflect a deterioration in firms' fundamental performance

We test the hypothesis that media coverage captures declining firm performance by examining whether firms that receive higher media coverage tend to subsequently report negative and/or deteriorating firm performance. In this regard, our main tests reflect the ability of coverage to forecast future earnings news. More specifically, we estimate the following model:

$$\begin{aligned} \text{Performance}_{i,q} &= \alpha + \beta \log(Articles_{i,q} + 1) + \gamma_1 Size_{i,q} + \gamma_2 LBM_{i,q} \\ &+ \gamma_3 Momentum_{i,q} + \gamma_4 Turnover_{i,q} + \varepsilon i, q \end{aligned} \tag{1}$$

where $Performance_{i,q}$ is measured either using changes in reported earnings (SUE) or returns on assets (ROA) for firm i reported for quarter q. We define SUE as seasonally-adjusted change in earnings scaled by standard deviation of seasonally-adjusted change over the prior eight quarters, and ROA as net income scaled by total assets. Log$(Articles_{i,q} + 1)$ is the log of one plus the number of articles printed about firm i in the NYT, WP, WSJ, or USAT

between $t-55$ and $t-5$, where t is the earnings announcement date. We add 1 to the number of articles to account for the firm-quarter observations with zero articles.

When estimating equation (1), we include firm and quarter fixed effects in our regressions to control for constant firm-specific unobserved characteristics and for contemporaneous shocks to all firms. Standard errors are clustered at the firm and quarter level. To control for coverage mechanically driven by firm-level attributes such as firm size and contemporaneous returns, we also include the following controls: $Size_{iq}$ is the log of market capitalization measured on day $t-10$, LMB_{iq} is the log of one plus the firm's book-to-market ratio using market capitalization on $t-10$, and the firms' most recent book value from Compustat quarterly, $Momentum_{iq}$ is the firm's cumulative marketed adjusted return over the fifty trading days ending on $t-10$, and $Turnover_{iq}$ is the average ratio of trading volume to shares outstanding over the fifty trading days ending on $t-10$.

The results from estimating the model in equation (1) are presented in Table 2, Panel A. In columns (1) and (4) we find that for a given firm, higher levels of media coverage during a quarter negatively predict subsequently announced SUE and ROA for that quarter. These results are consistent with the hypothesis that newspapers are more likely to cover firms that are experiencing a decrease in performance, and therefore the amount of coverage a firm receives is negatively associated with performance reported at the end of the quarter. Note that our results are not driven by media just covering negative returns, as we control for momentum during the quarter in all of our regressions, and therefore we capture the association between media coverage and performance reported at the end of the quarter beyond what is reflected in the firms' returns. Additionally, in subsequent tests, we show that media coverage negatively forecasts future returns, which is also consistent with media coverage convey novel negative information.

We next examine whether coverage by the four newspapers in our sample varies in its predictive power for firms' performance. In particular, since different newspapers cater to different types of readers we might expect that more investor-oriented newspapers (like the

Wall Street Journal) are more likely to cover under-performing businesses. To test this hypothesis, we estimate a model similar to equation (1), except we now include separate measures for the number of articles about a firm during the quarter for each individual newspaper. For example, $log(ArticlesNYT_{iq} + 1)$ is the log of one plus the number of articles published about firm i during quarter q in the New York Times.

Columns (2) and (5) of Table 2 show that the majority of the negative relationship between media coverage and fundamental firm performance is driven by articles that appear in the Wall Street Journal and New York Times. Furthermore, the predictive link between articles in the Wall Street Journal and firm performance is almost twice as large as the effect of the articles in the New York Times (the difference is statistically significant). This result is consistent with the Wall Street Journal being the most investor-oriented paper, followed by the New York Times.

Our results so far indicate pre-announcement media coverage negatively forecasts subsequently announced performance information. While newspapers write some articles based on investigative reporting, other articles may be driven by firms' regulatory filings to the SEC and/or guidance provided by the management of the firms. From prior literature, we know that both regulatory filings and managerial guidance increase when the firm performance deteriorates. Therefore, one potential concern with the results presented so far is that they could be the outcome of the media's tendency to cover firm disclosures, which tend to increase when a firm is performing poorly, rather than being driven by a conscious decision by the media to tilt coverage more towards negative news. To separate these two mechanisms, we repeat the analysis from equation (1), but we also control for the number of 8-K filings and the number of managerial forecasts during the quarter.[3] If the negative association between media coverage and firm performance is a result of media 'blindly' covering regulatory filings and managerial guidance, we would expect the coefficients on media coverage to become insignificant once we control for firm filings and managerial guidance.

[3]A form used to disclose any material changes to the firm throughout the quarter (https://www.sec.gov/answers/form8k.htm).

Columns (3) and (6) of Table 2, Panel A show that even after controlling for firm disclosures through 8K filings and managerial forecasts, the presence of media coverage during the quarter is strongly negatively associated with firm performance reported at the end of the quarter. In fact, the coefficient on media coverage barely changes, suggesting that the negative association between media coverage and firm performance is mostly driven by the newspapers' decision of which stories to cover. As expected, we find that the number of 8K filings is negatively associated with SUE and ROA for that quarter. Furthermore, managerial forecasts are positively related to ROA and negatively related to SUE, suggesting that firms issue guidance to accelerate declining performance (e.g., Skinner (1994)).

Our next set of tests examines whether the incremental presence of media coverage is also negatively related to firm performance. We repeat our analysis from Panel A, except instead of using the number of articles written about the firm in a given quarter, we use an indicator variable equal to 1 if the firm had at least one article written about it in one of the four newspapers, and 0 otherwise. We present the results in Table 2, Panel B.

The results in Panel B show that the negative predictive link of media coverage for earnings news is robust to the use of a simple binary indicators of news, consistent with incremental presence of media coverage signaling the media's tilt toward negative news. Similarly, as with the level of media coverage, we find that the results are driven by articles published in the WSJ and the NYT, and the negative relationship does not change much after we control for whether there was at least one 8K filing or at least one managerial guidance during the quarter. Since we obtain similar results using the level and the incremental presence of media coverage, we use the level of media coverage as our main specification in the rest of the paper.

