The Media Goes Where It's Needed:
The Relation Between Firms' Investor Base and Media Coverage[*]

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Abstract:
We provide evidence that a firm's investor base is a key factor in determining its media coverage. Using a large sample of U.S. public companies spanning the period 2000-2019, we find that firm-specific media coverage is negatively associated with leverage. Our results suggest the media caters relatively more to equity investors, who largely rely on public information, than to debt investors, who are often privy to privileged information. We arrive at similar conclusions when we exploit plausibly exogenous changes in investor base and investor access to privileged information. Among debt investors, the media appears to cater to public bond holders more than private banks. Among equity investors, the media appears to cater to quasi-index institutions. Additionally, cross-sectional variation in media coverage based on investment and article types reveals that the media's role is far more nuanced than previously documented. Overall, our findings suggest that financial media coverage is significantly influenced by less sophisticated professional investors' demand for information to help monitor firms.

Keywords: financial media, leverage, institutional ownership, investor base, banks, monitoring
JEL Classifications: G20, G21, G23, G34, M40, M41

1. Introduction

Prior research finds that the financial media provides information to investors by monitoring firms for malfeasance such as accounting or corporate fraud (Miller, 2006; Dyck, Morse, and Zingales, 2010) and excessive CEO pay (Core, Guay, and Larcker, 2008). The media also helps investors monitor more mundane corporate activities, such as periodic earnings announcements (Bushee, Core, Guay, and Hamm, 2010).[1] However, it is unclear why certain firms get media coverage, along with the resulting benefits, while most hardly do. Prior studies (e.g., Drake, Guest, and Twedt, 2014; Call, Emett, Maksymov, and Sharp, 2021) focus on media, manager, and firm characteristics when examining drivers of media coverage, but largely overlook the firm's investors, who are key monitors of firm performance and significant consumers of firm-specific news. To fill this void, we examine the extent to which media coverage varies with firms' investor base. Specifically, we study whether and to what extent different types of debt and equity investors, who all vary in their reliance on publicly available information, influence media coverage. We find that media coverage is greater when a firm's ownership is concentrated among institutional debt and equity investors that rely more on public information for monitoring.[2]

Investors rely on both public and private information when trading and monitoring their assets (Bushee and Noe, 2000; Boone and White, 2015), but not all of them gather and use information the same way. Some tend to monitor firms more aggressively, have access to more

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[1] We refer to the financial media using several interchangeable terms such as media, press, business press, journalists, and financial journalists.

[2] While retail investors also consume financial news, we focus particularly on institutional investors because they hold the majority of corporate equity and debt securities, play a key role in monitoring firms, and make up a significant proportion of the financial media's customer base. Besides, retail investors tend to invest through a variety of institutional products, thereby delegating monitoring to institutional investors. Consequently, several media products are designed to specifically cater to institutions. For example:
https://professional.dowjones.com/newswires/institutional/
https://www.mtnewswires.com/investment-advisor-wealth-management.

privileged sources of information, and process information more efficiently and effectively. Such investors are *less* likely to rely on media coverage when monitoring firms. In contrast, the media's coverage is likely to be of particular benefit to investors who rely primarily on public information due to their limited ability or desire to gather, generate, or process private information.[3] Thus, we expect the media to adjust their coverage of a firm based on the needs and abilities of its investors.

Alternatively, it is possible that the media might not focus coverage where it's most needed for several reasons. First, many institutions are secretive and opaque, so the media may not be aware of their information endowments and needs. Second, the media often relies on more sophisticated monitors to provide information for their articles (Miller, 2006) and, as a result, might not be able or willing to cover firms in which sophisticated stakeholders are few and far between. Third, prior research (Drake et al., 2014) suggests that the media makes coverage decisions based on salient performance characteristics of the firm, such as earnings and stock returns, so they might not even be paying attention to the makeup of the investor base. Thus, it is ultimately an empirical question whether and to what extent media coverage varies depending on firms' investor base.

We begin our analyses by exploring how media coverage varies for U.S. public companies based on fundamental capital structure, i.e., debt vs. equity. A large literature provides evidence that many debt investors, such as banks, monitor firms through various private communication channels (Boot, 2000; Norden and Weber, 2010), and therefore likely do not need to rely as much on public media coverage. Debt investors' information advantage (i.e., relative to equity investors) stems from several factors such as detailed covenant structures associated with loans/bonds, the

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[3] In a survey of financial journalists by Call et al. (2021), over 83% of the participants state that monitoring companies to hold them accountable is one of the most important objectives of financial journalism. About 63% report that they are very likely to use private phone calls with company management to develop articles.

presence of privileged intermediaries (e.g., credit rating agencies), and direct access to management (Asquith, Beatty, and Weber, 2005). In addition, they tend to concentrate their holdings, requiring them to monitor relatively few firms at a time. On the other hand, equity investors typically rely on public information to a greater extent, especially since Regulation Fair Disclosure was implemented in the U.S.[4] Consistent with this reasoning, we predict and find that media coverage is *decreasing* in the proportion of debt ownership relative to equity ownership (i.e., the firm's leverage ratio).

We acknowledge and account for potential endogeneity in the relation between a firm's media coverage and its investor base. Of course, there is a host of factors such as popularity, performance, and investment opportunities that likely jointly determine the firm's capital structure decisions and the media's coverage decisions. In a similar vein, investors' ownership decisions are likely determined by several fundamental characteristics of the firm that might also influence media coverage. In addition, reverse causality is also a cause for concern. For example, the extent and sentiment of media coverage can influence investors' willingness to hold certain types of securities (Bushman, Williams, and Wittenberg-Moerman, 2017; Gao, Wang, Wang, Wu, and Dong, 2020). Inadequate control for these factors in empirical estimations can result in biased estimates and inappropriate inferences. Thus far, we have two major inferences based on our analysis. First, media coverage varies based on capital structure, i.e., coverage decreases in leverage. Second, media coverage varies in the extent to which the investor base is sophisticated, i.e., in their ability to access and process private information. To bolster these inferences and

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[4] Relatedly, unsophisticated investors' direct investments tend to include equity rather than debt, and therefore rely more on public information. For example, in 2019, U.S. households had about $20 trillion and $0.15 trillion invested directly in corporate equities and bonds, respectively (https://www.federalreserve.gov/releases/z1/20210923/z1.pdf).

mitigate aforementioned endogeneity concerns, we examine two separate plausibly exogenous events that affect firms' capital structure and investors' access to private information, respectively.

First, we exploit an exogenous decrease in leverage created by the 2017 Tax Cuts and Jobs Act (TCJA), following prior research (Carrizosa, Gaertner, and Lynch, 2020). We find that firms whose leverage decreased exogenously due to the TCJA experienced an *increase* in media coverage relative to firms that were not impacted by the TCJA. This finding increases our confidence that lower leverage indeed leads to higher media coverage. Second, we exploit the creation of institutional dual-holders, wherein institutional investors that own substantial equity in a firm subsequently become lenders (Peyravan and Wittenberg-Moerman, 2021). When an equity investor becomes a lender, they gain access to private information from management (that was previously unavailable to them) owing to the newly established lending relationship. As a result, becoming a dual-holder likely reduces an investor's need to rely on the media for monitoring. Consistent with this reasoning, we find that media coverage *decreases* following loan originations that result in additional dual-holders. This evidence complements our prior findings and arguments about the media catering to investors who rely more on public sources and are not privy to privileged information stemming from close communication with firm management.

The reliance on public information varies not only across, but also within, debt and equity investors. Thus, focusing first on debt, we explore variation within each of the major types of ownership claim. Specifically, private debt holders such as banks often have privileged access to management (Fama, 1985) and, as a result, rely less on public sources of information such as the media. In contrast, a public bond includes investors (e.g., pension and insurance funds) whose information is limited to public sources, such as firms' disclosures, credit ratings, and media coverage. Holding constant the overall level of debt in a firm's capital structure, we find that media

coverage is lower for firms with higher private debt, consistent with media coverage *declining* as the sophistication of the investor base increases due to private information access. This finding is consistent with lenders demanding more public information when they are less likely to have private information (Call, Donovan, and Watkins, 2022).

We next explore how media coverage varies based on specific types of equity investors. At the outset, we find that media coverage is *increasing* in institutional equity ownership, suggesting the financial media caters to institutions over retail investors. On one hand, this result is not surprising because institutions make up perhaps the largest and most lucrative segment of the potential audience for financial information.[5] For example, 38% of the revenue earned by Dow Jones (a division of News Corp.) in 2019 and 2020 was from their professional information business segment, which offers high-priced products geared towards institutional investors. On the other hand, our finding seems counterintuitive given retail investors' relative lack of sophistication and our overall argument that the media caters to informationally disadvantaged investors. Nevertheless, it appears the primary target audience of financial media is institutional investors that directly hold a majority of corporate equity securities as opposed to retail investors who often delegate monitoring to institutional investors. We next provide further insights that help reconcile this puzzle by exploiting the variation in investor sophistication and information access.

Even within institutional equity investors, there is substantial heterogeneity along several dimensions (Bushee, 1998; Bushee and Noe, 2000). Our next analyses reveal that media coverage is *increasing* in equity ownership by quasi-indexers, who invest in a multitude of firms and hence find it costly to acquire private information. Such investors depend on high quality public

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[5] Call et al. (2021), based on their survey evidence, note that financial journalists create articles with reasonably sophisticated audiences in mind – i.e., targeting professional investors that are well-informed rather than non-professional investors with limited knowledge.

information for monitoring firms (Bushee, 2004). Interestingly, unsophisticated retail investors make up a large portion of the clientele of quasi-index funds as well. Thus, the media seemingly caters to non-professional investors indirectly by providing substantial coverage for firms with a large quasi-index investor base.

In contrast, media coverage is in fact *decreasing* in ownership by both transient and dedicated institutions. Dedicated institutional investors often dedicate several years (by definition) to building close relationships with the few firms in their portfolio (Potter, 1992; Bushee, 1998). Transient investors are known to employ sophisticated strategies by performing both technical and fundamental analyses using information from several sources (e.g., financial statements). Since both dedicated and transient investors are quite sophisticated in their approach to gathering and using information, we do not expect them to rely on the media's information as much as quasi-indexers. The fact that the quasi-indexer group is the largest of the three helps explain our earlier result that media coverage and equity institutional ownership are positively associated overall. These analyses provide additional support for our argument that the media provides coverage for those institutional investors that rely on public information for valuing firms and evaluating managers, i.e., where it's needed most.

