Do Institutional Investors Affect News Coverage?
The Role of Media Ownership[*]

Shuaiyu Chen[†]   Zhao Jin[‡]   Yucheng (John) Yang[§]

February 21, 2022

Abstract

We study the effects of institutional investors' ownership in media firms on news coverage. We find that a media outlet issues more positive news coverage of a firm when they have common institutional investors. Our results are stronger for firms overweighted by the common investors and primarily driven by actively-managed funds. We establish causality by relying on 1) fixed effects that control for all time-varying firm fundamentals and potential matching between firms and media outlets, and 2) the quasi-natural experiment of financial institution mergers. We also find that media ownership is associated with greater fund flows but not better performance.

Keywords: institutional investor, media ownership, news coverage, fund flow

JEL Classifications: G11, G23, G32, G34

1. Introduction

Financial media are important information intermediaries in financial markets: they have a significant impact on corporate decisions, investor asset allocation, information production, and the efficiency of security prices (e.g., Cook et al., 2006; Tetlock, 2007; Bushee et al., 2010; Tetlock, 2010; Solomon, 2012; Solomon et al., 2014; Gao et al., 2020). Given the importance of media in financial markets, there is a growing interest among researchers, regulators, and practitioners in how financial media outlets generate news articles and whether their stakeholders affect their news production. However, to date this question has not been well examined in the literature. Our paper attempts to fill this gap by documenting how institutional investors influence media outlets' news coverage on their portfolio firms through their ownership in these media firms.

Institutional investors' have both incentives and ability to influence news coverage on their portfolio firms. First, news coverage of a fund's portfolio firms can drive flows to the fund because it attracts the attention of the fund's investors (e.g., Solomon et al., 2014). It may also affect the fund's return performance since news can move security prices (e.g., Tetlock, 2007; Solomon, 2012). Thus, institutional investors may have a strong incentive to generate positive news coverage about their holdings. Second, regarding their ability to affect a firm's operation, an extensive literature shows that financial institutions holding a large block of shares of a public firm (i.e., blockholders) have significant impacts on the firm's operations (e.g., Edmans, 2009; Bharath et al., 2013; Edmans and Holderness, 2017). Thus, institutional investors holding a large stake in a media firm can affect how the media firm covers their other portfolio firms.

However, influencing news coverage may incur costs for both the media firms and their institutional blockholders. Media firms could selectively generate more positive coverage and less negative coverage for the other portfolio firms, or simply generate more media exposure to increase the firms' attention and liquidity, which can benefit its institutional investors (e.g., Grullon et al., 2004). But neither strat-

egy caters to the media firm's audience, so both approaches can hurt its readership and profitability (e.g., Gentzkow and Shapiro, 2010). In addition, biased news coverage can incur high reputational costs for media outlets (DellaVigna and Hermle, 2017). As for the investors, they must hold a substantial position in media firms to reliably influence their coverage, potentially deviating from optimal portfolio composition and leading to higher risks and lower returns. Also, building a large block of shares can incur nontrivial transaction costs.

Given these potential costs, it is ex-ante unclear whether institutional investors are willing to influence news coverage on their portfolio firms by exploiting their ownership in media firms. To answer this question, we focus on US public firms and 13-F institutional investors. Specifically, we examine the relation between a firm's positive news coverage issued by a given media firm and the investment overlap between the covered firm and the media firm through common institutional investors. For illustrative purposes, we refer to this connection as *firm-media common ownership*. To ensure that the common institutional investors have nontrivial impacts on the media firm's operations, we require them to hold at least 5% of the media firm's outstanding shares.

To measure positive news coverage for US public firms, we use data from Raven-Pack News Analytics, a leading news data vendor whose products have been widely used in both industry and academia (e.g., Shroff et al., 2014; Dang et al., 2015; Dai et al., 2015). To mitigate media selection bias in the RavenPack data, we require a media outlet to have significant coverage of US public firms. Our sample consists of news articles from 11 media outlets belonging to 3 US public media firms: Comcast, Dow Jones & Company, and Yahoo.[1] All of these media outlets are national brands reaching a broad population and thus are likely to attract investors' attention and affect their investment decisions.

To classify whether a news article about a firm is positive, we rely on Raven-Pack's Composite Sentiment Score (*CSS*), an article-level index that measures the

---

[1]Section 2.1 provides details of how we screen media outlets in the RavenPack dataset and construct the sample of news articles.

extent to which the news article contains positive, neutral, or negative content about the underlying firm. The main variable of interest in our empirical analyses is positive news coverage (*Positive_Coverage*). This variable is defined for each pair of firms (one US public firm and one media firm) in our sample, computed as the percentage of positive news articles out of all news articles on the public firm issued by the media firm in a quarter.

We start our empirical analysis by focusing on the media outlets of Dow Jones & Company (DJC), for two reasons. First, the RavenPack database provides comprehensive coverage of news articles only for the DJC's media outlets since 2001. By comparison, their coverage of other media outlets is limited and unstable over time (see Section 2.1 for details). Also, DJC's media outlets are shown to have substantial impacts on financial markets (e.g., Tetlock, 2007; Fang and Peress, 2009; Kaniel and Parham, 2017), and thus are of particular importance to our research question. Using a sample of 275,995 US firm-quarter observations from 2001 to 2020, and 10,716,996 corresponding news articles, we find that firms held by the DJC's blockholders received more positive news coverage from the DJC's news outlets than other firms, providing suggestive evidence that institutional investors affect news coverage on their portfolio firms by exploiting their media ownership.

We conduct additional tests to reinforce this inference. First, since institutional investors typically hold hundreds of stocks, they are unlikely to pay close attention to all of their holdings. Therefore, we hypothesize that media blockholders are more likely to influence the news coverage for those firms that are important in their portfolios. Consistent with this prediction, we find that the positive relationship between firm-media common ownership and positive news coverage is more pronounced among firms over-weighted by the DJC's blockholders. Second, unlike passive fund managers who primarily focus on tracking their benchmark indexes, active fund managers should care more about the news coverage about their portfolio firms, which may play a role in attracting fund flows. Indeed, our main finding is primarily driven by active fund managers. Third, instead of counting the num-

ber of positive news articles, we directly use the RavenPack's *CSS* as an alternative measure for positive news coverage and find consistent results.