One potential explanation for why newspapers tilt their coverage towards negative stories is that readers are attracted to negative news. Consistent with this view, Umar (2016) uses a randomized experiment to show that increases in a title's negativity significantly raises the probability that investors read the article. Moreover, because producing stories is costly (due

to journalist costs, space constraint, etc.), we also predict that newspapers concentrate on articles that will provide them with the highest amount of readership. Another explanation is that there is just more negative news produced by companies (beyond what is captured by the 8-K filings and managerial forecasts), and if newspapers just cover news almost randomly, we might expect a similar effect. To help adjudicate these explanations, our tests in Table 3 examine the information content of the Dow Jones News Wire (DJNW), where the costs of providing news are much lower.

While DJNW publishes articles from the WSJ as they are both owned by Thomson Reuters), they also very often pass through press releases, regulatory filings, etc. Given that the cost of producing those pieces of news is much lower than writing an article for a print newspaper, and DJNW is not as space constrained as print newspapers, we examine whether there is a similar predictive link between coverage on DJNW and firm performance as we found with newspaper coverage.

Panel A of Table 3 documents an insignificant relationship between DJNW coverage and SUE as well as a weak negative relationship between DJNW coverage and ROA. The weak relation between the number of articles published on DJNW and firms' performance provide corroborative evidence that the tilt towards covering more negative information is not driven by higher levels of negative news produced by firms, but by the newspapers' desire to attract more readership.

Finally, we want to ensure that we are not just repackaging results from the prior literature that finds that the fraction of negative words in articles (and therefore the negative slant of media coverage) forecasts negative future returns for a given firm (e.g., Tetlock (2007)). Therefore, we repeat our analysis while also controlling for the average fraction of negative words in the articles.

To perform this test we need to access the actual text of the articles and not just the articles' headlines. Therefore, we download the text of the articles for the WSJ and the NYT from Proquest.com. Also, to avoid having our inferences influenced by the media's decision

to cover a firm, we limit the sample for this analysis to firm-quarter observations with at least one article. The results are presented in Table 4.

Columns (1) and (3) of Table 4 show that, conditional on having an article in the WSJ or the NYT, greater media coverage during the quarter is associated with a significantly lower operating performance. Next, we also control for the average fraction of negative words in the articles about the firm during that quarter. As can be seen in columns (2) and (4) the negative association between media coverage and firm performance persists after controlling for the negativity of the coverage. This suggests that the extent of coverage provides incremental explanatory power above its content for predicting firms' performance, suggesting that the two metrics capture distinct dimensions of the news dissemination process.

3.1. Financial Analysts

So far we find that the financial press tilts its coverage towards more negative news. Next we examine whether analysts, who are along with newspapers an important source of information intermediation in financial markets, fully take into account the negative tilt of financial press, when they make their earnings forecasts. To test this, we examine whether levels of media coverage possess predictive power for earnings surprises relative to analyst consensus.

We construct the earnings surprise relative to analyst consensus (SURP) as the firm's earnings per share minus the median consensus forecast measured five days before the firm's earnings announcement scaled by beginning of quarter price. If analysts fully take into account the negative predicability that increased levels of media coverage have on earnings for that quarter, we would expect an insignificant coefficient when we regress SURP on media coverage. The results are presented in Table 5.

We find there is a strong negative association between the level of media coverage during the quarter and the earnings surprise relative to analyst consensus. This suggests that analysts fail to sufficiently lower their consensus to account for the negative information that is embedded in the coverage of the firm by newspapers. Furthermore, in column (2)

we separate media coverage by the four newspapers and find that only articles that were published in the WSJ and NYT have strong predictive power, consistent with our results in Table 2. We do not take a stand on whether analysts do not understand the relationship between increased media coverage and future firm performance, or whether they chose not to take that information into account due to their incentives to maintain a cozy relationship with the firms (e.g., O'Brien et al. (2005)).

4. Size of the Tilt

So far we have documented that higher levels of media coverage during the quarter negatively forecast subsequently announced firm performance, suggesting that media tilts its coverage towards negative news stemming from deteriorating operating performance. Since market participants and academics often rely on media coverage to inform them when events occur, it is important to understand how big the tilt is. Therefore, in this section we examine how much more likely a negative story is to be covered than a positive one.

In an ideal setting, we would hold constant the content of the news and vary the sign to examine how the likelihood of media coverage varies with the sign of the news. We study the coverage of earnings announcements to estimate the size of the tilt, since earnings announcements are one of the few settings where we can come close to controlling for the amount of the news being delivered.

First, we provide evidence that media is more likely to cover negative than positive financial news, while controlling for the size of news. Specifically, we regress an indicator variable for whether the earnings news received coverage in the three days around earnings announcements on the reported firm performance, and include the firm controls used in the prior tables (e.g., size, LBM, momentum, and turnover). We also include firm and quarter fixed effects and cluster at the firm and quarter level.[4] The results are presented in Table 6.

To proxy for firms' earnings news, we use seasonal changes in earnings scaled by beginning

[4]We focus on the three-days surrounding firms' earnings announcements to allow for leakage of information and pre-announcements, as well as to be consistent with a broad literature measuring announcement returns.

of quarter price, SUE, as well as analyst-based earnings surprises, SURP, defined as the firm's earnings per share minus the consensus median analyst forecast measured five days before the firm's earnings announcement scaled by beginning of quarter price.

In columns (1) and (2) we find that more positive earnings news are less likely to be covered by the media. In columns (3) and (4), we use log of one plus the number of articles about the given firm in a given quarter as the dependent variable, and we find a similar result that more positive news receive lower levels of coverage. The results in this panel suggest that the more positive the earnings surprise is, the less likely are newspapers to cover it.