While our study mostly emphasizes different types of *investors* who may or may not rely on media coverage, it is conceivable that any given investor may benefit from the media's help covering some *investments* more than others. In particular, we find evidence consistent with the media catering to investors more when there is greater uncertainty associated with a firm's securities, suggesting the media caters to investors *who* most need help by providing it precisely *when* they need it. Interestingly, we also find nuanced evidence that the media's production of debt-specific articles is *increasing* in leverage, which is intuitive and partially counteracts the

overall negative association between leverage and media coverage that we document. Finally, we find that our results are somewhat unique to traditional media coverage (i.e., full articles) catering to financial market participants and monitors, and do not apply to non-traditional media outlets (e.g., blogs, social media) and flash alerts that cater to varied audiences.

Our study makes several contributions to the literature. First, we provide evidence that the media substitutes for monitoring by more specialized investors (e.g., banks and dedicated institutional investors) by equipping less sophisticated investors (e.g., bond holders and quasi-indexers) with easily accessible and relevant information. Our findings suggest that the media does not merely rebroadcast other (more) sophisticated monitors' information, but rather seeks to enable monitoring where needed. Second, our paper responds to the call by Miller and Skinner (2015, p. 231) for additional research on the monitoring role of the business press. A significant amount of research in this space has focused on the *consequences* of media coverage (e.g., Miller, 2006; Dyck et al., 2010; Core et al., 2008; Bushman et al., 2017), whereas the *determinants* of the monitoring provided by media coverage are relatively less understood (Call et al., 2021). We extend this line of research by documenting that the composition of a firm's investor base is an important driver of media coverage. Finally, our paper also contributes to the disclosure literature by highlighting that media coverage complements the gamut of voluntary and mandatory corporate disclosures that investors rely on for monitoring firms and evaluating managers.

2. Literature Review and Hypotheses Development

2.1. Literature Review

2.1.1. Monitoring by debt investors

Prior research identifies several mechanisms through which debt investors monitor their current and prospective borrowers. In contracting, banks (public bondholders) use loan (bond)

covenants to constrain and monitor borrowing firms (Vashishtha, 2014; Berlin and Loeys, 1988). Banks also have access to internal information from management (Norden and Weber, 2010). Besides covenants and internal information, debt holders also rely on public information to aid their monitoring efforts (Sethuraman, 2019). For example, sell-side debt analysts produce research in response to the demands of both private and public debt holders (Johnston, Markov, and Ramnath, 2009). Research suggests banks, as well as other syndicated loan participants, use the sentiment of media articles to make loan origination and participation decisions (Bushman et al., 2017). Of course, major media outlets do not cover all firms. Thus, financial media articles are often, but not always, one of several sources of information available to debt investors as they monitor borrowers.

2.1.2. Monitoring by equity investors

Equity ownership is commonly decomposed into the proportion owned by institutional and retail investors. Due to their generally small size and limited influence, retail investors are less likely to participate in directly monitoring the firm. Brav, Cain, and Zytnick (2021) examine voting in shareholder proposals by retail investors. They find that such investors are not likely to vote if they have small equity stakes and that, among those who vote, more than 90% of the votes are in favor of management.

In contrast, institutional owners have been shown to be involved in governing and monitoring the firm both passively and actively. Such monitoring by institutional investors depends on multiple factors, including their investment horizon and portfolio concentration (Bushee, 1998). For example, quasi-indexers and dedicated institutional investors have strong incentives to engage in monitoring and governing portfolio firms due to their long-term investment horizon (Appel, Gormley, and Keim, 2016; Boone and White, 2015). Although transient investors

typically have a shorter-term focus, they often strive to obtain private information through technical and fundamental analysis in order to earn trading profits. Therefore, like other institutional investors, they also demand financial information regarding their portfolio firms. Prior research makes clear that this information demand from institutional investors influences information production by data aggregators (D'souza, Ramesh, and Shen, 2010), firms (Call et al., 2022), and analysts (Boone and White, 2015). Thus, we expect the varying needs and abilities (i.e., the demand) of different types of equity investors to also influence the firm-specific information produced by the financial media.

2.1.3. Informational role of the financial media

The financial media appears to reduce information asymmetry by disseminating information more broadly (Bushee et al., 2010; Bushman et al., 2017; Fang and Peress, 2009; Drake, Guest, and Twedt, 2014; Bushee, Cedergren, and Michels, 2020), monitoring firms' behavior (Miller, 2006; Core, Guay and Larcker, 2008; Dai, Parwada, and Zhang, 2015; Call et al., 2021), and (relatedly) creating value relevant information for capital market participants (Dougal et al., 2012; Guest, 2021; Engelberg and Parsons, 2011).

Prior empirical research has studied the effects of media coverage on a multitude of market outcomes, such as stock prices (Fang and Peress, 2009; Drake et al., 2014), market liquidity (Bushee et al., 2010), earnings announcement reactions (Guest, 2021), analyst coverage (Bradshaw, Lock, Wang, and Zhou, 2021), and loan-syndication (Bushman et al., 2017). There has been comparatively little research on the determinants of media coverage, with notable exceptions. A few studies (Fang and Peress, 2009; Guest and Kim, 2021) estimate determinant models as part of their preliminary analyses. The main takeaways from these determinant models are that the media tends to cover larger firms and firms with greater idiosyncratic volatility.

Solomon (2012) provides evidence that firms that appoint investor relations (IR) professionals get more (positive) media coverage. In this study, we attempt to enhance our understanding of the determinants of financial media coverage by investigating a major subset of their potential audience, i.e., the investor base of public firms.

Finally, recent research investigates the effect of media coverage on debt markets. Dang, Dang, Moshirian, Nguyen, and Zhang (2020) provide evidence that media coverage speeds up firms' adjustment towards optimal leverage. Cheng, Jiang, and Song (2019) provide evidence that greater media coverage makes firms more likely to choose public debt over private debt. Bushman et al. (2017) examine the role of financial media coverage in reducing information asymmetry between relationship and non-relationship lenders in private debt markets. They show that an increase in media sentiment increases the likelihood that non-relationship lenders will join the syndicate, and a decrease in media sentiment results in a lower share held by the lead arranger. Notably, all three of these papers attribute their results to reductions in information asymmetry due to media coverage. While these studies focus on the effect of media coverage on a limited aspect of firms' debt financing choice, our study differs in two key regards, (1) we examine firms' overall capital structure (i.e., debt vs. equity), and more importantly, (2) we examine the reverse direction of (potential) causality, i.e., the effect of the firms' investor base on media coverage.

2.2. Hypotheses Development

A firm's investor base can be fundamentally categorized into debt investors and equity investors. These investors' different information endowments and needs likely influence the supply of media coverage and other types of information. For example, demand from debt market participants likely influences information dissemination by other intermediaries, such as debt analysts and credit rating agencies. Johnston et al. (2009) document that sell-side debt analysts

issue more reports about firms with greater debt levels, which they argue is due to greater information demand from debt investors. This heightened analyst activity may indirectly influence media coverage, depending on the extent to which the media complements or substitutes analysts (Bradshaw et al., 2021; Guest and Kim, 2021).

In addition, reliance on public sources of information such as the media varies with investors' sophistication (Call et al., 2021) and private access to management. Debt investors, public or private, are generally more sophisticated investors who rely less on public sources of information for monitoring their investments, as compared to equity investors.[6] In fact, many debt investors are extremely well-informed. Banks typically have private access to both hard and soft information from management, helping them to closely monitor firms' decision-making and performance (Fama, 1985; Boot, 2000; Norden and Weber, 2010; Asquith et al., 2005). Consequently, such investors likely rely on intermediaries, including the media, to a lesser extent.

Alternatively, higher levels of debt could also increase the likelihood of media coverage. Neissner and So (2018) provide evidence that the media, during earnings announcements, is more likely to cover firms that perform poorly than firms that perform well. They argue that the media generally prefers to cover sensational stories, which tend to be negative (see also Jensen, 1979). To the extent the negative news is sensational, media's incentives are consistent with debt holders' asymmetric demand for negative information (DeFranco, Vasvari and Wittenberg-Moerman, 2009). Therefore, the net effect of firms' investor base on media coverage is not obvious and remains an empirical question. In sum, we posit that journalists will cater more to equity holders who depend on public information to a greater extent than to debt holders who have relatively

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[6] For example, households hold only about 8% of the U.S. Corporate Bond Market. The other 92% is held by various types of institutions. (Source: Federal Reserve data on Flow of Funds, 2018)

better access to more private information. This discussion leads to our first hypothesis, stated as follows in the alternative form:

H1: Firm-specific media coverage is decreasing in the proportion of debt relative to equity ownership.

Among debt investors, banks and other private debt holders typically have the greatest private access to management. In addition, they closely monitor firms throughout the lending process by imposing debt covenants (Fama, 1985). Thus, private debt holders are less likely to be limited to relying on public sources such as the media in their monitoring efforts. On the other hand, public debt holders do not have such an informational advantage and are forced to rely on public sources of information. To the extent the financial media is aware of and responds to the different types of debt holders and their information demands, we expect media coverage to be lower when a firm has more private debt.

H1a: Holding overall debt constant, firm-specific media coverage is decreasing in the proportion of debt that is private.

Among equity investors, institutional investors hold the vast majority of U.S. firms' equity securities and pay substantial fees for access to information. To monitor firms, institutional investors rely on public as well as private information (Boone and White, 2015; Bushee and Noe, 2000). Prior research suggests that institutional equity ownership is associated with higher information production by firms and analysts, which helps the institutional investors monitor and trade the stocks of such firms (Frankel, Kothari, and Weber, 2006; Beyer, Cohen, Lys, and Walther, 2010; Boone and White, 2015).

A firm's media coverage is likely to be of particular benefit to any of its investors who rely primarily on public information and have limited ability to generate their own private information. This is especially true since Regulation FD prohibited firms from providing material private

information to just a subset of equity investors to the detriment of others. As profit-maximizing businesses (Mullainathan and Shleifer, 2005), the financial media is likely aware of the demand for public information by institutional equity investors. Indeed, such institutional investors make up a large subset of the investing community and pay substantial sums for subscriptions and other access to various sources of information.[7] Thus, because (1) these equity investors rely so heavily on public information, and (2) income from institutions is such a significant chunk of the financial media's business, we expect media coverage to increase with institutional equity ownership. This prediction leads to our second hypothesis, stated as follows:

H2: Firm-specific media coverage is increasing in institutional equity ownership.