Nonetheless, neither institutional holdings nor positive news coverage for a given firm are random. One endogeneity concern is that media blockholders may tend to hold firms with certain unobservable characteristics, such as time-varying firm quality and managerial traits, that may affect the positive news coverage of those firms. Another potential concern is the media source's unobserved tastes (DellaVigna and Hermle, 2017). For example, a media firm that advocates for environmental issues is more likely to issue positive articles on firms that are environmentally friendly. Pro-environmentalism investors may want to hold both environmentally-friendly firms and pro-environment media firms. As a result, the endogenous matching between firm, media, and investors might bias our estimates.

To mitigate these endogeneity concerns, we use a sample that includes the news outlets of two additional US public media firms: Comcast and Yahoo. This allows us to explore variations in positive news coverage and firm-media common ownership across firm-media pairs within a given firm-quarter, albeit with a shorter sample period.[2] Therefore, we can fully control for unobserved time-varying firm fundamentals with the *firm × quarter* fixed effects, and also potentially address endogenous matching between a firm-media pair with the *firm × media* fixed effects. We find consistent results with our previous results after incorporating these fixed effects. As for economic significance, we find that for firms with firm-media common ownership, positive news coverage increases by 2 to 3 percentage points, representing 5% - 8% of the sample mean, relative to firms without firm-media common ownership.

It is also possible that some unobservable time-varying characteristics specific to firm-media pairs can affect our estimates. To test for this interference, we employ a difference-in-differences (DiD) approach with a quasi-natural experiment of

---

[2]RavenPack's coverage of these outlets is limited to 2010-2016. Two representative outlets in this sample are CNBC (owned by Comcast) and Yahoo Finance! (owned by Yahoo). Table A2 shows the full list of media outlets.

financial institution mergers. Specifically, we start with all suitable institution mergers from 2001 to 2020, following prior studies (e.g., He and Huang, 2017). To obtain plausible exogenous variations in firm-media common ownership, we then require that one institution is the DJC's blockholder before the merger while the other is not. Our treatment sample consists of firms that are not held by the DJC's blockholder before the merger. Thus, when two institutions merge, the treatment firms are likely to experience an increase in firm-media common ownership because they become part of the portfolio holdings of the merging institution that is the DJC's blockholder. The control sample, on the other hand, consists of firms that were already held by both merging institutions before the merger. Since these firms already share common institutional investors with DJC before the merger, they are unlikely to have any change in firm-media common ownership after the merger.

During our sample period of 2001 to 2020, we are able to identify one merger between two actively-managed financial institutions: T. Rowe Price (TRP) acquired Preferred Group Mutual Funds (PGMF) in June 2006. TRP was a DJC blockholder before and after the merger, and PGMF did not hold any shares of DJC before the merger. In our DiD analysis, we first validate that the treatment firms indeed experienced an increase in firm-media common ownership with DJC after the merger. We then show that the positive news coverage of the treatment firms increased by about 8.7 percentage points (about 28% of the sample mean) relative to the control firms after the merger. These results reinforce our inference that firm-media common ownership has a causal effect on positive news coverage.

After demonstrating that our findings are likely causal, we perform an event study using firms' quarterly earnings announcements. Specifically, we investigate how a media outlet reacts to the earnings surprises for its institutional blockholders' portfolio firms, compared to other firms. Our findings indicate that, following positive earnings surprises, the positive news coverage is significantly amplified by media firms with more firm-media common ownership. In contrast, when earn-

ings surprises are negative, firm-media common ownership reduces negative media coverage. The asymmetric reactions of media outlets to positive and negative earnings surprises provide additional evidence on the impact of institutional investors on news coverage. This result also indicates that media blockholders influence the news coverage of their portfolio firms (at least partially) when important corporate events happen.

To further understand the motive of institutional investors to influence news coverage through their ownership in media firms, we conduct additional analyses at the fund level. Specifically, using a comprehensive sample of actively-managed US equity mutual funds from 2001 to 2020, we show that a fund's media ownership is positively associated with positive news coverage, aggregated at the portfolio level. This finding has two significant implications. First, positive news coverage at the firm level, as documented above, indeed translates into more positive news coverage at the fund level. Second, this finding indirectly suggests a significant difference in the portfolio-level news coverage across funds with different levels of holdings in media firms. This difference justifies the incentive of institutional investors to affect firm-level news coverage, because other institutional investors without media holdings are unlikely to have a free ride and enjoy more positive news coverage on their portfolio firms.

Finally, we explore the potential benefits of influencing news coverage for those institutional investors who hold media firms. We consider two benefits for fund managers: 1) more positive news coverage leads to greater fund performance, and 2) more positive news coverage attracts more fund flows. First, we find that the media ownership of a fund has no relationship with the fund's future benchmark-adjusted returns. This result suggests that positive news coverage does not affect the stock return of media blockholders' portfolio. In contrast, we find that the fund's media ownership significantly and positively correlates with its future flows, consistent with findings by Solomon et al. (2014) that the media coverage of a fund's portfolio firms drives fund flows. Fund managers ultimately want to have strong

6

capital inflows to grow their assets under management, from which they can earn more fund revenue by charging management fees.

Our estimates indicate that a 1% increase in the fund's media ownership is associated with a 0.434% increase in annual fund flows, representing a 18% (= 0.434%/2.4%) increase relative to the sample mean of actively-managed US equity mutual funds. We acknowledge that the results are not causal and the estimates might be biased due to unobservable factors that affect a fund's media holdings and flows. Nonetheless, these results suggest that attracting capital flows is one major incentive for institutional investors to influence news coverage on their portfolio firms through their media ownership. In this regard, our paper is different from He et al. (2020), who show that media blockholders influence news coverage to manipulate stock prices of their portfolio firms around these firms' litigation lawsuits.

Our paper contributes to three strands of literature. First, our paper contributes to a large body of studies on the impacts of news media on financial markets. Prior studies documented that media outlets can affect various aspects of financial markets, including trading volume (Engelberg and Parsons, 2011), volatility (Peress, 2014), stock prices (Solomon, 2012; Engelberg and Parsons, 2011), mergers and acquisitions (Liu and McConnell, 2013; Ahern and Sosyura, 2014), cost of capital (Cook et al., 2006; Gurun and Butler, 2012; Liu et al., 2014), public finance (Gao et al., 2020), and executives' equity vesting (Kuhnen and Niessen, 2012; Edmans et al., 2018). Their evidence suggests that given the importance of media coverage, stock market participants should have a strong incentive to influence news coverage to benefit themselves. For example, some studies show that mutual funds, as advertising customers of media firms, influence media outlets to provide more coverage about themselves to attract fund flows (e.g., Reuter and Zitzewitz, 2006). In addition to customers, institutional investors are often the shareholders of publicly-traded media firms. However, there is limited evidence on whether and how the institutional investors holding a large block of shares of media firms affect news coverage.