Next we examine how much more likely are negative news to be covered relative to positive news, controlling for the absolute value of the earnings news. We estimate the following model:

$$\begin{aligned}
\mathbb{1}_{(Articles_{i,q}>0)} &= \alpha + \beta_1 \text{Earnings News}_{i,q} \times \mathbb{1}_{(\text{Earnings News}_{i,q}<0)} + \beta_2 \text{Earnings News}_{i,q} \\
&+ \beta_3 \mathbb{1}_{(\text{Earnings News}_{i,q}<0)} + \gamma_1 Size_{i,q} + \gamma_2 LBM_{i,q} \\
&+ \gamma_3 Momentum_{i,q} + \gamma_4 Turnover_{i,q} + \epsilon_{i,q}
\end{aligned}$$

where $\mathbb{1}_{(Articles_{i,q}>0)}$ is an indicator variable equal to 1 if there was at least one article about firm i in the NYT, WP, WSJ, or USAT between $t-1$ and $t+1$, where t is the earnings announcement date, and 0 otherwise. $Earnings\ News_{i,q}$ is either SUE or SURP for firm i for quarter q. $\mathbb{1}_{\text{Earnings News}_{i,q}<0}$ is an indicator variable equal to 1 if the performance was negative, and 0 otherwise. We are interested in the coefficient on the interaction (β_1), as it measures how much more/less likely a firm is to receive media coverage if the overall news for the quarter is negative, conditional on the size of the news.

The results are presented in Table 7 columns (1) and (2). Depending on the definition of firm performance (SUE or SURP), the probability of being covered is between 0.2 and 1 percentage points higher when the news is negative. For firms in our sample, the probability of having media coverage in the three days around earnings announcements is 3.59 percent

which corresponds to a 6 percent higher probability of being covered is a news story is negative relative to a positive story. For firms that have analyst coverage (and thus we can calculate SURP), the probability of having media coverage in the three days around earnings announcements is 4.6 percent, which corresponds to a 22 percent higher probability of being covered if the earnings surprise is negative, relative to a positive earnings surprise, controlling for the absolute value of the surprise.

We also examine whether the level of media coverage differs with the sign of the news. In columns (3) and (4) we present the results for a model similar to Eq. (2), except the dependent variable is the natural log of one plus the number of articles written about firm i in the NYT, WP, WSJ, or USAT between $t-1$ and $t+1$. Similarly we find that the level of media coverage is higher for negative earnings announcements (controlling for the absolute value of the earnings surprise).

5. Does the Media Uncover New Information?

So far we have shown that the media's selection process is tilted toward negative news about a firm, and that the size of this tilt is quite substantial. However, it still remains unclear whether the media simply reposts or covers information already incorporated into financial markets as in Tetlock (2011) or whether it provides novel information. To address this question, we examine to what extent media articles predict firms' raw and factor-adjusted monthly returns, and whether our results vary predictably within the cross-section of firms.

To conduct these tests, we assign firms to tercile portfolios of media coverage within a given calendar month, where firms in the lowest tercile have received zero coverage and the remaining observations are sorted based on whether they are above or below the median for that month. We then examine whether next month returns vary across the terciles.

Table 1 shows that media coverage can be somewhat bimodal (firms have either no or a lot of media coverage), and therefore the low-, medium-, and high-coverage bins can contain very different number of firms. Thus, our return-prediction tests condition on the number of

articles as well as the number of words written about a firm in month M to predict returns in month $M+1$. The results are presented in Table 8.

The first three columns in Panel A represent the time-series average of month $M+1$ raw returns. Our main tests examine the returns to a strategy that bets on firms without media coverage and against firms with high coverage. The 'Alpha' column reflects the intercept from a time-series regression of the equal-weighted long-short portfolio hedge return on the standard three Fama-French factors (HML, SMB, and MKT-RF) as well as the Carhart momentum factor (UMD).

The Panel A results show that going long firms without media coverage and short firms with media coverage produces a monthly alpha of 25 to 29 basis points, depending on the measure of media coverage. The negative relation between media coverage and future returns is consistent with our broader findings of a tilt toward firms with deteriorating operating performance, but also mirror the findings in Fang and Peress (2009).

We next examine whether the relationship between media coverage and future returns varies cross-sectionally by firm type. In particular we examine whether it varies with indicators of firms' past performance that signal whether negative news is more likely to be novel. We proxy for this dimension by conditioning upon momentum and volatility of returns over the prior twelve months, where we expect negative news to be most novel among better performing high momentum firms and those with low return volatility. To test this prediction, we double sort firms into high, medium, and low media coverage firms each month and also whether the firm displayed high, medium, or low momentum or high, medium, or low return volatility, and examine the returns in those bins over the following month. The results are presented in Table 8 Panels B through E.

In Panels B and D we find that the relationship between media coverage and future turns is mostly pronounced among high momentum firms. Betting on high momentum firms without media coverage and against high-momentum firms with high media coverage produces a monthly alpha of about 40 basis points, whereas a similar bet on low momentum

firms produces an insignificant alpha. In Panel C and E we find similar results when sorting firms on past return volatility instead of past momentum. Most of the return predictability of different levels of media coverage comes from low volatility firms.

We find that newspapers seem to uncover new information for firms that have had a strong performance over the past year (i.e., high momentum and low return volatility firms). For those types of firms, high-media-coverage groups significantly underperforms the low-media-coverage group in the following month. Whereas for firms whose returns have been decreasing or who have very volatile returns, high-coverage firms do not appear to underperform low-coverage firms. These results suggest that financial media seems to be most valuable in uncovering new negative information for firms that have been stable and strong performers, and where investigative reporting that potentially uncovers some negative news might pay off the most.

6. Abnormal Media Coverage

In the preceding section, we find that levels of media coverage forecast firms' next-month returns. However, media coverage is sticky and some firms receive recurring coverage when announcing earnings or when important events occur because they are bellwether firms (e.g., Alcoa, which regularly kicks off earnings seasons). For those firms, routine coverage is unlikely to reflect the media's tilt toward negative news. Thus, we predict that identifying the non-routine component of coverage improves the ability of news-based proxies to forecast firms' performance.

To examine the effect of both total media coverage and abnormal media coverage on next month's returns, we run monthly Fama-MacBeth regressions where we regress factor-adjusted monthly returns in month $M+1$ on media coverage in month M. First we look at total level of media coverage, which is defined as 1 if the overall media coverage for a given firm is greater than the cross-sectional median number of articles for the given month, 0 if there is no coverage, and 0.5 otherwise.