We acknowledge that even within institutional equity investors, there are multiple types of investors who adopt varying investment strategies. As a result, there is substantial heterogeneity in their abilities and willingness to process public information and create private information. For example, similar to bankers among debt investors, dedicated institutional equity investors develop deeper relationships with management and are actively involved in monitoring the firm throughout their typically long-term investment period. Transient equity investors adopt sophisticated trading strategies that exploit a wide variety of signals from firms' filings and other sources. Thus, while dedicated and transient investors certainly consume media coverage to an extent, they are not likely to be limited to using media coverage and likely benefit from a multitude of alternative options available to them when gathering and processing information.

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[7] To illustrate, consider the revenue breakdown of Dow Jones (a major division of News Corp.) in 2019 and 2020. Their 'professional information segment,' which is targeted almost exclusively towards institutions, accounted for 38% of revenue. The remainder of the firm's revenue is generated by the 'circulation business segment', which sells access to articles published in The Wall Street Journal, Barron's, and MarketWatch to institutional investors as well as individuals, universities, libraries, regulators, etc. Thus, the 38% of revenue from the professional information segment, which is substantial, is a lower bound estimate of the importance of institutional clients who represent the single largest consumer base of financial media.

In contrast, prior research (Bushee, 1998; Bushee and Noe, 2000) identifies a large group of 'quasi-indexers' that is made up of a mixture of passive and active institutional equity investors. They are typically characterized by portfolios made up of a larger number of firms, higher portfolio turnover, and medium-term investment horizons. Due to their relative passivity, combined with their greater diversification across multiple firms (and often industries) that makes private information acquisition costly, we expect their information gathering and processing to be comparatively less sophisticated. As a result, quasi-indexers are more likely to rely on public information from their portfolio firms (Bushee, 2004), as well as information intermediaries, such as the media, for monitoring purposes. Thus, we expect quasi-indexer investors to rely more on the media. In contrast, we expect dedicated and transient investors to rely less on the media, because they are relatively more active and sophisticated in monitoring portfolio firms. This discussion leads to our next hypothesis, stated as follows in the alternative form:

> *H2a: Holding overall institutional equity ownership constant, media coverage is increasing (decreasing) in quasi-indexer (transient and dedicated) ownership.*

3. Research Design

3.1. Data and Sample Construction

Our sample construction begins with all firms with necessary identifiers in both the Compustat and the CRSP databases from 2000 to 2019. We use the RavenPack News Analytics (RPNA) database to find the number of full articles published about these firms in each quarter. We focus on full articles because flash articles are unlikely to fill the monitoring roles examined by prior research (e.g., Miller, 2006; Bushman et al., 2017).[8] We chose the RPNA Dow Jones edition since it has a longer sample period (2000 to 2019) than the RPNA full web edition (2007

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[8] Flash articles are brief headline snippets and full articles contain one or more paragraphs of text along with the headline. Producing full articles is costlier than flash articles because it involves greater information production and a more in-depth editorial process. We examine flash articles separately in section 6.4 of this study.

to 2019). In addition, many of the most influential media sources in the market are no longer included in the RPNA web edition data after 2014 due to licensing issues. We use I/B/E/S to compute analyst following. We set missing values for the number of articles and the number of analysts to zero. We use the Thomson Reuters (TR) 13F database to compute institutional ownership as of the end of each quarter.

We remove firms in the financial and utility industries (SIC codes: 6000 to 6999 and 4000 to 4999) from our sample because of the substantial differences in measuring their capital structure and performance compared to industrial firms. We exclude firms with assets and revenue less than $1 million. We also exclude observations for which any of the data required to calculate dependent, explanatory, or control variables is missing. Our final sample consists of 222,779 firm-quarters corresponding to the sample period 2000-2019.

3.2. Research Design

We begin by examining whether the capital structure of a firm is associated with its media coverage. To test our first hypothesis (H1), we regress media coverage on firms' leverage while controlling for determinants of media coverage considered by prior literature. Specifically, we use the following baseline regression model to test our first hypothesis:

$$Media\ Coverage_{i,q+1} = \alpha + \beta_1 Leverage_{i,q} + \gamma_1 Log(Size)_{i,q} + \gamma_2 Return\ Volatility_{i,q} \quad (1)$$

$$+ \gamma_3 Return\ on\ Assets_{i,q} + \gamma_4 Book\text{-}to\text{-}Market_{i,q} + \gamma_5 Absolute\ Returns_{i,q}$$

$$+ \gamma_6 S\&P\ 500_{i,q} + \gamma_7 \#Analysts_{i,q} + \gamma_8 Dividend\ Payout_{i,q} + \gamma_9 \#Employees_{i,q}$$

$$+ \lambda_{year} + \mu_{ind} + \epsilon_{i,q}$$

where *i* and *q* denote firm and year-quarter, respectively. We measure *Media Coverage*$_{i,q+1}$ as the total number of full articles about firm *i* in quarter *q+1*. *Leverage*$_{i,q}$ is total debt scaled by total assets for firm *i* at the end of quarter *q*.

We also control for several characteristics of the firm and its information environment, including size (*Log(Size)*), return volatility (*Return Volatility*), performance (*Return on Assets*), growth (*Book-to-Market*), absolute returns (*Absolute Returns*), an S&P 500 index indicator (*S&P 500*), analyst coverage (*#Analysts*), the dividend payout ratio (*Dividend Payout*), and the number of employees (*#Employees*). We define each control variable in detail in Appendix A. Prior research suggests these factors are associated with firms' capital structure as well as their media coverage (Fang and Peress, 2009; Guest and Kim, 2021). Additionally, Goldman, Martel, and Schneemeir (2021) argue that the media is more likely to report extreme news in order to attract readers' attention, suggesting the need to control for the absolute stock return in the prior quarter.

λ_{year} denotes year fixed effects and μ_{ind} denotes industry fixed effects. We include these fixed effects to control for period specific factors and time-invariant industry characteristics. Following prior capital structure research (Johnston et al. 2009; Bushman et al. 2017; Cheng et al. 2019; Dang et al. 2019), we do not include firm fixed effects because variation in the typical firm's leverage over time is quite limited.[9]

To test our second hypothesis (H2), we regress media coverage on firms' institutional ownership while controlling for leverage and the other firm characteristics discussed above. In particular, we use the following regression model:

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[9] We do not include firm fixed effects in the analyses reported throughout the paper for consistency and ease of comparison with prior studies, as our inferences are derived from cross-sectional variations in capital structure. However, our main inferences are qualitatively similar in untabulated tests that include firm fixed effects in lieu of industry fixed effects.

$$Media\ Coverage_{i,q+1} = \alpha + \beta_1 Institutional\ Ownership_{i,q} + \beta_2 Leverage_{i,q} \qquad (2)$$

$$+\sum \gamma_n Controls_{i,q} + \lambda_{year} + \mu_{ind} + \epsilon_{i,q}$$

where *Institutional Ownership$_{i,q}$* is the proportion of shares outstanding held by institutional investors (that submit 13F filings) divided by total shares outstanding for firm *i* at the end of quarter *q*; and all other variables are as defined for equation (1). In all our estimations, we cluster standard errors by firm and standardize variables for ease of interpretation.

3.3. Descriptive Statistics

Table 1 presents the descriptive statistics of the variables in our main specification. All the continuous variables are winsorized at the 1 percent and 99 percent levels. The mean (median) number of Dow Jones full articles (*Media Coverage*) in each firm quarter is about four (one). Consistent with Guest and Kim (2021), 44% of our sample firm-quarters receive no media coverage. The mean (median) outstanding debt, i.e., *Leverage,* is 22% (18%) of total assets. Private debt as a proportion of total assets is 17% on average. When we confine the sample to the firms which have non-zero debt, 83% of the debt is provided by banks and financial institutions covered by the DealScan database. Average institutional equity ownership (*Institutional Ownership*) is 63%. We further decompose institutional equity ownership into quasi-indexers (*Quasi-Indexers*), transient investors (*Transient*), and dedicated investors (*Dedicated*) using the Bushee (1998) data. The majority (59%) of institutional equity ownership is held by quasi-indexers, followed by transient investors (25%) and dedicated investors (9%). The remaining 7% is held by uncategorized institutional investors.

4. Main Results

4.1. Leverage and Media Coverage (H1)

We begin our analyses by examining the association between media coverage and capital structure, i.e., *Leverage*. Table 2 presents the results. In all tests, we control for firm size, and in column 2 we also include other controls as outlined in equation (1). Consistent with hypothesis H1, we document a statistically significant negative association between a firm's leverage and its media coverage. Specifically, the estimate in the first (second) column implies that a one standard deviation increase in leverage is associated with a 8.2% (4.5%) standard deviation decrease in quarterly media coverage. To understand the economic significance of these results, recall from Table 1 that the mean and standard deviation of *Media Coverage* are 3.93 and 6.63, respectively. Using the more conservative estimate in column 2, we find that a one standard deviation increase in leverage is associated with a 7.6% decrease in media coverage (i.e., [0.045*6.63]/3.93 = 7.6%).

With respect to the control variables, we observe a positive association between media coverage and analysts' coverage (*#Analysts*), consistent with Guest and Kim (2021). Results also show that the media tends to focus coverage on larger firms, consistent with the findings in Fang and Peress (2009). We also find that the media provides more full articles for growth stocks. We find a positive and significant association between return on assets (*Return on Assets*) and media coverage, suggesting that the media is more likely to cover firms that perform well. Surprisingly, we find a negative association between S&P 500 inclusion (*S&P 500*) and media coverage, however, we caveat that this result is likely due to high collinearity of S&P 500 inclusion with other measures that capture firm size and visibility.

Overall, these results suggest that a firm's leverage is an important determinant of its media coverage, incremental to other major economic factors such as size, investment opportunities, risk, and the information environment. Leverage captures just one dimension of potential differences within a firm's investor base (i.e., whether investors hold a larger debt or equity ownership claim).

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In subsequent analyses reported in the following sections, we seek to better understand the role of the firm's investor base in the media's coverage decisions. Specifically, we examine the extent to which various *types* of debt and equity investors rely on the media's help in monitoring the firm.

4.2. Plausibly Exogenous Variation

To address endogeneity concerns and investigate whether the associations documented above are likely to be causal, we exploit plausibly exogenous variation in capital structure and access to privileged information.

4.2.1. TCJA (Tax Cuts and Jobs Act, 2017) – Plausibly Exogenous Change in Leverage

First, we examine the effect of exogenous changes in capital structure on media coverage. To this end, we exploit the decrease in leverage experienced by firms impacted by the 2017 U.S. Tax Cuts and Jobs Act (TCJA). Carrizosa et al. (2020) examine the effect of the TCJA on firm leverage using a difference-in-differences design. They document a plausibly exogenous decrease in leverage among firms impacted by the law. This variation is in contrast with ordinary times when firms' leverage ratio is determined endogenously by factors such as firm fundamentals and managers' discretionary choices between different sources of capital. We use this shock to examine the effect of the resulting decrease in leverage on the firm's media coverage. Specifically, we test whether there is an increase in media coverage for the firms affected by the TCJA.