More broadly, our paper contributes to the literature on the effects of media ownership on news bias. Germano and Meier (2013) showed that media firms' concentrated ownership increases news article bias regarding their advertisement customers. Gilens and Hertzman (2000) demonstrated that news coverage is biased towards the financial interests of media outlets' corporate owners. In addition, many studies have shown that government ownership in media firms has resulted in many welfare-reducing outcomes (e.g. Djankov et al., 2003; Besley and Prat, 2006; Houston et al., 2011; Djankov et al., 2003; Besley and Prat, 2006; Houston et al., 2011). Our study is different from prior studies by examining a different form of media ownership. Specifically, we show that the common ownership between a public firm and a publicly-traded media outlet can lead to more positive news coverage of the firm. In this regard, our results also provide evidence of the ineffectiveness of reducing media bias through diffused ownership structures.

Finally, our study adds to the common ownership literature. Previous studies have shown that common owners have an incentive to internalize the impact of each firm's strategic actions on the value of other firms in their portfolios. Such strategic actions include R&D investment and innovation (López and Vives, 2019), executive compensation (Antón et al., 2020), competition (e.g., He and Huang, 2017; Azar et al., 2018), M&A (Gilje et al., 2020), and governance (He et al., 2019; Edmans et al., 2019). We contribute to this literature by showing that common owners influence news coverage to internalize the media outlets' externalities.

2. Data and Sample Selection

We collect data from a variety of sources to construct the sample. We focus on US firms listed on the NYSE, AMEX, and NASDAQ, and obtain the stock return data from CRSP. We construct the variables for firm fundamentals using Compustat and collect the data on earnings announcement dates from the Institutional Brokers' Estimate System (IBES), then use institutional holdings reported quarterly in the

13F form to identify institutional investors for each firm. Following Ben-David et al. (2021), the institutional holdings data are collected from both the Thomson-Reuters Stock Ownership database and the Securities and Exchange Commission (SEC) Analytics in Wharton Research Data Services (WRDS).[3]

2.1. Sample Selection of Media Outlets

For the data on news articles we use RavenPack News Analytics, a leading global news data vendor whose products are primarily purchased by financial institutions (e.g., hedge funds) to analyze news-driven movements of security prices. Raven-Pack's data have also been widely used in academic studies (e.g., Shroff et al., 2014; Dang et al., 2015; Dai et al., 2015). The RavenPack database covers 31,340 world-wide media outlets from 2001 to 2020. However, a large fraction of these media outlets cannot be not viewed as a reliable source of financial news and thus are not suitable for analyzing our research question. Therefore, we select a subset of media outlets whose RavenPack RANK is not larger than 3 to ensure they have sufficient trustworthiness.[4] For instance, Seeking Alpha, a crowd-sourced content provider, has a RavenPack RANK of 3. This screening reduces the number of media outlets to 3,906.

We next restrict our sample to the media outlets whose news articles (as collected by RavenPack) cover a majority of US public firms, for two reasons. First, we want to remove small, private, and local media outlets which don't have significant impacts on financial markets and thus are less likely to draw investors' attention. Also, we want to minimize the selection bias that some media outlets may only

---

[3]WRDS has documented significant data issues in the last few updates of the Thomson-Reuters Stock Ownership database. Ben-David et al. (2021) provided a methodology to clean and correct 13F data errors after June 2013 using parsed information directly sourced from SEC 13F filings. Following their suggestions, our institutional holdings data are based on the Thomson-Reuters database from March 2001 to June 2013 and the WRDS SEC Analytics from September 2013 to December 2020.

[4]RANK is a categorization of the influence and trustworthiness of a news provider. The ranking is based on a range from 1 to 10 where rank 1 is the highest (i.e. most trusted source). Specifically, RANK 1 means the media source is "fully accountable, reputable, and impartial," RANK 2 means the source is "official, reliable, and honest," and RANK 3 means the source is "acknowledged, formal, and credible."

cover large firms or firms related to eye-catching events. Specifically, we select media outlets covering at least 70% of US public firms for at least five consecutive years during the period of 2001 to 2020. This selection criterion leaves us seven media outlets: CNBC, Dow Jones News Wires, Reuters, RTTNews, Seeking Alpha, TMCnet, and Yahoo Finance!. Of these seven, CNBC, Dow Jones News Wires, and Yahoo Finance! are owned by US public firms: Comcast owns CNBC, Dow Jones & Company (DJC) owns Dow Jones News Wires, and Yahoo owns Yahoo Finance![5] Panel A of Table A2 lists the parent firms of other media outlets.

Because our paper focuses on how institutional blockholders of a media firm influence that firm's news coverage of their portfolio firms, it is also suitable to include other news outlets owned by DJC, Comcast, and Yahoo in our sample. These outlets include: 1) NBC News and MSNBC owned by Comcast; 2) *The Wall Street Journal* (WSJ), Barron's, MarketWatch, Smart Money, and Financial News Online owned by DJC; and 3) Yahoo News! owned by Yahoo.[6] All of these outlets are national brands that reach a wide range of market participants across the country. Moreover, most of them specialize in corporate financial news. Therefore, they are more likely to serve as the main source of financial news for most investors, compared to other media outlets (e.g., local media outlets such as *The Los Angeles Times* or general media outlets such as *The New York Times*).

In Figure 1, we plot the percentages of US public firms covered by news articles in the media outlets owned by Comcast, DJC, and Yahoo from 2001 to 2020. The figure shows that DJC's news articles covered about 72% of US public firms in 2001; its coverage gradually increased to 97% in 2008 and stayed relatively stable afterward. In contrast, RavenPack did not collect any news articles from either Comcast's or Yahoo's media outlets until 2007. The percentage of US public firms covered by Comcast was about 43% in 2007, increased to a range of 72% to 95%

---

[5]DJC was a public firm prior to 2007 and was acquired by another public firm, News Corp, at the end of 2007.

[6]Our main results and inferences are robust if we exclude these additional media outlets. The results are shown in the Online Appendix Table A3. Also, it is worth noting that these media outlets may not represent all the news outlets owned by the three media companies due to RavenPack's data limitations.

between 2008 and 2016, and then suddenly dropped to about 25% in 2017 and afterward. For Yahoo, the coverage of US public firms was smaller than 25% before 2010, suddenly increased to over 90% in 2010, and stayed relatively stable over the rest of the sample period. Due to RavenPack's limited coverage of news articles from Comcast and Yahoo, our initial analysis only focuses on DJC's media outlets, as discussed above. We also conduct analysis using all the news outlets from the three media firms for the period of 2010 to 2016, during which the news outlets owned by Comcast and Yahoo cover at least 70% of the US public firms.