Next, we construct several measures of abnormal coverage, based on whether the firm had more articles than in the same month of the prior year, or whether the firm had more articles than the average of the prior year. We then run Fama-MacBeth return regressions with and without controlling for firm-size, book-to-market ratio, and momentum and turnover during the quarter.

The results are presented in Table 9. In column (1), we replicate the results from Table 8 that the overall level of media coverage offers negative predictive power for next month's returns. We next examine whether the effect persists once we control for firm characteristics. The results in column (2) show that the effect of media coverage on next month's returns becomes insignificant once we control for firm size, LBM, momentum, and turnover. In untabulated analysis, we find that firm size that specifically renders the predictive effect of media coverage on next month's returns insignificant, suggesting that some media coverage is driven by firm size rather than reflecting the tilt toward negative news.

Next, we analyze examine abnormal media coverage can predict next month's returns. We use two different measures of abnormal coverage: abnormal coverage relative to the same month last year, and abnormal coverage relative to the average coverage of prior year. Similar in spirit to the classification of routine versus non-routine insider trading in Cohen et al. (2012) we calculate abnormal (or non-routine) media coverage, and examine whether the abnormal coverage has stronger predictability for future returns than the level of media coverage. We define *Abnormal-Month Coverage* as 1 if the number of articles about the given firm in the four newspapers is greater than the number of articles the same month in prior year, 0 if less than same month in prior year, and 0.5 otherwise. *Abnormal-Year Coverage* equals 1 if the number of articles about the given firm is greater than the average number of articles from the prior year, 0 if less than average from the prior year, and 0.5 otherwise. The results in columns (3) through (6) suggest that both measures of abnormal coverage strongly forecast next month's returns, and that the results hold up to when controlling for firm size, LBM, momentum, and turnover.

Finally, we conduct a horse race between the predictive power of levels of media coverage versus changes in media coverage on next month's returns. As the results in column (7) suggest, *Abnormal-Month Coverage* is a much stronger predictor of next month's returns than *Abnormal-Year Coverage*. This result is intuitive, as *Abnormal-Month Coverage* accounts for seasonality effects. Furthermore, the results in this column suggest that the effect of the level of media coverage on next month's returns is not only is no longer significant, but actually flips signs.

In Table 9, we show that it's the non-routine (i.e., *Abnormal-Month*) media coverage and not the overall level of media coverage that has predictive power for future stock returns. We also examine whether using abnormal media coverage has stronger predictability for firm performance disclosed at the end of the quarter.[5] These results are consistent with our prediction that media coverage often reflects routine coverage, rather than a negative tilt, and thus that non-routine coverage is more likely to offer predictive power for firms' performance.

7. Conclusion

A growing literature in finance and accounting examines the language used in media articles. Those studies finds that newspapers tend to use negative language (Garcia (2014)), unless they can benefit, for example through advertising, from hyping up the firm (Gurun and Butler (2012)). However, even though media has been shown to have a large effect on capital markets (e.g., Tetlock (2007); Barber and Odean (2008)), there is a relative lack of evidence regarding how media decides which stories to cover. Our paper starts to fill in

[5]We also repeat our analysis in Table 2, but instead of looking at the overall number of articles, we also look at the abnormal number of articles, measured as the number of articles printed in the four major newspapers over the two months prior to the expected earnings announcement month minus the number of articles in during the same months in prior year. The results in Table A2 of our Online Appendix suggest that both the abnormal coverage and the level of coverage have a strong negative association with performance reported at the end of the quarter. However, when we include both measures in one regression, we find that the level of media coverage becomes almost insignificant, and the predictability between abnormal coverage and firm performance is much larger than the predictability between levels of media coverage and firm performance.

this gap, by providing evidence that print newspapers strongly tilt their financial coverage towards negative events.

In particular, we show that the extent of media coverage offers strong predictive power for firms' subsequently announced earnings news. This effect persists even after we control for contemporaneous returns, and the amount of regulatory filings and managerial guidance issued by the firm during the quarter. We also find that this effect is not driven by the news production on the side of the firm and instead suggests that the media conveys novel negative information. We estimate that the size of the tilt is economically large, with a negative event being 22 percent more likely to be covered by financial print media, than a positive event, holding the content of the news constant.

These results suggest that the magnitude of the tilt in the financial press is economically large and thus has important practical implications for the way academics and practitioners use news coverage in financial markets.

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Table 1. Summary Statistics

Panel A presents the summary statistics of our main dataset of media coverage. The second column displays how many firm-quarters are in in our sample per year. The third column displays what percent of those quarters have at least one article written about the firm in one of the four nationalf news papers: the New York Times (NYT), USA Today (USAT), Washington Post (WP), and the Wall Street Journal (WSJ). Column four shows the total number of firm-article observations (if an article is relevant to three firms, it will be counted three times towards this number), and columns five through eight show the breakdown of those firm-article observations by individual papers. Panel B displays average firm characteristics after sorting firms into terciles each quarter according the number of articles during the quarter written about the firms. Panel C displays summary statistics of our main outcome variables. SUE is the seasonally-adjusted change in earnings scaled by standard deviation of seasonally-adjusted change over the prior eight quarters, ROA as net income scaled by total assets, and SURP is defined as the firm's earnings per share minus the consensus median forecast measured five days before the firm's earnings announcement scaled by beginning of quarter price.