In particular, Section 163(j) of the Internal Revenue Code was amended under the TCJA to limit the interest deduction in the computation of taxable income to the sum of (a) 30% of taxable income and (b) interest income. The limit is applicable for tax years beginning after 2017 and excludes firms that have average annual gross receipts of less than or equal to $25 million in the previous three years. As mentioned above, Carrizosa et al. (2020) provide evidence that this regulation produces exogenous decreases in affected firms' leverage. Following their design, we

investigate whether the regulation impacted leverage similarly in our sample and, if so, whether this exogenous reduction in leverage impacted media coverage. The sample for this test includes firm-quarters from Q1-2014 to Q4-2019. Treatment (*Treat*) is set to one for firms with interest expense greater than the sum of interest income and 30% of adjusted taxable income, and zero otherwise. Because the regulation exempts firms with average annual gross revenue less than or equal to $25 million from 2015 to 2017, they are included in the control group even if their interest expense exceeds the necessary limit. Following Carrizosa et al. (2020), we use GAAP reported numbers as a proxy for adjusted taxable income. That is, adjusted taxable income is computed by subtracting interest income from the sum of pre-tax income (Compustat data item PI), interest expense (Compustat data item XINT), and depreciation and amortization expense (Compustat data item DP). We define *Post* as one for the years 2018 and 2019, and zero otherwise.

We understand that the TCJA limits are not applied to firms randomly. That is, they are based on factors such as the firm's size, past performance, and prior financing choices. However, the TCJA was not likely to be driven by firm-specific media coverage, which makes it useful for our purposes. Nonetheless, among other things, the lack of random assignment might result in differences between the control and treatment groups. Therefore, we use entropy balancing to ensure that the treatment and control firms are comparable (Hainmueller, 2012). Specifically, entropy balancing helps us ensure that the moments of the covariates of treatment and control observations are similar. Using the method specified by Hainmueller (2012), we estimate a weighted regression in which the weights are computed by matching the first and second moments of the following firm characteristics: size (*Log(Size)*), book-to-market ratio (*Book-to-Market*), return on assets (*Return on Assets*), and return volatility (*Return Volatility*). Panel A of Table 3 presents the weighted first and second moments of these covariates. The weighted means and

standard deviations of the firm characteristics of the control group are practically identical to those of the treatment group. Using the resulting balanced sample, we estimate the following difference-in-differences design:

$$Media\ Coverage_{i,q} = \alpha + \beta_1 Treat_i\ x\ Post_q + \beta_2 Treat_i + \beta_3 Post_q \qquad (3)$$

$$+ \sum \gamma Controls_{i,q} + \lambda_{ind} + \gamma_q + \epsilon_{i,q}$$

Media Coverage, *Controls*, and industry and quarter-year fixed effects are defined as in the main regression models of equations (1) and (2). A positive coefficient on *Treat x Post* would suggest that plausibly exogenous decreases in leverage increase media coverage, consistent with our main results reported in prior sections.

Panel B of Table 3 presents our difference-in-differences estimates of the effect of TCJA on leverage (*Leverage*) and media coverage (*Media Coverage*). Columns 1 and 2 show the effect of TCJA on leverage. As in Carrizosa et al. (2020), we find that leverage decreases after TCJA for the affected firms relative to the unaffected firms. Our results hold regardless of whether we use levels (see column 1) or changes (see column 2) in leverage as the dependent variable. Columns 3 and 4 show the effect of the TCJA on media coverage. In column 3, we show that the number of media articles increases in the post-TCJA period for the firms affected by the TCJA relative to the unaffected firms. Specifically, media coverage was 5.4% higher for treated firms post TCJA, relative to control firms.[10] The effect appears slightly stronger in column 4 when we consider only

[10] In this subsample, the mean and standard deviation of the debt to assets ratio (i.e. leverage) are 0.24 and 0.27 respectively (untabulated), and the mean and standard deviation of the number of articles are 5.9 and 7.5 respectively. After the TCJA, the debt to assets ratio declined by about 2% [(0.019 x 0.27)/0.24]. The corresponding increase in media coverage is around 5.4% [(0.043 x 7.5)/5.9]. Note that the economic magnitude of this TCJA effect on media coverage is much larger than the baseline result in Table 2. That is, the baseline results suggest that a one standard deviation increase in leverage (i.e., 0.219) results in a 7.6% decrease in media coverage. These differences in estimated magnitudes may be attributable to the differences in sample size, sample power, and sample period between the two analyses.

firms with non-zero outstanding debt, which is a necessary condition to be affected by the regulation. These results suggest that a decrease in leverage, which in this case was more likely to be caused exogenously by the TCJA, results in increased media coverage.

Panel A of Figure 1 presents more granular time-series results, i.e., by replacing the post variable in equation (3) with indicator variables for each year from 2015 to 2019 (except 2017, which is the excluded base period). We plot the coefficient estimates and 95% confidence intervals for *Treat* interacted with the indicator for each year. The confidence intervals for *Treat* interacted with the indicators for 2015 and 2016 include zero, suggesting that treatment and control firms were not significantly trending in different directions during the pre-period. This evidence of parallel trends in the pre-period increases our confidence that parallel trends would have continued in the post-period if the TCJA shock had not occurred. The confidence intervals for 2018 and 2019 are entirely above zero, consistent with our evidence in Table 3 that the decreases in treatment firms' leverage due to the TCJA resulted in higher subsequent media coverage.

This evidence is consistent with our arguments throughout the paper, i.e., the media appears to recognize the reduction in debt holders, who provide valuable monitoring, and respond by increasing their own monitoring efforts. In other words, the media appears to go where it is needed. In addition, because this test is based on variation that is more likely to be exogenous to changes in firm fundamentals and other confounding factors, it helps reduce endogeneity concerns and increase confidence that changes in a firm's investor base result in changes in media coverage.

4.2.2. Dual-holding – Plausibly Exogenous Change in Access to Private Information

Dual-holders are investors who simultaneously invest in a firm's debt and equity. This provides an ideal setting for our paper, as we posit that media coverage is driven by differences in informational endowments of debt and equity investors. When an equity investor becomes a dual-

holder, they obtain increased access to management and privileged information. Thus, their demand for monitoring and information from the media likely decreases after the loan is issued.

Peyravan and Wittenberg-Moerman (2021) examine the effect of dual-holders on managers' earnings disclosure. They use a difference-in-differences design to test if the voluntary disclosure decisions of the treated firms (i.e., dual-holder firms) and control firms differ after equity owners originate loans to the firm. We follow their design to investigate whether media coverage changes after loans are originated that create dual-holders. We obtain loan data from DealScan.

We start with all loans issued from 2000 to 2019 in the DealScan database and exclude bankers' acceptance, bridge loans, standby letters of credit, performance standby letters of credit, multi-option facilities and loans that are categorized as "other" or "undisclosed." We also exclude the loans where LIBOR is not the base rate. We exclude loans given to non-U.S. firms and by non-U.S. lenders. We manually match the names from the DealScan database with the Thomson Reuters 13F database. The firms where at least one institutional owner with more than 5% of the firm's equity provided a loan are considered *Treated* while others are used as *Controls*. Our tests examine the 8 and 16 quarters surrounding the quarter of loan-origination to identify the effect of dual-holdings. We employ the following difference-in-differences design:

$$Media\ Coverage_{i,q} = \alpha + \beta_1 Treat_{i,q} \times Post_{i,q} + \beta_2 Treat_{i,q} + \beta_3 Post_{i,q} \qquad (4)$$

$$+ \sum \gamma Controls_{i,q} + \lambda_{ind} + \gamma_q + \epsilon_{i,q}$$

where *Media Coverage*$_{i,q}$ is defined as the number of full articles published about firm i during quarter q; *Treat*$_{i,q}$ is an indicator variable equal to one if an institutional investor of the firm owning more than 5% of the equity participates in providing a loan to the same firm; *Post*$_{i,q}$ is an indicator

variable equal to one if the quarter falls within 1 year from the quarter of loan origination (as noted above, we repeat this exercise using a 2-year window as well). Controls include institutional ownership (*Institutional Owership*), leverage (*Leverage*), and all other controls used in the main tests (i.e., equations (1) and (2)).

We again use entropy balancing to ensure that the treatment and control groups are comparable (Hainmueller, 2012). In addition to the firm characteristics used for matching in TCJA analysis, we also include *Leverage* as an additional matching variable. Panel A of Table 4 presents the weighted first and second moments of the firm characteristics used for matching. As in the prior section, entropy balancing results in a closely matched sample of treatment and control firms.

Panel B of Table 4 presents our difference-in-differences estimates of the model specified in equation (4). As predicted, columns 1 and 2 show that after loans including dual-holders are originated, the media coverage of treated firms is lower than that of control firms. Specifically, media coverage in the two years after the loan origination is 9% lower for treated firms, relative to control firms.[11] Crucially, the results hold after controlling for the level of institutional ownership (*Institutional Ownership*) and the level of debt outstanding (*Leverage*). This finding is consistent with a decline in demand for monitoring and public information by the institutional equity owners that became dual-holders. Our results indicate that the media is aware of and responsive to the decline in demand.

Panel B of Figure 1 presents this result in event time, i.e., by replacing the post variable in equation (4) with indicator variables for the four quarters before and after loan origination (except the quarter before loan origination, which is the excluded base period). We plot the coefficient

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[11] The mean and standard deviation of media coverage are 4.7 articles and 6.9 articles for the subsample used in this analysis (untabulated). The estimated coefficient for *Treat x Post* is -0.061 in column 2 of Table 4 (Panel B). Thus, for the average firm, the effect of loan origination by an equity institutional investor results in a reduction in media coverage of about (0.061 x 6.9)/4.7 = 9%.

estimates and 95% confidence intervals for *Treat* interacted with the indicator for each quarter. The confidence intervals for *Treat* interacted with the indicators for quarters -4 through -2 include zero, suggesting that treatment and control firms were not significantly trending in different directions during the pre-period. This evidence of parallel trends between the treatment and control firms in the pre-period increases our confidence that parallel trends would have continued in the post-period if not for the shock (i.e. creation of a dual-holder).

Further, we observe that media coverage is lower for the treated group than for the control group for most of the quarters in the post-treatment period. This difference is consistent with a decline in media coverage after existing equity institutional investors originate loans to the firm. Interestingly, the treatment effect takes a few quarters to fully manifest, as evidenced by the insignificant estimates for quarters 1 and 2. We believe this delay is intuitive because it likely takes some time for (1) institutional investors to set up monitoring capabilities (e.g., request, receive, and analyze private information from firms) and (2) the media to become aware of the existence of a dual-holder and the resulting shift in monitoring and demand for news.