2.2. Measuring Positive News Coverage

For each news article, RavenPack identifies the relevant firms and assigns these firms a news relevance score (Relevance). The news relevance score indicates how relevant an article is to a given firm, thus allowing users to remove potential noise and focus on firm-specific news. The scores range between 0 and 100, with a higher value indicating greater relevance. To ensure that the articles are directly related to the corresponding firms, we follow RavenPack's instructions and select news articles whose Relevance is larger than 75, the cutoff for being significantly relevant to the underlying firm. Following prior studies, we focus on the news articles that are classified as full-article, hot-news-flash, or news-flash by RavenPack.

To measure a firm's positive news coverage, we first identify whether an article is positive, neutral, or negative. We use the Composite Sentiment Score (*CSS*) provided by RavenPack to categorize articles. CSS is computed at the story level, meaning that each news article covered by RavenPack has a valid CSS. The score is constructed based on various sentiment analysis techniques based on emotionally charged words and phrases. Its direction and magnitude are determined by a proprietary algorithm, where RavenPack trains machine learning models based on financial experts' manual tagging and stock market responses for a set of sample firms. The CSS ranges between 0 and 100, with a value above (below) 50 indicating the positive (negative) sentiment of a given news article, and a value of 50

representing a neutral sentiment.[7]

After identifying whether a news article has a positive sentiment or not, we construct the variable of our interest, positive news coverage, for each firm-media pair within a quarter. Specifically, a firm's positive news coverage from a certain media outlet, *Positive_Coverage*$_{i,m,t}$, is defined as the number of positive news articles issued by media firm m regarding non-media firm i, divided by the total number of articles from media firm m regarding the same firm, within quarter t. Intuitively, this variable captures the extent to which media firm m exhibits positive news coverage of firm i. Given the way this measure is constructed, our sample consists of firm-quarters that have at least one news article from the media outlets used in our sample as in Section 2.1.

2.3. Measuring Firm-Media Common Ownership

Next, we proceed to measure the common ownership for each firm-media pair (i.e., a firm's connection with a media firm through their common institutional investors). We refer to this common ownership as *firm-media common ownership*. Also, we focus on a media firm's blockholders (i.e., shareholders holding at least 5% of shares outstanding), because the ability of institutional investors to influence a media firm's operations depends on the degree of their ownership in the media firm (e.g., Edmans 2009; Bharath et al. 2013; see Edmans and Holderness 2017 for a review). Gilje et al. (2020) also provided evidence in the context of news coverage.

After identifying the blockholders of media firms in each quarter, we construct four different measures for firm-media common ownership for each pair of firms (one US public firm and one media firm). Specifically, for a given pair of media firm m and a US public firm i in quarter t, we construct the following four measures for

---

[7]Another sentiment score that RavenPack provides is the Event Sentiment Score (ESS). However, this score has limitations in terms of news article coverage. Specifically, this score is at the news-event level. Thus, articles need to be clearly identified with a company playing a key role in a news event in order to receive an ESS value. As a result, the ESS covers only articles that are specific to important corporate events at public firms.

firm-media common ownership:

1. *ComOwnDummy*$_{i,m,t}$: an indicator variable that is equal to one if firm i has at least one institutional investor who is also the blockholder of media firm m as of quarter t, and 0 otherwise;

2. *LnNumComOwn*$_{i,m,t}$: the (log of) total number of firm i's institutional investors that are also blockholders of media firm m as of quarter t;

3. *TotalComOwn*$_{i,m,t}$: the total ownership of media firm m held by firm i's institutional investors that are also blockholders of media firm m as of quarter t;

4. *MaxComOwn*$_{i,m,t}$: the highest ownership in media firm m among firm i's institutional investors that are also blockholders of media firm m as of quarter t.

2.4. Summary Statistics

Panel A of Table 1 presents the summary statistics of firm-quarter observations for the DJC sample during the period of 2001 to 2020. The sample uses news articles issued by the DJC's media outlets to calculate the positive news coverage for each firm. The table shows that, on average, firms receive 28% positive news articles (i.e., *Positive_Coverage*) based on the RavenPack CSS classification. In addition, an average firm in our sample has a (log of) firm size of 6.49, Tobin's Q of 1.58, leverage ratio of 21%, past return of 11%, and institutional ownership of 56%.

For the measures of firm-media common ownership, we find that the mean of *ComOwnDummy* is 0.65, suggesting that 65% of firms in a quarter have at least one institutional investor as the DJC's blockholder. The mean of *LnNumComOwn* is 0.71, indicating that, on average, a firm has one investor (i.e., $e^{0.71} - 1$) who is the blockholder of DJC in a quarter. Also, a firm's institutional investors that are also the DJC's blockholders collectively own approximately 12% of DJC's shares outstanding (i.e., *TotalComOwn*) at the quarter end. Finally, the firm's institutional investor who owns the largest ownership in DJC among all institutional investors

holds about 7% of DJC shares outstanding (i.e., *MaxComOwn*).

In Panel B of Table 1, we present the summary statistics of the sample of three public media firms (DJC, Yahoo, and Comcast) from 2010 to 2016. The shorter sample period is due to RavenPack's data limitation, as discussed in Section 2.1. The summary statistics are similar to those of the DJC sample in Panel A. For example, the mean of *ComOwnDumm* is 0.65, indicating that 65% of firm-quarters have at least one common institutional investor also acting as a blockholder of one of the three media firms. The mean of *LnNumComOwn* is 0.78, indicating that, on average, a firm-media pair has approximately 1.2 (i.e., $e^{0.78} - 1$) firm-media common owners in a quarter. As for ownership, the common owners of firm-media pairs collectively own about 11% of shares outstanding of DJC, Yahoo, or Comcast. Finally, we find that 38.8% of news articles have a positive sentiment.

3. Firm-Media Common Ownership and Positive News Coverage

3.1. *Baseline Results*

In this section, we examine the relation between firm-media common ownership and firms' positive news coverage, using the DJC sample. To assess how a firm's cross-ownership with a media firm relates to positive news coverage from the media firm, we estimate various forms of the following regression model:

$$\text{Positive\_Coverage}_{i,t+1} = \beta \text{ComOwn}_{i,t} + \gamma \text{X}_{i,t} + \alpha_i + \eta_t + \varepsilon_{i,t}, \qquad (1)$$

where i indexes the firm and t indexes time (year-quarter). The dependent variable is the positive news coverage (*Positive_Coverage*$_{i,t+1}$) for firm i by media m as of quarter $t + 1$, defined as the number of positive articles scaled by the total number of positive articles on firm i from media firm m as of quarter $t + 1$. *ComOwn*$_{i,t}$ is one of the four measures of firm-media common ownership for firm i over quarter t.