Panel A: Summary Statistics of Media Coverage by Year

Year	Firm-quarters	News %	All	NYT	USAT	WP	WSJ
2001	19,521	17.87%	17,038	5,385	939	2,077	8,637
2002	19,872	28.60%	34,349	7,458	1,133	5,016	20,742
2003	19,486	24.10%	27,735	4,967	916	5,856	15,996
2004	19,506	17.39%	21,194	7,063	1,306	4,042	8,783
2005	18,617	15.75%	18,347	5,053	1,043	3,711	8,540
2006	18,556	17.95%	20,397	4,003	1,092	3,516	11,786
2007	18,337	15.39%	17,059	4,410	1,317	2,341	8,991
2008	17,286	16.92%	19,915	4,129	1,163	2,073	12,550
2009	16,389	16.19%	16,898	3,636	1,031	1,289	10,942
2010	16,893	18.30%	17,551	3,099	971	1,229	12,252
2011	16,396	15.80%	17,035	3,105	880	1,386	11,664
2012	15,856	17.08%	15,356	3,358	914	1,806	9,278
2013	15,868	15.43%	14,565	3,338	1,204	1,709	8,314
2014	15,963	14.33%	13,324	3,446	1,214	1,675	6,989
2015	15,767	14.13%	12,233	3,507	1,352	1,372	6,002

Panel B: Mean Statistics by News Tercile

	Firms	Articles	Size	LBM	Momentum	Turnover
Low News	3,617	0.000	12.521	0.552	0.000	0.071
Mid News	479	1.264	14.305	0.530	0.002	0.136
High News	309	13.276	15.913	0.597	-0.006	0.124
High-Low		13.276	3.392	0.045	-0.006	0.054
(t-stat)		(83.93)	(206.73)	(3.72)	(-1.97)	(12.16)

Panel C: Summary Statistics of Main Variables

	Mean	P5	P25	P50	P75	P95	STD
ROA	-0.111	-10.865	-0.365	0.527	1.723	4.555	3.539
SUE	0.014	-2.677	-0.570	0.042	0.659	2.401	1.217
SURP	-0.021	-1.867	-0.124	0.035	0.215	1.222	0.651
Articles	1.059	0.000	0.000	0.000	0.117	3.783	6.595

Table 2. Media Coverage and Firm Fundamentals

In Panel A we regress firm performance on the log of one plus the number of articles printed in the four national newspapers (NYT, WSJ, WP, and USAT) between $t-55$ and $t-5$, where t is the earnings announcement date. In the first three columns performance is proxied for by SUE, which is the seasonally-adjusted change in earnings scaled by standard deviation of seasonally-adjusted change over the prior eight quarters, and in columns (4) through (6) it is proxied for by ROA, which is net income scaled by total assets. $8K$ is the number of 8K-forms the firm filed during the quarter, and $Guidance$ is the number of managerial guidances issued by the firm during the quarter. We control for firm-size, book-to-market ratio, momentum during the quarter, and turnover. Firm-size is the log of market capitalization measured on day $t-10$, LMB is the log of one plus the firm's book-to-market ratio using market capitalization on $t-10$, and the firms' most recent book value from Compustat quarterly, $Momentum$ is the firm's cumulative marketed adjusted return over the fifty trading days ending on $t-10$, and $Turnover$ is the average ratio of trading volume to shares outstanding over the fifty trading days ending on $t-10$. We include firm and quarter fixed effects. Standard errors are clustered at the firm and quarter level. In Panel B, instead of using levels of media coverage, 8K filings, and managerial guidances, we include indicator variables equal to one if there was at least one article, 8K filing, or managerial guidance, respectively, and zero otherwise.

Panel A: Level of Media Coverage and Firm Fundamentals

	SUE			ROA		
	(1)	(2)	(3)	(4)	(5)	(6)
Log(Articles+1)	-0.096***		-0.080***	-0.252***		-0.227***
	(-8.51)		(-7.72)	(-10.88)		(-10.10)
Log(Articles NYT+1)		-0.045***			-0.129***	
		(-2.80)			(-4.06)	
Log(Articles WP+1)		-0.002			-0.035	
		(-0.11)			(-1.01)	
Log(Articles WSJ+1)		-0.097***			-0.256***	
		(-7.58)			(-9.65)	
Log(Articles USAT+1)		-0.001			0.028	
		(-0.04)			(0.68)	
Log(8K+1)			-0.098***			-0.194***
			(-8.05)			(-10.71)
Log(Guidance+1)			-0.107***			0.007
			(-4.80)			(0.19)
Size	-0.040***	-0.040***	-0.039***	0.720***	0.720***	0.716***
	(-2.96)	(-2.96)	(-2.92)	(19.34)	(19.32)	(19.31)
LBM	-0.742***	-0.742***	-0.739***	-1.372***	-1.371***	-1.369***
	(-6.85)	(-6.85)	(-6.84)	(-8.95)	(-8.94)	(-8.94)
Momentum	0.309***	0.309***	0.308***	-0.002	-0.003	0.004
	(9.38)	(9.38)	(9.51)	(-0.03)	(-0.03)	(0.04)
Turnover	0.015***	0.015***	0.016***	0.056***	0.056***	0.057***
	(3.18)	(3.20)	(3.55)	(9.03)	(9.08)	(9.30)
R-square	2.535	2.537	2.709	6.881	6.893	6.996
Observations	264,313	264,313	264,313	264,313	264,313	264,313
Firm & Quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes

Panel B: Presence of Media Coverage and Firm Fundamentals

	SUE			ROA		
	(1)	(2)	(3)	(4)	(5)	(6)
$1_{(Articles>0)}$	-0.084***		-0.072***	-0.216***		-0.199***
	(-7.86)		(-7.44)	(-8.28)		(-7.82)
$1_{(ArticlesNYT>0)}$		-0.064***			-0.175***	
		(-4.46)			(-6.19)	
$1_{(ArticlesWP>0)}$		-0.018			-0.075**	
		(-1.20)			(-2.32)	
$1_{(ArticlesWSJ>0)}$		-0.087***			-0.233***	
		(-7.97)			(-8.88)	
$1_{(ArticlesUSA>0)}$		-0.025			-0.042	
		(-1.03)			(-1.09)	
$1_{(8K>0)}$			-0.094***			-0.205***
			(-7.77)			(-9.46)
$1_{(Guidance>0)}$			-0.104***			-0.028
			(-5.74)			(-1.03)
Size	-0.042***	-0.041***	-0.040***	0.713***	0.717***	0.712***
	(-3.16)	(-3.08)	(-3.01)	(19.03)	(19.17)	(19.05)
LBM	-0.746***	-0.744***	-0.742***	-1.383***	-1.377***	-1.379***
	(-6.88)	(-6.87)	(-6.85)	(-9.00)	(-8.97)	(-8.99)
Momentum	0.309***	0.310***	0.306***	-0.002	-0.001	0.000
	(9.38)	(9.39)	(9.43)	(-0.02)	(-0.01)	(0.00)
Turnover	0.015***	0.015***	0.015***	0.055***	0.055***	0.056***
	(3.04)	(3.10)	(3.29)	(8.74)	(8.89)	(8.95)
R-square	2.504	2.522	2.658	6.826	6.865	6.918
Observations	264,313	264,313	264,313	264,313	264,313	264,313
Firm & Quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes

Table 3. Alternative Channels for Media Tilt

In this table, we regress firm performance on the level of media coverage. $DJNW$ is the number of articles about the firm on the Dow Jones News Wire between $t-55$ and $t-5$, where t is the earnings announcement date. *Articles* is the number of articles printed in the four major newspapers (WSJ, NYT, WP, USAT) between $t-55$ and $t-5$. In the first two columns performance is proxied for by SUE, which is the seasonally-adjusted change in earnings scaled by standard deviation of seasonally-adjusted change over the prior eight quarters, and in the last two columns it is proxied for by ROA, which is net income scaled by total assets. $8K$ is the number of 8K-forms the firm filed during the quarter, and *Guidance* is the number of managerial guidances issued by the firm during the quarter. We control for firm-size, book-to-market ratio, momentum during the quarter, and turnover. Firm-size is the log of market capitalization measured on day $t-10$, LMB is the log of one plus the firm's book-to-market ratio using market capitalization on $t-10$, and the firms' most recent book value from Compustat quarterly, $Momentum$ is the firm's cumulative marketed adjusted return over the fifty trading days ending on $t-10$, and $Turnover$ is the average ratio of trading volume to shares outstanding over the fifty trading days ending on $t-10$. We include firm and quarter fixed effects. Standard errors are clustered at the firm and quarter level.

	SUE		ROA	
	(1)	(2)	(3)	(4)
Log(DJNW+1)	-0.002	0.002	-0.044***	-0.032**
	(-0.29)	(0.40)	(-2.82)	(-2.16)
Log(Articles+1)		-0.080***		-0.219***
		(-7.73)		(-10.30)
Log(8K+1)	-0.103***	-0.098***	-0.196***	-0.184***
	(-8.02)	(-7.82)	(-10.23)	(-9.86)
Log(Guidance+1)	-0.110***	-0.107***	0.010	0.017
	(-4.80)	(-4.75)	(0.28)	(0.46)
Size	-0.043***	-0.039***	0.711***	0.721***
	(-3.17)	(-2.90)	(19.05)	(19.55)
LBM	-0.744***	-0.739***	-1.383***	-1.368***
	(-6.85)	(-6.83)	(-8.98)	(-8.91)
Momentum	0.308***	0.308***	0.006	0.006
	(9.50)	(9.52)	(0.07)	(0.07)
Turnover	0.015***	0.016***	0.056***	0.057***
	(3.29)	(3.54)	(9.07)	(9.46)
R-square	2.664	2.709	6.919	7.005
Observations	264,313	264,313	264,313	264,313
Firm & Quarter FEs	Yes	Yes	Yes	Yes

Table 4. Fraction of Negative Words and Level of Media Coverage

In this table we examine whether the effect of media coverage is separate from the effect of negative words. *Financial Articles* is the number of articles in the WSJ and the NYT between $t-55$ and $t-5$, where t is the earnings announcement date. *Average Fraction of Neg Words* is the average fraction of words that are listed as negative in the Loughran and McDonald (2011) dictionary. In the first two columns performance is proxied for by SUE, which is the seasonally-adjusted change in earnings scaled by standard deviation of seasonally-adjusted change over the prior eight quarters, and in the last two columns it is proxied for by ROA, which is net income scaled by total assets. $8K$ is the number of 8K-forms the firm filed during the quarter, and *Guidance* is the number of managerial guidances issued by the firm during the quarter. We control for firm-size, book-to-market ratio, momentum during the quarter, and turnover. Firm-size is the log of market capitalization measured on day $t-10$, LMB is the log of one plus the firm's book-to-market ratio using market capitalization on $t-10$, and the firms' most recent book value from Compustat quarterly, $Momentum$ is the firm's cumulative marketed adjusted return over the fifty trading days ending on $t-10$, and $Turnover$ is the average ratio of trading volume to shares outstanding over the fifty trading days ending on $t-10$. We include firm and quarter fixed effects. Standard errors are clustered at the firm and quarter level.

	SUE		ROA	
	(1)	(2)	(3)	(4)
Log(Financial Articles+1)	-0.046***	-0.040***	-0.480***	-0.459***
	(-3.18)	(-2.74)	(-9.48)	(-9.21)
Average Fraction of Neg Words		-5.144***		-16.282***
		(-9.54)		(-9.15)
Log(8K+1)	-0.145***	-0.143***	-0.584***	-0.576***
	(-7.21)	(-7.12)	(-11.61)	(-11.50)
Log(Guidance+1)	-0.123***	-0.119***	0.386***	0.400***
	(-3.22)	(-3.15)	(4.87)	(5.03)
LBM	0.058***	0.060***	0.654***	0.658***
	(7.35)	(7.57)	(21.63)	(21.56)
Momentum	-0.113***	-0.108***	0.191***	0.207***
	(-4.41)	(-4.19)	(3.69)	(4.02)
Size	0.444***	0.425***	0.350	0.290
	(7.23)	(7.08)	(0.98)	(0.82)
Turnover	0.004	0.004	0.006	0.006
	(0.97)	(1.01)	(0.36)	(0.38)
R-square	2.331	2.582	12.825	13.239
Observations	43,098	43,098	43,098	43,098
Firm & Quarter FEs	Yes	Yes	Yes	Yes

Table 5. Do Analysts Adjust their Forecasts?