5. Investor Types

Not all investors rely on public sources of information for monitoring to the same extent. Some types of investors, such as private debt holders and dedicated equity investors, have greater access to management due to the nature of their investments (e.g., large block holdings). In this section, we provide a deeper examination of different investor types and their effect on media coverage. Specifically, we first decompose debt holdings into public vs. private. We then decompose equity ownership into institutional vs. retail. Finally, we further decompose institutional equity ownership into quasi-indexers, transient, and dedicated investors.

5.1. Types of debt holders (H1a)

Among debt holders, private debtholders (mainly banks) have more access to management through regular internal reports about the performance of the firm. Hence, they are less likely to rely on public sources such as the media to monitor the firm. Therefore, we expect media coverage to be lower for firms with high private debt.

Table 5 presents the association between financial media coverage (*Media Coverage*) and private debt (*Private Debt*), holding the debt-to-equity ratio (*Leverage*) constant. We compute the amount of private loans outstanding using the DealScan database. We scale private debt using two different scalars, total debt and total assets, to establish the robustness of the association. Specifically, we scale private debt by total assets in columns 1 and 2 and by total debt in columns 3 and 4. Consistent across all specifications, we find that *Private Debt* is negatively associated with media coverage. This suggests that media coverage is lower for firms with high private debt. Specifically, an increase by one standard deviation in the private debt ratio (specifically, private debt to total assets; see column 2) is associated with an approximately 5.5% decline in quarterly media coverage from the mean (i.e., [0.033*6.63]/3.93 = 5.5%).

This finding that private debt holdings are negatively associated with media coverage provides further support for our argument that some types of investors are less likely to rely on monitoring by the media because they are able and willing to create their own private information advantage.

5.2. Types of equity owners (H2)

Active retail and institutional investors both use firm-specific information to trade and monitor the firm. However, institutional investors account for the majority of the holdings and trading volume of equity stocks. Thus, media outlets, as profit-maximizing entities, have

incentives to cater to such investors through professional news services.[12] Besides, retail investors are more likely to delegate monitoring to institutional investors and fund managers by holding equity in the form of ETFs, index funds, and other mutual funds. Therefore, we predict that a firm's media coverage is increasing in its institutional equity ownership.

To investigate this distinction between retail and institutional investors, we introduce *Institutional Ownership* as an explanatory variable into our media coverage model. Table 6 presents the regression results from the model specified in equation (2). Consistent with our H2, we document a statistically significant positive association between a firm's institutional equity ownership and media coverage (column 1). Specifically, we find that a one standard deviation increase in institutional ownership is associated with an increase in quarterly media coverage of approximately 7.8% (i.e., [0.046*6.63]/3.93 = 7.8%). This association is incremental to firm characteristics, including variables measuring other aspects of the firm's information environment, as well as year and industry fixed effects.

5.3. Types of institutional equity owners (H2a)

We use the Bushee (1998) classifications to further distinguish between institutional investors whose investing approach can best be explained as quasi-indexer, transient, or dedicated. Quasi-indexers diversify their portfolios by investing in a large number of firms. They tend to have relatively high portfolio turnover. They can be either passive or active funds and are typically benchmarked against an index. Their investments are mostly medium- to long-term in duration, but they are typically not actively involved in communicating with the firms in their portfolios. In addition, they tend to be a popular investment choice among retail investors, especially for retirement savings. Given their highly diversified and large portfolio, it is costly for quasi-indexers

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[12] As noted previously, Dow Jones provides services to institutions and has a separate revenue segment, 'professional information business,' that focuses on providing real time news and exclusive insights using data analytics.

to obtain private information about firms and they instead rely more on public information (Bushee 2004). Thus, such quasi-index investors might rely on the media to help them monitor a large number of firms. We expect a firm's media coverage to be positively associated with the level of ownership by quasi-indexers.

Transient investors typically trade many stocks, have high portfolio turnover, and make profits from short-term trading. While they may not engage in much traditional monitoring (e.g., participating in shareholder votes) during the short term they invest in a firm, their trading strategies often require public information, in part because they have limited access to inside information from management. In addition, they are often sophisticated in their ability to create their own private information using fundamental analysis, technical analysis, big-data, and related approaches. Hence the association between transient institutional equity ownership and media coverage is, ex ante, ambiguous. Nevertheless, we expect the substantial sophistication of transient investors, at least relative to quasi-indexers, to result in less reliance on the media.

Dedicated investors usually invest large amounts in a select few firms for long periods of time. These large ownership positions help them get access to management and obtain private information about the firm for monitoring. Due to this nature of their investments, there is likely less of a need for these dedicated investors to rely on public sources of information such as financial media. Thus, we predict a negative association between media coverage and ownership by dedicated investors.

Table 6 presents the association between media coverage and the level of ownership by the three types of institutional equity investors. Columns 2 to 4 separately examine the relationship between media coverage and each type of institutional equity investor. Column 5 includes all three

types of institutional ownership.[13] Consistent with our hypothesis H2a, we find a positive and statistically significant association between ownership by *Quasi-Indexers* and *Media Coverage* (columns 2). In contrast, we observe in columns 3 and 4 that media coverage is decreasing in the level of both transient (*Transient*) and dedicated (*Dedicated*) institutional ownership. Specifically, a one standard deviation increase in quasi-indexer (transient investor) [dedicated investor] ownership percentage results in an approximately 15% (9%) [5%] increase (decrease) [decrease] in *Media Coverage*. The results in column 5 further bolster these inferences.

Note that the overall positive association between institutional equity ownership and media coverage in column 1 of Table 6 is explained by the combination of two factors: (1) the positive association for quasi-indexers is greater than the negative associations for transient and dedicated investors and (2) quasi-indexers is by far the largest of the three groups (see Table 1 for descriptive statistics). These nuanced results strengthen our conclusion that the media caters to investors who likely need and use its information the most.

6. Additional Analyses

6.1 Cross-sectional test – Investment uncertainty

In providing evidence that the media goes where it is needed most, we have thus far emphasized *investors* who rely on the media to differing extents. However, we acknowledge that investors may benefit from the media's help covering some *investments* more than others. In particular, we expect the media to be particularly useful in informing less sophisticated investors when there is a greater level of uncertainty associated with the investment. Thus, in this section we consider whether our main results vary cross-sectionally in *Return Volatility* and *Credit Risk*,

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[13] *Institutional Ownership* is not included in this last column to avoid multi-collinearity.

which reflect overall investment-level uncertainty and are specifically relevant to equity and debt investors, respectively.

In Table 7, we repeat the main analyses (see equations (1) and (2)) after splitting the sample on the two measures of uncertainty. To be specific, the low (high) *Return Volatility* sample includes the bottom (top) tercile of each year's return volatility distribution. The low (high) *Credit Risk* sample includes firms with a Standard and Poor's credit rating of at least A- (BBB- or lower).[14] The evidence regarding the effect of *Leverage* on *Media Coverage* is mixed, i.e., while the difference between the coefficients in the high and low credit risk subsamples is positive and statistically significant, the same is not true for the return volatility split. In contrast, the finding regarding *Institutional Ownership* is more consistent, in that the coefficient is significantly more positive in the high uncertainty condition for both splits (i.e., high return volatility and high credit risk). Overall, our results suggest that the media caters to investors *who* need the most help *when* they need it, i.e., when uncertainty regarding the equity or debt investment is high.

6.2. Articles Relevant to Debt Investors

Although we argue that debt investors demand less information and monitoring from public sources such as the financial media, they likely demand at least some debt related firm-specific news. In other words, we expect that debt investors will demand debt-related news more than other news. RPNA analyzes the content of all media articles in order to categorize them by topic, such as insider-trading, earnings, labor issues, products, credit ratings, etc. Using these categories, we divide the number of articles in our sample into debt-related articles and other articles. We consider three categories: "credit," "credit ratings," and "bankruptcy" as directly relevant to debt investors.

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[14] Credit ratings are only available for about one-quarter of the full sample.

We argue that debt investors would demand information about debt-related news, and this will result in a positive association between the number of debt-related articles and leverage. We estimate the following model to examine this relation:

$$Debt\ Coverage_{i,q+1} = \alpha + \beta_1 Leverage_{i,q} + \beta_2 Institutional\ Ownership_{i,q} \tag{5}$$

$$+ \sum \gamma_n Controls_{i,q} + \lambda_{year} + \mu_{ind} + \epsilon_{i,q}$$

Where *Debt Coverage* is either (a) *Debt Articles*, i.e., firm-specific full-articles categorized by RPNA as relating to 'credit', 'credit-ratings,' or 'bankruptcy' or (b) *Debt Articles Ratio*, the ratio of *Debt Articles* (debt related full-articles) to *Media Coverage* (total number of full-articles).

Column 1 of Table 8 presents the results. We find a positive and significant relation between *Debt Articles* and *Leverage.* We find similar results using the ratio of debt-related articles to the total number of full articles (*Debt Articles Ratio*) in column 2. Since the denominator must be non-zero to arrive at a rational numeric proxy, the sample in column 2 includes only the firm quarters with a positive number of full articles. We find that among the firm-quarters which are the subject of at least one full-article, the proportion of debt-related articles is increasing in leverage. These results suggest that debt-specific coverage is increasing in debt ownership, albeit not enough to offset the overall lower media coverage documented in our earlier tests. Our evidence also suggests that the financial media is cognizant of the specific informational demands of its consumer base.

6.3. Traditional Financial Media Sources

The majority of the articles in our sample come from a single source, the Dow Jones. However, the RPNA web edition also includes news articles published by alternative news sources. To better understand the generalizability of our results, in this section we examine whether we reach similar inferences when we include other traditional financial media sources, such as the

following: New York Times, Washington Post, Wall Street Journal, Barrons, MarketWatch, CNN Money, and Bloomberg Businessweek. Unfortunately, the RPNA web edition is available only from 2007 for sources other than the Dow Jones. Additionally, we noticed that the coverage of alternative outlets is extremely sporadic after 2014. We pointed this out to RPNA, and they informed us that this deterioration in the data is the result of licensing issues. Therefore, the sample period we consider for this additional test is from 2007 to 2014.

We estimate the baseline model specified in equation (2). Column 1 of Table 9 presents the relation between the firm's investor base and its media coverage by traditional financial Dow Jones and non-Dow Jones news outlets (*Traditional*). We find a negative (positive) relation between traditional media coverage and leverage (institutional ownership). This evidence is consistent with our main results (i.e., Tables 2 and 6) and suggests that our findings likely generalize beyond the Dow Jones.