$X_{i,t}$ is a set of quarter-t firm characteristics that may affect a firm's news coverage in quarter $t + 1$, including firm size, leverage, market-to-book, R&D, profitability, institutional ownership, and previous-year stock return. α_i captures firm fixed-effects and η_t captures time fixed-effects. We cluster standard errors at the firm level. Table A1 provides detailed definitions of these variables.

Panel A of Table 2 shows the OLS regression results, where all the measures of firm-media common ownership are standardized to have a zero mean and one unit standard deviation. Consistent with our prediction, the coefficients on all the firm-media common ownership measures are positive and statistically significant at the 5% level or above, suggesting that firms held by the DJC's institutional block-holders tend to receive more positive news coverage from the DJC's media outlets. Regarding the economic significance, the coefficients on these measures in columns (1) to (4) imply that a one standard deviation increase in firm-media common ownership results in an increase in positive news coverage by 0.39 to 0.62 percentage points, which is 1.3% to 2.2% relative to the sample mean of 28%.

As for the control variables, we find that firm size is negatively associated with positive news coverage. Firms with greater R&D expenditure, higher profitability, and higher cumulative return over the past 12 months have more positive news coverage. In addition, there is no significant relationship between institutional ownership and positive news coverage.

Although our findings support the prediction that firm-media common ownership leads to greater positive news coverage, it is important to interpret the economic significance with caveats. The OLS coefficient estimates on the measures of firm-media common ownership could be biased upward or downward due to unobserved time-varying characteristics specific to non-media firms, media firms, or firm-media pairs, so there may be omitted variables in our regression specifications. To address these endogeneity issues, Section 4 employs two identification strategies and provides likely causal evidence.

3.2. *Importance of Firms in the Portfolio of Media Blockholders*

To reinforce our inference, we conduct a cross-sectional test that examines the incentives of institutional investors to influence news coverage of their portfolio firms. Institutional investors often have hundreds of holdings in their portfolios. Due to limited resources and attention, they are unlikely to monitor and affect news coverage for all these holdings. Instead, they are more likely to influence the news coverage of the firms that are more important to them, i.e., firms that are overweighted in their portfolio. Following this argument, we predict that the effect of firm-media common ownership on news coverage is stronger for firms held by media blockholders with a larger portfolio weight.

For each firm within a quarter, we compute its weight in each DJC blockholder's portfolio. We then calculate the average weight for each firm within a quarter and categorize the firm into the high-weight group if its average weight is in the first tercile within each quarter. The other firms are categorized into the low-weight group. We generate an indicator variable (*HighWeight*) that takes a value of 1 if the firm is in the high-weight group. The test is based on the following regression specification, which includes *HighWeight* (in *X*) and its interaction with the firm-media common-ownership measures (i.e., *ComOwn*):

$$\text{Positive\_Coverage}_{i,t+1} = \beta_1 \text{ComOwn}_{i,t} + \beta_2 \text{ComOwn}_{i,t} \times \text{HighWeight}_{i,t} + \gamma \text{X}_{i,t} + \alpha_i + \eta_t + \varepsilon_{i,t} \quad (2)$$

where all the variables are the same as in Eq. (1) and standard errors are clustered at the firm level. If institutional investors are more likely to influence news coverage for firms that are more important in their portfolios, we expect the coefficient on *ComOwn × HighWeight* to be positive.

The results are presented in Panel B of Table 2, where all firm-media common ownership measures are standardized to have a zero mean and one unit standard deviation. The coefficients on the four measures of firm-media common ownership remain positive and statistically significant. More importantly, the interaction terms are positive and statistically significant at the 1% level across all specifica-

16

tions, except for column (2). Regarding economic significance, as shown in column (1), the effect of firm-media common ownership on positive news coverage for firms in the high-weight group (i.e., 0.593+0.614=1.207) is approximately two times as large as the effect for those in the low-weight group (i.e., 0.614). Overall, the results are consistent with our prediction that the effects of firm-media common ownership on positive news coverage are stronger for firms that are more important to the institutional blockholders of media firms.

3.3.   *Active versus Passive Fund Managers*

Next, we investigate whether the effects of firm-media common ownership differ by the type of institutional investors, i.e., actively-managed versus passively-managed funds. Compared to passive fund managers who mainly focus on tracking the underlying benchmark index, active fund managers have a greater incentive and are more likely to influence their portfolio firms' decision-making.[8] Thus, in the context of news coverage, we predict that compared to passive institutions, active institutions are also more likely to influence news coverage of their portfolio firms thorough their holdings in media firms.

To test this prediction, we compare the effects of firm-media common ownership on a firm's positive news coverage, separately for actively-managed funds and passively-managed funds, using the DJC sample. Specifically, we construct a comprehensive sample of US equity mutual funds, which allows us to clearly identify whether a fund is actively or passively managed.[9] We then construct, separately, the firm-media common ownership measures based on holdings of active funds, as

---

[8]It is important to note that institutions with active management are not the only ones that can influence corporate governance and decision-making: passive institutions can also do so if they own a large block of the firm's shares outstanding (e.g., Appel et al., 2016; Crane et al., 2016). Thus, we do not claim that passive institutions have no influence on corporate decision-making.

[9]The data on US equity mutual funds are from the CRSP Survivor-Bias-Free US Mutual Fund Database and the Thomson Reuters S12 Mutual Fund Holdings Database. We include actively-managed mutual funds, index funds, and exchange-traded funds (ETFs). The active funds are identified based on the screening procedure in Kacperczyk et al. (2008) and Cremers and Pareek (2016). To identify index funds and ETFs, we first rely on the indicator of fund types in CRSP, then screen by fund names following the procedure proposed by Appel et al. (2016).

well as the measures based on holdings of passive funds. Following our research design, we continue to focus on media firm blockholders within the mutual fund sample to measure firm-media common ownership. Specifically, we measure firm-media common ownership with the mutual fund companies that hold at least 5% of the media firm's shares outstanding.