In this table we regress the earnings surprise relative to the analyst consensus on the log of one plus the number of articles printed in the four major newspapers (NYT, WSJ, WP, and USAT) between $t-55$ and $t-5$, where t is the earnings announcement date. $SURP$ is the firm's earnings per share minus the consensus median forecast measured five days before the firm's earnings announcement scaled by beginning of quarter price. $8K$ is the number of 8K-forms the firm filed during the quarter, and *Guidance* is the number of managerial guidances issued by the firm during the quarter. We control for firm-size, book-to-market ratio, momentum during the quarter, and turnover. Firm-size is the log of market capitalization measured on day $t-10$, LMB is the log of one plus the firm's book-to-market ratio using market capitalization on $t-10$, and the firms' most recent book value from Compustat quarterly, $Momentum$ is the firm's cumulative marketed adjusted return over the fifty trading days ending on $t-10$, and $Turnover$ is the average ratio of trading volume to shares outstanding over the fifty trading days ending on $t-10$. We include firm and quarter fixed effects. Standard errors are clustered at the firm and quarter level.

	SURP		
	(1)	(2)	(3)
Log(Articles+1)	-0.028***		-0.024***
	(-3.66)		(-3.17)
Log(Articles NYT+1)		-0.018**	
		(-2.66)	
Log(Articles WP+1)		-0.010	
		(-0.89)	
Log(Articles WSJ+1)		-0.027***	
		(-3.23)	
Log(Articles USAT+1)		0.007	
		(0.52)	
Log(8K+1)			-0.028***
			(-4.63)
Log(Guidance+1)			0.011
			(1.05)
Size	-0.014	-0.014	-0.015
	(-1.26)	(-1.24)	(-1.35)
LBM	-0.461***	-0.461***	-0.461***
	(-3.44)	(-3.44)	(-3.43)
Momentum	0.194***	0.193***	0.195***
	(9.32)	(9.33)	(9.44)
Turnover	-0.110**	-0.109**	-0.106**
	(-2.61)	(-2.60)	(-2.57)
R-square	1.958	1.962	1.985
Observations	158,244	158,244	158,244
Quarter & Firm FEs	Yes	Yes	Yes

Table 6. Media Tilt around Earnings Announcements

In this table we regress media coverage on earnings news. In columns (1) and (2), media coverage is an indicator variable equal to one if there was at least one article about the firm in the four newspapers (WSJ, NYT, WP, USAT) between $t-1$ and $t+1$, where t is the earnings announcement day, and zero otherwise. In columns (3) and (4), media coverage is the log of one plus the number of articles about the firm during that time period. In columns (1) and (3) earnings news is proxied for by SUE, which is the seasonally-adjusted change in earnings scaled by standard deviation of seasonally-adjusted change over the prior eight quarters, and in columns (2) through (4) it is proxied for by $SURP$, which is the firm's earnings per share minus the consensus median forecast measured five days before the firm's earnings announcement scaled by beginning of quarter price. We control for firm-size, book-to-market ratio, momentum during the quarter, and turnover. Firm-size is the log of market capitalization measured on day $t-10$, LMB is the log of one plus the firm's book-to-market ratio using market capitalization on $t-10$, and the firms' most recent book value from Compustat quarterly, $Momentum$ is the firm's cumulative marketed adjusted return over the fifty trading days ending on $t-10$, and $Turnover$ is the average ratio of trading volume to shares outstanding over the fifty trading days ending on $t-10$. We include firm and quarter fixed effects. Standard errors are clustered at the firm and quarter level.

	$1_{(Article>0)}$		Log(Articles+ 1)	
Earnings News Proxy:	SUE	SURP	SUE	SURP
	(1)	(2)	(3)	(4)
Earnings News	-0.001***	-0.002***	-0.002***	-0.003***
	(-2.86)	(-2.68)	(-5.26)	(-3.71)
Size	0.005***	0.006***	0.012***	0.014***
	(4.54)	(3.49)	(6.07)	(5.22)
LBM	0.010***	0.012***	0.022***	0.032***
	(4.48)	(3.36)	(5.97)	(5.59)
Momentum	-0.003**	-0.006***	-0.005***	-0.008**
	(-2.31)	(-3.09)	(-2.68)	(-2.33)
Turnover	0.000	0.045***	0.002**	0.085***
	(0.46)	(3.09)	(2.30)	(2.87)
R-square	0.057	0.151	0.170	0.343
Observations	264,313	158,244	264,313	158,244
Firm & Quarter FEs	Yes	Yes	Yes	Yes

Table 7. Size of Media Tilt

In this table we regress media coverage on earnings news separately for positive and negative news. In columns (1) and (2), media coverage is an indicator variable equal to one if there was at least one article about the firm in the four newspapers (WSJ, NYT, WP, USAT) between $t-1$ and $t+1$, where t is the earnings announcement day, and zero otherwise. In columns (3) and (4), media coverage is the log of one plus the number of articles about the firm during that time period. In columns (1) and (3) earnings news is proxied for by SUE, which is the seasonally-adjusted change in earnings scaled by standard deviation of seasonally-adjusted change over the prior eight quarters, and in columns (2) and (4) it is proxied for by $SURP$, which is the firm's earnings per share minus the consensus median forecast measured five days before the firm's earnings announcement scaled by beginning of quarter price. $1_{(Earnings\ News<0)}$ is an indicator variable equal to one if the earnings news is negative, and zero otherwise. We control for firm-size, book-to-market ratio, momentum during the quarter, and turnover. Firm-size is the log of market capitalization measured on day $t-10$, LMB is the log of one plus the firm's book-to-market ratio using market capitalization on $t-10$, and the firms' most recent book value from Compustat quarterly, $Momentum$ is the firm's cumulative marketed adjusted return over the fifty trading days ending on $t-10$, and $Turnover$ is the average ratio of trading volume to shares outstanding over the fifty trading days ending on $t-10$. We include firm and quarter fixed effects. Standard errors are clustered at the firm and quarter level.