6.3. Non-Traditional Financial Media Sources

One of the crucial assumptions underlying our hypotheses is that financial journalists have strong incentives to cater to their customers, who are more likely to be equity institutional investors than debt investors. This might not be true for authors who are not necessarily trained (or "traditional") journalists, but instead publish articles about firms on blogs and websites. Their incentives likely differ from journalists at traditional outlets. In this section, we test this argument by examining the associations between leverage and institutional ownership with firm-specific coverage by non-traditional media sources. RPNA's web edition includes sources which are not traditional financial media sources. These sources include small-scale blogs and websites, which are often frequented by retail investors. Thus, we predict that our results are less likely to hold for

authors producing non-traditional coverage because they have less incentive to cater to institutional equity investors or be aware of their informational needs.

We estimate the model in equation (2) with the number of full-articles published by non-traditional financial media sources (*Non-Traditional*) as the dependent variable. The second column of Table 9 presents the results. As expected, we do not find a significant relation between non-traditional coverage and leverage. In addition, there is a positive but weak relation between non-traditional coverage and institutional equity ownership. This evidence suggests that traditional journalists' incentive function is a key driver of the relation between media coverage and the investor base.

6.4. Flash Articles

Flash articles are brief headline snippets that have a different cost function than writing a full article, as the latter includes substantial information in the form of editorial content. Flash articles have been shown to fill the role of information dissemination, rather than information discovery (e.g., Bushee et al., 2010). Therefore, we argue that the financial media's monitoring efforts are less likely to center on flash articles which primarily disseminate information that is already publicly available (e.g., in the firm's disclosures). Since our hypotheses revolve around the higher need for information by equity investors than debt investors, we expect that the amount of flash article coverage is not related to the firms' investor base. We estimate the following model to examine this question:

$$Flash\ Articles_{i,q+1} = \alpha + \beta_1 Leverage_{i,q} + \beta_2 Institutional\ Ownership_{i,q} \tag{6}$$

$$+ \sum \gamma_n Controls_{i,q} + \lambda_{year} + \mu_{ind} + \epsilon_{i,q}$$

Column 3 of Table 9 presents the associations between leverage and institutional ownership with the number of flash articles. As predicted, we do not find statistically significant relations

between the number of flash articles and the firm's investor base. This supports the idea that the publication of full articles by the financial media is specifically to facilitate monitoring by the firm's investor base.

7. Conclusion

This paper contributes to the financial media literature by showing that a firm's investor base is a key determinant of its media coverage. This finding helps confirm the economic intuition that the media is aware of and responds to the needs and abilities of their audience. Specifically, our findings imply that the media caters more to equity investors than to debt investors overall, due to their differential demand for public information. However, this initial evidence is nuanced by additional analyses showing that within both equity and debt ownership, some investor types rely on media coverage more than others based on their sophistication and the extent of their access to private information. First, the media seems to respond to the demand of institutions more than retail investors, perhaps because a more significant portion of the media's revenue comes from institutions. Further, among institutional investors and debt investors, quasi-indexer equity owners and public bondholders appear to rely more on the media, while transient/dedicated equity owners and private debt holders likely rely more on alternative sources of information.

This study is one of the first to provide a detailed analysis of a significant determinant of media coverage – i.e., the investor base. The financial media covers only a limited subset of firms, and even within the set of covered firms the intensity of coverage varies substantially. Given the increasing body of research on the consequences of media coverage for market liquidity and efficiency, it is crucial for researchers to understand and account for the drivers of coverage decisions in order to avoid confounded inferences. Our study clearly suggests that the ultimate consumers of firm-specific media coverage, specifically investors, are likely one of its most

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important determinants. Future research can perhaps build on this through additional study of the effects of a firm's financing decisions and stakeholder attributes on its media coverage.

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Appendix A: Variable definitions

Variable Name	Variable Definition	Source
Dependent variables		
Media Coverage	# of firm-specific full-length articles published by Dow Jones	RavenPack Dow Jones Edition
Debt Articles	# of firm-specific full-length articles categorized as 'credit', 'credit-ratings' or 'bankruptcy' published by Dow Jones	RavenPack Dow Jones Edition
Debt Articles Ratio	Ratio of *Debt Articles* to *Media Coverage*	RavenPack Dow Jones Edition
Traditional	# of firm-specific full-length articles published by the following traditional financial media sources (Newswire, Reuters, CNBC, Forbes.com, Marketwatch, Businessweek, Bloomberg News, Barrons, CNN Money, The Washington Post, FT, NYT, WSJ)	RavenPack Full Web Edition
Non-Traditional	# of firm-specific full-length articles published by non-traditional financial media (excluding the traditional sources)	RavenPack Full Web Edition
Flash Articles	# of firm-specific flash articles (headlines without body text) published by Dow Jones	RavenPack Dow Jones Edition
TCJA Analysis		
Treat	One if the firm has interest expense in 2017 greater than the sum of interest income and 30% of adjusted taxable income, and zero otherwise.	Compustat
Post	One for the years 2018 and 2019, and zero otherwise.	
Dual-holders Analysis		
Treat	One if an institutional investor holding more than 5% of the firm's stock issues a loan to the firm, and zero otherwise.	DealScan and Thomson Reuters 13F
Post	One if the quarter is during or after the quarter of loan origination and zero otherwise.	DealScan
Independent variables		
Leverage	Long-term debt plus short-term debt scaled by total assets	Compustat
Private Debt	Private debt provided by banks and financial institutions	DealScan / Compustat
Institutional Ownership	Proportion of shares owned by institutions per 13F filings	Thomson Reuters 13F
Quasi Indexer	Shares owned by quasi-indexers / Total shares outstanding	Bushee (1998) data
Transient	Shares owned by transient investors / Total shares outstanding	Bushee (1998) data
Dedicated	Shares owned by dedicated investors / Total shares outstanding	Bushee (1998) data
Size	Market value of equity + book value of total debt	Compustat and CRSP
Return Volatility	Standard deviation of daily returns during the quarter	CRSP
Return on Assets	Operating income after depreciation / Total assets at the beginning of quarter	Compustat
Book-to-Market	Book value of equity divided by Market value of equity	Compustat / CRSP
Absolute Returns	Absolute value of return during the quarter	CRSP
S&P 500	One if the firm is in the S&P 500 index, and zero otherwise	Compustat
#Analysts	# of analysts issuing earnings forecasts during the quarter	I/B/E/S
Dividend Payout	Total dividends paid / Total assets	Compustat
#Employees	# of employees (in thousands).	Compustat

Figure 1. Event time analysis
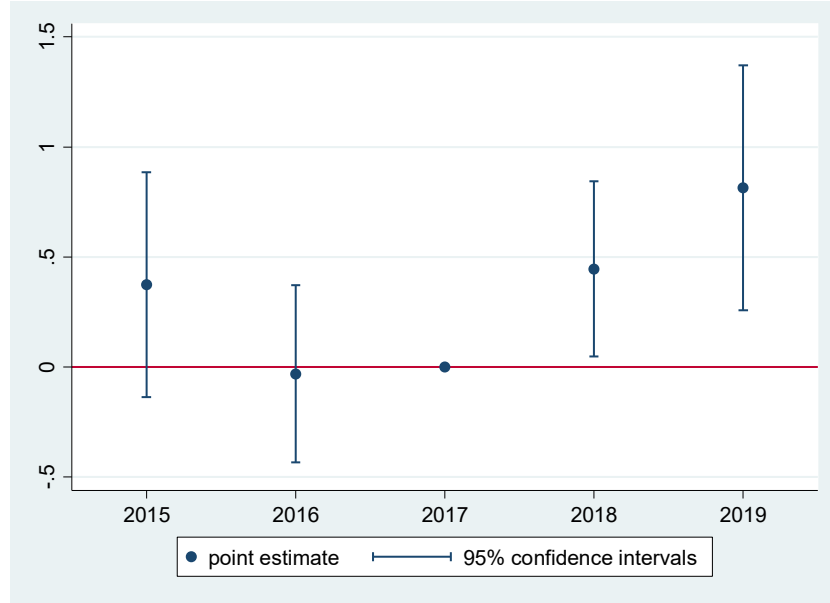
Panel A: Tax Cuts and Jobs Act
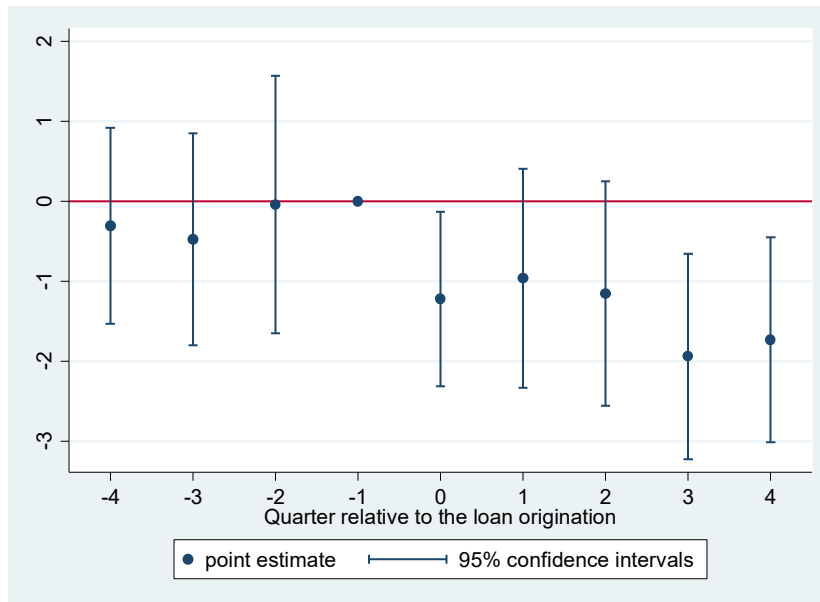
Panel B: Dual holders

This figure presents the estimated trend in the treatment effects of the TCJA (Panel A) and dual-holders (Panel B) events on firms' media coverage, which we also examine in Tables 3 and 4, respectively. In Panel A, we replace *Treat x Post* in equation (3) with *Treat* interacted with indicators for each year from 2015 to 2019 (except 2017, which is the excluded base period). In Panel B, we replace the *Treat x Post* variable in equation (4) with *Treat* interacted with indicators for four quarters before and after loan origination (except the quarter before loan origination, which is the excluded base period). We plot the coefficient estimates along with 95% confidence intervals for each of these interactions between *Treat* and time period indicators.