To test our prediction that active funds are more likely to influence news coverage for their portfolio firms than passive funds, we include each pair of active and passive firm-media common ownership measures into our main regression specification:

$$\text{Positive\_Coverage}_{i,t+1} = \beta_1 \text{ComOwn\_Active}_{i,t} + \beta_2 \text{ComOwn\_Passive}_{i,t} + \gamma X_{i,t} + \alpha_i + \eta_t + \varepsilon_{i,t} \quad (3)$$

where *Positive_Coverage* is defined as before. *ComOwn_Active* and *ComOwn_Passive* are the measures of firm-media common ownership based on holdings of active funds and passive funds, respectively. We include the control variables, firm fixed effects, and year-quarter fixed effects as in Equation 1, and cluster standard errors at the firm level.

Panel C of Table 2 demonstrates the results. We find that the coefficients of active firm-media common ownership (i.e., *ComOwn_Active*) are positive and statistically significant at the 1% level across all specifications. In contrast, the coefficients of passive firm-media common-ownership (i.e., *ComOwn_Passive*) are economically and statistically insignificant. For example, the coefficient of *ComOwn_Active* is 1.090 and statistically significant at the 1% level. In contrast, the coefficient of *ComOwn_Passive* is -0.484 and statistically insignificant. These results are consistent with our prediction that media blockholders with active funds, as compared to those with passive funds, have stronger incentives to affect news coverage of their portfolio firms through their media ownership. These results also reinforce our inference that more positive news coverage on the portfolio firms of media blockholders are likely to be driven by these blockholders' active intervention in the media firms' operations.

3.4. *Alternative Measure of Positive News Coverage*

To ensure that our inferences are robust, we employ an alternative measure of positive news coverage. Instead of using the ratio of the number of positive articles relative to the total number of articles, we directly use the RavenPack CSS to proxy for the tone of a news article. A higher CSS value indicates a more positive tone. We calculate the average CSS (i.e., *Average_CSS*) across all news articles for each firm-quarter. We then employ the same specification as in Eq. (1) but use the average CSS as the dependent variable. The results are presented in Panel D of Table 2. We find that the coefficients on the firm-media common ownership measures remain positive and statistically significant across all specifications. These results indicate that, in addition to more positive news articles, firm-media common ownership is also positively associated with the tone of news articles.

4. Identification Strategies

The OLS results presented in Section 3 may be biased because firms' news coverage and institutional ownership are both endogenous. Thus, the inference in Section 3 may be driven by unobservable factors that affect both the news coverage and institutional ownership of a firm. In this section, we address these endogeneity concerns with two empirical settings. The first setting explores different fixed effects to control for time-varying firm fundamentals and to control for time-invariant characteristics of firm-media pairs. The second setting explores a quasi-natural experiment of the mergers between financial institutions.

4.1. *Within Firm-Quarter or Firm-Media Variation*

One potential endogeneity concern arises because institutional ownership and news coverage can correlate with unobserved and time-varying firm fundamentals (e.g., firm quality, corporate culture, and managerial traits). Specifically, the blockholders of a media firm may hold stocks with certain unobserved character-

istics that may also correlate with positive news coverage. Thus, unobserved firm fundamentals can be omitted variables that bias our OLS estimates.

Another potential concern is that unobserved characteristics at the firm-media pair level might affect the news coverage of the non-media firm. In particular, the tastes of media firms' audience and journalists can largely affect the news coverage of public firms (e.g., DellaVigna and Hermle, 2017; Gentzkow and Shapiro, 2010). For example, a media outlet that advocates for environmental issues is likely to issue more positive news articles on firms that are environmentally friendly. At the same time, institutional investors who prefer green investments are likely to hold both environmentally-friendly firms and pro-environmentalism media outlets at the same time. This potential endogenous matching between firms, media outlets, and institutional investors can also bias the estimates in our baseline OLS specification.

To mitigate these endogeneity concerns, our first identification approach attempts to control for time-varying firm fundamentals and time-invariant firm-media endogenous matching with different fixed effects. To do so, we include media outlets owned by two additional media firms, Comcast and Yahoo, in our analysis, in addition to DJC-owned media outlets. By including additional media outlets owned by different publicly-traded media firms, we can construct the positive news coverage ratio and the measures of firm-media common ownership for each firm-media pair. These more granular pair-level measurements allow us to employ different fixed effects structures that explore variations in news coverage and firm-media common ownership while holding other unobservable factors constant.

First, we can include *firm × quaretr* fixed effects. These fixed effects fully control for firm fundamentals within a quarter. Second, we can include *firm × media* fixed effects, which controls for time-invariant firm-media pair characteristics that may affect a firm's news coverage and common ownership with media outlets. As discussed before, our sample period for these analyses is from 2010 to 2016 due to RavenPack's limited coverage of news articles from media outlets owned by Com-

cast and Yahoo. Specifically, we employ the following regression specifications:

$$\text{Positive\_Coverage}_{i,m,t+1} = \beta \text{ComOwn}_{i,m,t} + \alpha_{i,t} + \eta_m + \varepsilon_{i,m,t}$$

(4)

$$\text{Positive\_Coverage}_{i,m,t+1} = \beta \text{ComOwn}_{i,m,t} + \phi X_{i,t} + \gamma_{i,m} + \tau_t + \varepsilon_{i,m,t}$$

where *Positive_Coverage* is the ratio of the number of positive news articles to the number of total articles released by news outlets owned by media firm m for firm i in quarter t. The variable of interest, *ComOwn*, is one of our four measures of the common ownership between firm i and media firm m in quarter t. In the first specification, we include *firm × quarter* fixed effects (i.e., $\alpha_{i,t}$) and media fixed effects (i.e., η_m). Because *firm × quarter* fixed effects control all time-varying firm fundamentals at the quarterly level, we omit the firm-level control variables in this specification. In the second specification, we include *firm × media* fixed effects (i.e., $\gamma_{i,m}$), year-quarter fixed effects (i.e., τ_t), and firm control variables. To have meaningful variations with these fixed effects, we restrict our sample to firm-quarters with news articles from all three media firms. We cluster standard errors at the firm level for all specifications.

Table 3 Panel A presents the results, where all the measures for firm-media common ownership are standardized to have a mean of zero and a standard deviation of one. We find that after controlling for firm time-varying fundamentals with *firm × quarter* fixed effects, the coefficients of our measures of firm-media common ownership remain positive and statistically significant at the 1% level, consistent with our prediction that a firm receives more positive articles from a media firm if it is held by the media firm's institutional blockholders.