	$1_{(Articles>0)}$		Log(Articles+1)	
Earnings News Proxy:	SUE	SURP	SUE	SURP
	(1)	(2)	(3)	(4)
Earnings News $\times$ $1_{(Earnings\ News<0)}$	-0.002***	-0.010***	-0.003***	-0.018***
	(-3.39)	(-4.93)	(-3.15)	(-5.15)
Earnings News	0.000	0.007***	0.000	0.013***
	(0.87)	(4.41)	(0.25)	(5.75)
$1_{(Earnings\ News<0)}$	0.001	0.004***	0.001	0.010***
	(0.68)	(4.43)	(0.68)	(5.69)
Size	0.005***	0.007***	0.011***	0.016***
	(4.48)	(4.04)	(6.01)	(5.85)
LBM	0.009***	0.010***	0.022***	0.029***
	(4.39)	(2.94)	(5.88)	(5.13)
Momentum	-0.003**	-0.006***	-0.005**	-0.008**
	(-2.27)	(-3.15)	(-2.63)	(-2.41)
Turnover	0.000	0.044***	0.002**	0.084***
	(0.47)	(3.10)	(2.32)	(2.87)
R-square	0.061	0.183	0.176	0.410
Observations	264,313	158,244	264,313	158,244
Firm & Quarter FEs	Yes	Yes	Yes	Yes

Table 8. Does Media Provide New Information?

This table contains firms' raw and factor-adjusted monthly returns in month M+1 sorted by portfolios of media articles in month M. We assign firms to tercile portfolios based on the amount of media coverage, where firms in the lowest tercile have received zero coverage and the remaining observations are sorted based on whether they are above or below the median for that month. These tests condition on the number of articles as well as the number of words written about a firm in month M to predict returns in month M+1. In Panel A, we examine the returns to a strategy that bets on firms without media coverage and against firms with high coverage. The 'Alpha' column reflects the intercept from a time-series regression of the long-short portfolio hedge return on the standard three Fama-French factors (HML, SMB, and MKT-RF) as well as the Carhart momentum factor (UMD). In Panels B through E, we independently double-sort firms into portfolios based in media coverage as well as historical volatility and return momentum measured over the twelve months ending in month M-1. Each panel also reports t-statistics based on the monthly time-series average of returns.

Panel A: Monthly Returns Sorted by Articles and Word Count

	T1 (Low)	T2	T3 (High)	High-Low	t-stat	Alpha	t-stat
Articles	1.013	0.906	0.631	-0.382	-2.364	-0.251	-1.837
Word Count	1.014	0.997	0.612	-0.402	-2.846	-0.294	-2.613

Panel B: Monthly Returns Sorted by Articles and Momentum

	T1 (Low)	T2	T3 (High)	High-Low	t-stat	Alpha	t-stat
Low Momentum	0.663	0.615	0.341	-0.322	-1.449	-0.232	-1.227
Mid Momentum	1.058	0.917	0.696	-0.362	-2.250	-0.218	-1.591
High Momentum	1.083	0.890	0.527	-0.556	-3.044	-0.418	-2.439

Panel C: Monthly Returns Sorted by Articles and Volatility

	T1 (Low)	T2	T3 (High)	High-Low	t-stat	Alpha	t-stat
Low Volatility	1.130	1.009	0.645	-0.485	-2.972	-0.370	-3.214
Mid Volatility	1.041	0.969	0.520	-0.521	-2.861	-0.443	-2.663
High Volatility	0.637	0.498	0.442	-0.195	-0.623	-0.157	-0.543

Panel D: Monthly Returns Sorted by Word Count and Momentum

	T1 (Low)	T2	T3 (High)	High-Low	t-stat	Alpha	t-stat
Low Momentum	0.669	0.821	0.296	-0.457	-2.279	-0.365	-2.090
Mid Momentum	1.056	0.999	0.698	-0.386	-2.445	-0.220	-1.738
High Momentum	1.079	0.998	0.616	-0.504	-3.178	-0.420	-2.690

Panel E: Monthly Returns Sorted by Word Count and Volatility

	T1 (Low)	T2	T3 (High)	High-Low	t-stat	Alpha	t-stat
Low Volatility	1.128	1.106	0.632	-0.525	-3.322	-0.388	-3.537
Mid Volatility	1.040	1.073	0.598	-0.496	-2.821	-0.439	-2.768
High Volatility	0.638	0.687	0.460	-0.248	-0.920	-0.254	-1.008

Table 9. Abnormal Media Coverage and Future Returns

In this table we run Fama-MacBeth regressions where we regress factor-adjusted monthly returns in month $M+1$ on media coverage in month M. *Total Coverage* is defined as 1 if coverage is greater than the cross-sectional median number of articles for the given month, 0 if there is no coverage, and 0.5 otherwise. *Abnormal-Month Coverage* equals 1 if the number of articles about the given firm in the four newspapers (WSJ, NYT, WP, USAT) is greater than the number of articles the same month in prior year, 0 if less than same month in prior year, and 0.5 otherwise. *Abnormal-Year Coverage* equals 1 if the number of articles about the given firm is greater than the average number of articles from the prior year, 0 if less than average from the prior year, and 0.5 otherwise. We control for firm-size, book-to-market ratio, momentum during the quarter, and turnover. Firm-size is the log of market capitalization measured on day $t-10$, LMB is the log of one plus the firm's book-to-market ratio using market capitalization on $t-10$, and the firms' most recent book value from Compustat quarterly, $Momentum$ is the firm's cumulative marketed adjusted return over the fifty trading days ending on $t-10$, and $Turnover$ is the average ratio of trading volume to shares outstanding over the fifty trading days ending on $t-10$.

	Abnormal Monthly Returns						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total Coverage	-0.297**	0.023					0.356**
	(-2.15)	-0.21					(1.96)
Abnormal-Month Coverage			-0.204**	-0.194**			-0.307**
			(-2.27)	(-2.12)			(-2.33)
Abnormal-Year Coverage					-0.189**	-0.138*	-0.092
					(-2.21)	(-1.72)	(-0.85)
Size		-0.131***		-0.130***		-0.129***	-0.160***
		(-2.63)		(-2.76)		(-2.77)	(-2.86)
LBM		0.677**		0.677**		0.677**	0.644**
		-2.05		-2.06		-2.06	-1.97
Momentum		0.033		0.041		0.041	0.06
		-0.07		-0.08		-0.08	-0.12
Turnover		-2.436		-2.432		-2.426	-2.563
		(-1.03)		(-1.03)		(-1.02)	(-1.09)
R-square	0.317	6.186	0.214	6.165	0.208	6.164	6.533