Table 1. Descriptive statistics

	Mean	Std. Dev.	p25	Median	p75
Media Coverage	3.931	6.634	0.000	1.000	5.000
Leverage	0.219	0.219	0.013	0.175	0.345
Institutional Ownership	0.629	0.540	0.220	0.630	0.875
Private Debt / Total Assets	0.174	0.207	0.002	0.121	0.289
Private Debt / Total Debt	0.835	0.383	0.920	1.000	1.000
Quasi-Indexers	0.368	0.360	0.084	0.314	0.550
Transient	0.155	0.199	0.027	0.107	0.212
Dedicated	0.055	0.097	0.000	0.005	0.076
Size	4.563	15.186	0.133	0.596	2.390
Return Volatility	0.034	0.022	0.020	0.028	0.042
Return on Assets	1.042	9.077	(0.388)	1.608	3.231
Book-to-Market	0.627	0.661	0.241	0.451	0.780
Absolute Returns	0.105	0.109	0.031	0.071	0.139
Returns	0.005	0.148	(0.069)	0.003	0.073
S&P 500	0.120	0.325	0.000	0.000	0.000
#Analysts	5.037	6.519	0.000	2.000	8.000
Dividend Payout	0.005	0.014	0.000	0.000	0.004
#Employees	7.827	21.286	0.320	1.179	5.000

This table presents summary statistics of the variables used in the study. All variables are described in Appendix A. The descriptive statistics are for a sample of 222,779 firm-quarters over the sample period 2000-2019, except for *Private Debt / Total Debt*, which can be calculated only for the 182,371 firm-quarters with non-zero debt.

Table 2. Capital structure and media coverage

Dependent variable =	*Media Coverage*	
	(1)	**(2)**
Leverage	-0.082***	-0.045***
	(-12.62)	(-8.05)
Log (Size)	0.388***	0.131***
	(37.57)	(14.33)
Return Volatility		-0.014***
		(-3.91)
Return on Assets		0.012***
		(4.81)
Book-to-Market		-0.026***
		(-7.06)
Absolute Returns		-0.001
		(-0.59)
S&P 500		-0.042***
		(-4.41)
#Analysts		0.379***
		(31.08)
Dividend Payout		0.002
		(0.37)
#Employees		0.021*
		(1.80)
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
N	222,779	222,779
Adj. R-sq.	0.248	0.321

This table presents regression estimates of the relation between firms' media coverage and investor base after controlling for firm characteristics. We estimate the model specified in equation (1). The dependent variable is the number of full media articles (*Media Coverage*). The explanatory variable of interest is *Leverage*, total debt scaled by total assets. All other variables are defined in Appendix A. The models include year and industry fixed effects. T-statistics in parentheses are computed using standard errors clustered at the firm level. Variables are standardized for ease of interpretation. ***, **, * denote statistical significance (two-tailed) at the 1%, 5%, and 10% levels, respectively.

Table 3. TCJA Analysis

Panel A: Firm characteristics of treatment and control groups (Entropy-balanced)

	(1) Treatment	(2) Control
Log (Size)		
Mean	20.81	20.81
SD	1.79	1.79
Return Volatility		
Mean	0.03	0.03
SD	0.02	0.02
Return on Assets		
Mean	(0.37)	(0.37)
SD	4.26	4.26
Book-to-Market		
Mean	0.66	0.66
SD	0.74	0.74

Panel B: Effect of TCJA on debt and media coverage

Dependent variable =	*Leverage*	*Δ Leverage*	*Media Coverage*	
	(1) Full Sample	**(2)** Full Sample	**(3)** Full Sample	**(4)** Non-Zero Debt
*Treat*Post*	-0.019***	-0.084***	0.043***	0.048***
	(-5.00)	(-5.66)	(2.63)	(2.85)
Treat	0.017***	0.023***	-0.047**	-0.045**
	(6.01)	(2.68)	(-2.30)	(-2.34)
Institutional Ownership	-0.003	0.008	0.057***	0.054***
	(-0.80)	(0.70)	(3.22)	(2.91)
Log(Size)	0.030***	0.046***	0.143***	0.134***
	(6.28)	(2.81)	(5.62)	(4.89)
Return Volatility	0.009**	0.003	-0.005	-0.009
	(2.27)	(0.23)	(-0.43)	(-0.73)
Return on Assets	-0.038***	-0.164***	0.012	0.012
	(-5.54)	(-6.03)	(0.74)	(0.65)
Book-to-Market	-0.009***	-0.009	-0.071***	-0.073***
	(-3.04)	(-0.75)	(-6.75)	(-6.92)
Absolute Returns	-0.001	-0.008	-0.003	-0.003
	(-0.47)	(-0.66)	(-0.43)	(-0.37)
S&P 500	-0.005**	-0.008	-0.053***	-0.043*
	(-2.04)	(-0.97)	(-2.60)	(-1.93)
#Analysts	-0.014***	-0.031***	0.316***	0.314***
	(-4.64)	(-2.71)	(11.21)	(10.32)
Dividend Payout	0.005***	0.017***	-0.014	-0.010
	(2.87)	(2.68)	(-1.34)	(-0.87)
#Employees	0.001	0.003	-0.012	-0.005
	(0.24)	(0.39)	(-0.77)	(-0.30)
Leverage$_{t-1}$	0.953***		-0.077***	-0.070***
	(197.82)		(-4.43)	(-3.89)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
N	35,113	35,113	35,113	30,143
Adj. R-sq.	0.942	0.037	0.271	0.265

We report the difference-in-differences results for the TCJA analysis after applying entropy balancing (Hainmueller, 2012) to match the treatment and control group. We match the first and second moments of key firm characteristics which might influence media coverage. We estimate the model specified in equation (3). Panel A shows the weighted means and standard deviations of these firm characteristics. Panel B presents the regression estimates of the effect of the 2017 Tax Cuts and Jobs Act on leverage and media coverage. Columns 1 and 2 show the effect of TCJA on leverage while columns 3 and 4 show the effect of TCJA on media coverage. Column 4 shows results for the sample of firms which have non-zero debt. *Post* is one for the years 2018 and 2019, and zero otherwise. *Treat* is one if the firm has interest expense in 2017 greater than the sum of interest income and 30% of adjusted taxable income. The explanatory variable of interest is the interaction term, *Treat*Post,* which shows the difference from before to after the TCJA between the treatment and control firms. All other variables are defined in Appendix A. The models include year and industry fixed effects. T-statistics in parentheses are computed using standard errors clustered at the firm level. Variables are standardized for ease of interpretation. ***, **, * denote statistical significance (two-tailed) at the 1%, 5%, and 10% levels, respectively.

Table 4. Dual-holder Analysis

Panel A: Firm characteristics of treatment and control groups (Entropy-balanced)

	8 Quarters		16 Quarters	
	(1) **Treatment**	**(2)** **Control**	**(3)** **Treatment**	**(4)** **Control**
Log (Size)				
Mean	20.35	20.35	20.36	20.37
SD	1.36	1.36	1.36	1.36
Return Volatility				
Mean	0.03	0.03	0.03	0.03
SD	0.01	0.01	0.01	0.01
Return on Assets				
Mean	1.60	1.60	1.62	1.62
SD	2.91	2.91	2.88	2.88
Book-to-Market				
Mean	0.66	0.66	0.66	0.66
SD	0.57	0.57	0.56	0.57
Leverage				
Mean	0.25	0.25	0.24	0.25
SD	0.19	0.19	0.19	0.19

Panel B: Effect of dual-holders on media coverage

Dependent variable =	*Media Coverage*	
	(1) **8 Quarters**	**(2)** **16 Quarters**
Treat * Post	**-0.051****	**-0.061*****
	(-2.29)	**(-2.65)**
Treat	0.099**	0.106**
	(2.23)	(2.51)
Post	0.004	0.003
	(0.60)	(0.36)
Leverage	-0.089***	-0.090***
	(-2.78)	(-3.30)
Institutional Ownership	0.057***	0.063***
	(2.91)	(3.40)
Log (Size)	0.180***	0.167***
	(4.17)	(3.95)
Return Volatility	0.026	0.014
	(0.97)	(0.65)
Return on Assets	0.022	0.022
	(0.84)	(0.76)
Book-to-Market	-0.078***	-0.061***
	(-3.28)	(-2.90)
Absolute returns	0.007	0.000
	(0.42)	(0.01)
S&P 500	-0.088**	-0.080**
	(-2.57)	(-2.47)
#Analysts	0.186***	0.207***
	(4.15)	(5.73)
Dividend Payout	-0.014	-0.010
	(-0.57)	(-0.37)
#Employees	-0.011	-0.013
	(-0.46)	(-0.63)
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
N	37,008	68,121
Adj. R-sq.	0.262	0.268

We report the difference-in-differences results for the dual-holders analysis after applying entropy balancing (Hainmueller, 2012) to match the treatment and control groups. We match the first and second moments of key firm characteristics which might influence the media coverage. We estimate the model specified in equation (4). Panel A shows the weighted means and standard deviations of key firm characteristics for the treatment and control groups. Panel B presents regression estimates of the effect of dual-holders on media coverage. The treatment variable, *Treat,* is one if an institutional investor holding more than 5% of the firm's stock issues a loan to the firm, and zero otherwise. *Post* is an indicator variable equal to one if the quarter is during or after the quarter of loan origination. The explanatory variable of interest is the interaction term, *Treat*Post,* which shows the difference from before to after the loan origination between the treatment and control firms. All other variables are defined in Appendix A. Columns 1 and 2 in Panel A and column 1 in Panel A show results for eight quarters around the loan origination quarter. Columns 3 and 4 in Panel A and column 2 in Panel B are for 16 quarters around the loan origination quarter. The models include year and industry fixed effects. T-statistics in parentheses are computed using standard errors clustered at the firm level. Variables are standardized for ease of interpretation. ***, **, * denote statistical significance (two-tailed) at the 1%, 5%, and 10% levels, respectively.