In addition, the economic significance of the effect of firm-media common ownership on media coverage increases. For example, the coefficient on *ComOwnDummy* is 3.9 and statistically significant at the 1% level, suggesting that firms with common institutional investors with media outlets have 3.9 percentage points more positive news coverage than firms without common institutional investors. This coefficient estimate also indicates an 10.3% increase in the positive coverage ratio

relative to the sample average of 38%.[10]

In Table 3 Panel B, we find results consistent with our prediction when we include *firm × media* fixed effects. In terms of economic significance, we find that a one standard deviation increase in *ComOwnDummy* leads to about a 2.7 percentage point increase in positive news coverage, which is a 7.1% increase relative to the sample mean.

Overall, the findings using the sample of multiple media firms are qualitatively similar and quantitatively stronger relative to those using only DJC's media outlets. The various fixed effects help us mitigate the concern that unobservable time-varying firm fundamentals and time-invariant matching between firms and media firms bias our estimates. In the next section, we continue to explore another setting to enhance the causal interpretation.

4.2.   The Merger of Financial Institutions

Another possibility exists that unobserved time-varying factors specific to firm-media pairs drive both firm-media ownership and news coverage. To mitigate this concern and further reinforce our inference, we examine variation in firm-media common ownership based on a quasi-natural experiment of mergers between financial institutions. Mergers between financial institutions likely provide variations in firm-media common ownership because these mergers are largely driven by changes in the business strategies of financial institutions, and these changes are unlikely to be correlated with the characteristics of these institutions' underlying holdings (e.g., He and Huang, 2017).

---

[10]The greater economic significance in these analyses may be due to two reasons. First, it could be that without fully controlling for unobservable time-varying firm fundamentals, our baseline results are biased downward. Alternatively, it could be that the effect of firm-media common ownership on media coverage is stronger for Yahoo's and Comcast's media outlets or for the sample period of 2010 to 2016.

4.2.1. Identifying merger events

We start with all mergers and acquisitions between financial institutions during our study period, from 2001 to 2020. We obtain the data from the SDC's Mergers and Acquisition (M&A) database. In the selection process, following He and Huang (2017), we require that: 1) the merger is between two 13F institutions in the financial sector (SIC codes between 6000 and 6999) between 2000 and 2020; 2) the merger is completed within one year after the merger announcement; and 3) the target institution does not file 13F forms after the merger is completed.

In addition, we enact the following selection criteria to identify merger events that can affect common ownership between a firm and a media outlet. First, we require one and only one financial institution of a merger event to be a blockholder of the media firms in our sample (i.e., DJC, Yahoo, and Comcast) for at least four quarters prior to the merger and also for at least four quarters after the merger. This requirement ensures that the portfolio firms of this financial institution have a common-ownership link with a media outlet in both pre- and post-merger periods. Figure 2 and Figure 3 provide the list of blockholders for the three media firms in our sample over time. Second, we require that prior to the merger, the other financial institution does not hold any shares of the media firm for at least four quarters. This requirement aims to ensure that the portfolio firms of this financial institution do not have firm-media common ownership with the media firm prior to the merger. Thus, these firms are likely to experience an increase in firm-media common ownership due to the merger. Finally, given that our results are primarily driven by active institutional investors, we require the blockholders of the media firms to be active institutional investors.

The selection process identified exactly one merger between two financial institutions: T. Rowe Price (TRP) acquired the Preferred Group Mutual Fund (PGMF) in 2006. As Figure 2 shows, TRP was a blockholder of DJC before the merger and continued to be a blockholder of DJC after the merger event, until the 3rd quarter of 2007. In contrast, PGMF did not hold any of DJC's shares before the merger

event from 1996 to 2005, according to its 13F filings. Therefore, the portfolio firms of PGMF, which would become part of TRP's portfolio, would have a common institutional investor (i.e., TRP) with DJC's media outlets after the merger.

Using this merger event as a plausibly exogenous shock to firm-media common ownership requires that TRP's acquisition of PGMF was for reasons unrelated to DJC's news coverage of PGMF's portfolio firms. This is likely true because the mergers of financial institutions are mainly driven by a regulatory impetus or by changes in their business strategy, which are unlikely to correlate with their portfolio firms' fundamentals and the firms' related news coverage. It is also unlikely that the acquisition was driven by one financial institution's attempt to buy another financial institution's portfolio firms because it is less costly to directly buy the shares of those firms than to buy the competing financial institution itself. Particularly, this merger event was primarily driven by the decision of PGMF's parent firm, Caterpillar Incorporated, which is the world's largest construction equipment manufacturer. In October 2005, Caterpillar Incorporated announced its decision to exit the investment-management business. Consequently, on February 21, 2006, TRP announced its plan to acquire PGMF from Caterpillar. The acquisition process was completed in June 2006. Thus, the divestment of PGMF from Caterpillar and its subsequent acquisition by TRP provide us with a source of plausibly exogenous variation in firm-media common ownership that is unlikely to be related to both institutions' portfolio holdings or to media outlets' coverage decisions.

4.2.2. DiD sample construction

To construct the sample, we restrict the sample period to end in the third quarter of 2007 because TPR was not a blockholder of DJC starting from the forth quarter of 2007. This restriction also excludes the financial crisis from our sample period. Since the last 13F filing of PGMF was in the fourth quarter of 2005, we use it as the end of the pre-period. Given that the deal was announced and processed in 2006Q1, we define it as the event quarter (T) and remove it from the sample. Since

the deal is completed in June 2006, we expect the portfolio firms of PGMF would become part of TPR's portfolio by the second quarter of 2006. We require the pre-period and post-period to be symmetric around the event quarter. Thus, our sample period extends from 2004Q3 to 2007Q3 (i.e., six quarters before and after the event quarter).

We follow prior studies by requiring that the way to categorize treatment and control firms does not rely on any ex-post information after mergers, such as the actual holding status of the firms post-acquisition (e.g., He and Huang, 2017; He et al., 2019). Using only ex-ante information allows us to address the concern that the acquirer's post-acquisition trading decisions may be driven by private information about the firms (e.g., He and Huang, 2017).

Specifically, the treatment group includes PGMF's holdings firms that were not in TRP's portfolio in the fourth quarter of 2005, a total of 58 firms. Prior studies show that after taking over the existing portfolio firms of the target institution, the acquirer generally maintains the holdings for an extended period due to liquidity and transaction cost concerns (e.g., Holthausen et al., 1990; Keim and Madhavan, 1998). Therefore, the firms in the treatment group are expected to, on average, experience an increase in common ownership with DJC-owned media outlets through TPR. We also verify this prediction in the empirical analysis.

Our control group includes firms that both institutions held at the end of 2005 and contains 273 firms. These firms are in the control group for two reasons. First, as TRP held them prior to the M&A event, they already had a common institutional investor with DJC. Thus, they are unlikely to be affected by the M&A event in terms of common ownership with DJC media outlets (at least through TRP). Second, since both institutions held these firms before the merger event, using this control sample accounts for potential differences in the investment and managerial skills between TPR and PGMF.