Table 5. Private debt and media coverage

Dependent variable =	Media Coverage			
	(1)	(2)	(3)	(4)
Private Debt / Total Assets	-0.044***	-0.033***		
	(-8.21)	(-4.19)		
Private Debt / Total Debt			-0.029***	-0.035***
			(-4.68)	(-5.39)
Leverage		-0.014		-0.043***
		(-1.63)		(-7.15)
Institutional Ownership	0.045***	0.045***	0.039***	0.035***
	(6.30)	(6.27)	(5.22)	(4.73)
Log (Size)	0.106***	0.109***	0.074***	0.091***
	(11.20)	(11.13)	(7.36)	(8.78)
Return Volatility	-0.007**	-0.007*	-0.012***	-0.005
	(-2.13)	(-1.89)	(-3.44)	(-1.43)
Return on Assets	0.009***	0.009***	0.006***	0.006***
	(4.02)	(3.98)	(2.71)	(2.74)
Book-to-Market	-0.025***	-0.026***	-0.022***	-0.026***
	(-6.96)	(-7.00)	(-5.92)	(-6.68)
Absolute Returns	-0.001	-0.001	-0.002	-0.002
	(-0.51)	(-0.47)	(-0.83)	(-0.92)
S&P 500	-0.032***	-0.033***	-0.022**	-0.025**
	(-3.39)	(-3.46)	(-2.12)	(-2.46)
#Analysts	0.368***	0.368***	0.385***	0.379***
	(29.99)	(29.95)	(29.75)	(29.15)
Dividend Payout	0.004	0.003	0.013**	0.013**
	(0.72)	(0.67)	(2.12)	(2.03)
#Employees	0.026**	0.026**	0.030**	0.028**
	(2.24)	(2.20)	(2.44)	(2.25)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
N	222,779	222,779	182,371	182,371
Adj. R-sq.	0.323	0.323	0.330	0.332

This table presents regression estimates of the relation between firms' media coverage and private debt after controlling for firm characteristics. The dependent variable, *Media Coverage* is the number of full media articles. The explanatory variable of interest is the proportion of the outstanding debt that is private. Private debt is scaled by total assets in columns 1 and 2 and by total debt in columns 3 and 4. As private debt is scaled by total debt in columns 3 and 4, the sample is confined to the firm-years with non-zero debt. All other variables are defined in Appendix A. The models include year and industry fixed effects. T-statistics in parentheses are computed using standard errors clustered at the firm level. Variables are standardized for ease of interpretation. ***, **, * denote statistical significance (two-tailed) at the 1%, 5%, and 10% levels, respectively.

Table 6. Institutional investors and media coverage

Dependent variable =	*Media Coverage*				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Institutional Ownership	**0.046*****	-0.027***	0.089***	0.060***	
	(6.50)	(-2.97)	(8.86)	(7.49)	
Quasi-Indexers		**0.086*****			**0.072*****
		(7.83)			**(9.06)**
Transient			**-0.054*****		**-0.017*****
			(-8.62)		**(-3.70)**
Dedicated				**-0.029*****	**-0.010****
				(-5.48)	**(-2.14)**
Leverage	-0.041***	-0.040***	-0.042***	-0.040***	-0.041***
	(-7.37)	(-7.25)	(-7.48)	(-7.24)	(-7.29)
Log (Size)	0.110***	0.110***	0.109***	0.110***	0.111***
	(11.24)	(11.27)	(11.15)	(11.28)	(11.44)
Return Volatility	-0.007**	-0.007*	-0.006*	-0.008**	-0.007**
	(-2.05)	(-1.93)	(-1.89)	(-2.29)	(-2.10)
Return on Assets	0.009***	0.010***	0.010***	0.009***	0.010***
	(3.97)	(4.11)	(4.21)	(3.98)	(4.23)
Book-to-Market	-0.025***	-0.029***	-0.029***	-0.026***	-0.030***
	(-6.98)	(-7.93)	(-8.00)	(-7.06)	(-8.12)
Absolute Returns	-0.001	0.000	0.000	-0.001	0.001
	(-0.37)	(0.22)	(0.21)	(-0.30)	(0.31)
S&P 500	-0.034***	-0.037***	-0.036***	-0.033***	-0.037***
	(-3.53)	(-3.86)	(-3.84)	(-3.45)	(-3.92)
#Analysts	0.370***	0.368***	0.369***	0.368***	0.368***
	(30.08)	(29.87)	(29.99)	(29.90)	(29.89)
Dividend Payout	0.004	0.002	0.002	0.003	0.002
	(0.69)	(0.44)	(0.38)	(0.66)	(0.36)
#Employees	0.025**	0.025**	0.024**	0.025**	0.024**
	(2.13)	(2.13)	(2.09)	(2.18)	(2.11)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
N	222,779	222,779	222,779	222,779	222,779
Adj. R-sq.	0.323	0.324	0.324	0.323	0.324

This table presents regression estimates of the relation between firms' media coverage (Media Coverage) and various types of institutional investors after controlling for firm characteristics. We estimate the model specified in equation (2). The dependent variable is the number of full media articles. The explanatory variables of interest are *Quasi-Indexers*, *Transient*, and *Dedicated*, which refer to the proportion of shares owned by quasi-indexers, transient investors, and dedicated investors, respectively. All other variables are defined in Appendix A. The models include year and industry fixed effects. T-statistics in parentheses are computed using standard errors clustered at the firm level. Variables are standardized for ease of interpretation. ***, **, * denote statistical significance (two-tailed) at the 1%, 5%, and 10% levels, respectively.

Table 7. Cross-sectional test – Investment uncertainty

Dependent variable =	Media Coverage			
	(1) Low Return Volatility	(2) High Return Volatility	(3) Low Credit Risk	(4) High Credit Risk
Leverage	-0.037***	-0.041***	-0.067**	-0.034**
	(-3.26)	(-8.73)	(-2.41)	(-2.36)
Institutional ownership	0.035***	0.075***	0.010	0.072***
	(3.86)	(6.66)	(0.46)	(6.26)
p-value of coefficient difference: **High vs. Low**				
Leverage	0.74		0.07	
Institutional ownership	< 0.01		0.07	
Controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
N	74,267	74,253	8,752	36,707
Adj. R-sq	0.339	0.276	0.401	0.306

This table presents regression estimates of the relation between firms' media coverage (Media Coverage) and types of investors after splitting the sample into high and low uncertainty firms. Investment uncertainty is measured by return volatility in columns 1 and 2 and by the firm's credit rating in columns 3 and 4 (note that credit ratings are only available for about one-quarter of the full sample). The low (high) return volatility sample includes the bottom (top) tercile of each year's return volatility distribution. The low (high) credit risk sample includes firms with a Standard and Poor's credit rating of at least A- (BBB- or less). The dependent variable is the number of full media articles. The explanatory variables of interest are *Leverage* and *Institutional Ownership*, which refer to total debt scaled by total assets and the proportion of shares owned by institutional investors, respectively. All other variables are defined in Appendix A. The models include year and industry fixed effects. T-statistics in parentheses are computed using standard errors clustered at the firm level. Variables are standardized for ease of interpretation. ***, **, * denote statistical significance (two-tailed) at the 1%, 5%, and 10% levels, respectively.

Table 8. Debt-related articles

Dependent variable =	*Debt Articles*	*Debt Articles Ratio*
	(1)	**(2)**
Leverage	**0.032***	**0.053***
	(8.62)	**(11.59)**
Institutional Ownership	**0.003**	**-0.011****
	(0.74)	**(-2.44)**
Log (Size)	0.017***	0.042***
	(3.23)	(5.76)
Return Volatility	0.000	0.023***
	(0.09)	(3.88)
Return on Assets	0.006	0.002
	(1.12)	(0.33)
Book-to-Market	0.000	0.024***
	(0.12)	(4.21)
Absolute Returns	0.007**	0.001
	(2.33)	(0.21)
S&P 500	0.032***	0.004
	(4.99)	(0.76)
#Analysts	0.033***	-0.021***
	(5.97)	(-3.82)
Dividend Payout	-0.003	-0.004**
	(-1.01)	(-2.02)
#Employees	0.049***	0.019***
	(5.75)	(5.20)
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
N	222,779	124,437
Adj. R-sq	0.023	0.017

This table presents the relation between the media coverage that is especially relevant for debt holders and leverage. We estimate the model specified in equation (5). The explanatory variables of interest are *Leverage* (total debt scaled by total assets) and *Institutional Ownership* (proportion of shares owned by institutions). All other variables are defined in Appendix A. The models include year and industry fixed effects. T-statistics in parentheses are computed using standard errors clustered at the firm level. Variables are standardized for ease of interpretation. ***, **, * denote statistical significance (two-tailed) at the 1%, 5%, and 10% levels, respectively.

Table 9. Alternative types of media coverage

Dependent variable =	Traditional	Non-Traditional	Flash Articles
	(1)	(2)	(3)
Leverage	-0.030***	-0.007	-0.003
	(-3.34)	(-0.82)	(-0.47)
Institutional Ownership	0.070***	0.020*	0.004
	(5.37)	(1.71)	(0.42)
Log (Size)	0.103***	0.051***	0.061***
	(6.28)	(3.06)	(4.51)
Return Volatility	0.006	0.011**	0.006
	(1.10)	(2.25)	(1.53)
Return on Assets	0.014**	-0.008	-0.007***
	(2.18)	(-1.29)	(-2.69)
Book-to-Market	-0.031***	0.006	0.006
	(-4.91)	(1.01)	(1.26)
Absolute Return	0.011***	0.005**	0.006***
	(3.90)	(2.29)	(3.56)
S&P 500	0.001	0.065***	0.176***
	(0.08)	(4.49)	(11.19)
#Analysts	0.449***	0.483***	0.429***
	(25.16)	(26.51)	(27.74)
Dividend Payout	0.007	0.008	0.021***
	(0.93)	(1.16)	(2.81)
#Employees	0.075***	0.117***	0.133***
	(3.87)	(5.29)	(7.00)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
N	79,231	79,231	222,779
Adj. R-sq	0.400	0.522	0.468

This table reports the additional tests examining the relation between different types of media coverage and the investor base of the firms. The dependent variable in columns 1 and 2 is the total number of full articles by traditional financial media sources (*Traditional*) and non-traditional financial media sources (*Non-Traditional*) respectively. *Traditional* includes articles by Dow Jones outlets and non-Dow Jones outlets, such as Reuters, CNBC, Forbes.com, Bloomberg, Financial Times, and New York Times. *Non-Traditional* includes articles by non-traditional news sources, including blogs and social media sites. For column 3, the dependent variable is the total number of flash articles (*Flash Articles*). We use RavenPack's full web edition for the first two columns, which results in a shorter sample period, i.e., from 2007 to 2014. We use the RPNA Dow Jones edition for column 3, which allows us to use the same sample period as the main tests. The variables of interest are *Leverage*, the outstanding debt, and *Institutional Ownership*, the proportion of equity shares owned by institutions. All other variables are defined in Appendix A. The models include year and industry fixed effects. T-statistics in parentheses are computed using standard errors clustered at the firm level. Variables are standardized for ease of interpretation. ***, **, * denote statistical significance (two-tailed) at the 1%, 5%, and 10% levels, respectively.