4.2.3. DiD specifications and results

Our initial step for the DiD analyses is to verify the premise of the quasi-natural experiment: institution mergers should lead to an increase in firm-media common ownership for the treatment firms compared to the control firms. To do so, we examine whether there was an increase in the measures of firm-media common ownership for the treatment firms as compared to the control firms around the merger event. Specifically, we use the following regression specification:

$$\text{ComOwn}_{i,t} = \beta \text{Treat}_i \times \text{Post}_t + \phi \text{X}_{i,t} + \alpha_i + \eta_t + \varepsilon_{i,t}, (5)$$

where ComOwn is one of the four firm-media common ownership measures. *Treat* is an indicator variable that takes a value of 1 for firms in the treatment group, and 0 otherwise. *Post* is an indicator variable that takes a value of 1 for the post period, and zero otherwise. We also include the control variables as in Equation 1 with firm (α_i) and year-quarter (η_t) fixed effects. If treated firms indeed experienced an increase in the connection with DJC through TPR's holdings in the DJC, we expect *Treat* × *Post* to be positive.

Table 4 Panel A presents the results. We find that the coefficients on *Treat* × *Post* are positive and statistically significant at the 1% significance level across all our measures of firm-media common ownership. These estimates validate the premise of the quasi-natural experiment that the treated firms, relative to the control firms, experienced an increase in firm-media common ownership with DJC after the merger event.

After verifying that the treatment firms indeed experienced an increase in firm-media common ownership, we proceed to examine whether these firms also received more positive news coverage from DJC's media outlets, based on the following regression:

$$\text{Positive\_Coverage}_{i,t+1} = \beta \text{Treat}_i \times \text{Post}_t + \phi \text{X}_{i,t} + \alpha_i + \eta_t + \varepsilon_{i,t}, \qquad (6)$$

where all the variables are defined as before. We include firm (α_i) and year-quarter (η_t) fixed effects, and cluster standard errors at the firm level.

The estimation results are reported in Table 4 Panel B. In columns (1) and (2), we show the results of the DiD test without and with control variables, respectively. In both specifications, we find that the coefficients of *Treat × Post* are positive and statistically significant at the 1% level. Moreover, the magnitudes of the two coefficients are very similar. Specifically, the coefficient estimated with control variables in column (2) suggests that treated firms received approximately 8% more positive coverage than control firms, relative to the periods prior to the acquisition.

In column (3), we test the parallel trend assumption and examine the dynamic effects of the merger on firms' media coverage from DJC. We generate indicator variables for each quarter before the M&A event from one quarter and two quarters as *T-1* and *T-2*, respectively. We also generate indicators for one quarter after the M&A event and for the whole period two quarters after the merger event as *T+1* and *≥T+2*, respectively. We interact *Treat* with these indicator variables and replace *Treat × Post* with these interactions in Equation (6). Therefore, the benchmark includes the first two quarters in our sample period. The interaction terms between *Treat* and the indicators before the M&A event (i.e., *T-1* and *T-2*) are statistically insignificant, supporting the parallel trend assumption. Further, the results show that the affected firms started to receive more positive coverage immediately after the M&A event. Overall, the results reinforce the causal interpretation of our findings that institutional blockholders of media outlets can influence media coverage of their portfolio firms.

5. Earnings Announcements

To determine whether or not institutional blockholders of a media firm influence the media firm's news outlets to issue more positive articles on their portfolio firms, based (at least partially) on actual corporate news events, we use the quarterly

earnings announcements as our empirical setting. The earnings announcements of a firm provide new and important fundamental information about the firm. Stock market participants also react significantly to earnings announcements.

Using this setting, we investigate whether the propensity of a media outlet to issue positive articles on a firm with positive earnings surprises is stronger when the firm is also held by the media outlet's blockholders. We also examine whether there are fewer negative articles for a firm in which some institutional investors are also the media firm's blockholders, when the firm has negative earnings surprises. For this empirical test, we focus on the news articles issued within seven days after the earnings announcements. Specifically, we employ the following regression specification with the DJC sample:

$$\text{EA\_Positive(Negative)\_Coverage}_{i,t+1} = \beta_1 \text{ComOwn}_{i,t} + \beta_2 \text{CAR}_{i,t} + \phi X_{i,t} + \alpha_i + \eta_t + \varepsilon_{i,t}, \quad (7)$$

where *EA_Positive(Negative)_Coverage* is the number of positive (negative) news articles issued on firm *i* by media *m* seven days after the firm's quarterly earnings announcements, scaled by the total number of articles. *ComOwn* is one of the firm-media common ownership measures. *CAR* is the measure for earnings surprises, defined as 3-day cumulative abnormal returns around the earnings announcement dates. We include the same control variables as in Equation (1). Table A1 provides detailed definitions of these variables. We cluster standard errors at the firm level.

To conduct an empirical analysis, we partition the sample based on whether earnings surprises are positive or negative. The results are presented in Table 5. Panel A presents the results for positive news coverage (i.e., *EA_Positive_Coverage*) when earnings surprises are positive (i.e., *CAR* > 0). First, we find that the coefficients of *CAR* are positive and statistically significant at the 1% level. This result suggests that good earnings news results in more positive news coverage immediately following earnings announcements. More importantly, we find that the coefficients on the firm-media common ownership measures (e.g., *ComOwnDummy*) are all positive and statistically significant at the 1% level across all specifications.

These estimates suggest that firms owned by a media outlet's institutional block-holders receive more positive coverage, relative to other firms, about their positive earnings surprises. Regarding the economic significance, Panel A, column (1) shows that firm-media common ownership leads to a 3.2% increase in the positive news coverage following positive earnings surprises.

In Panel B, we present the estimation results for negative news coverage (i.e., *EA_Negative_Coverage*) when the earnings surprise is negative (i.e., *CAR* < 0). Consistent with negative earnings being associated with more negative news coverage, the coefficients on *CAR* are negative and statistically significant at the 1% level. In addition, we find that the coefficients of the firm-media common ownership measures are all negative and statistically significant at the 1% level across all specifications. These results suggest that firms owned by DJC's institutional blockholders receive fewer negative news articles, relative to other firms, when their earnings surprises are negative. Regarding the economic significance, Panel B, column 1 shows that a one standard deviation increase in our firm-media common ownership measure reduces the negative coverage ratio specific to earnings announcements by 1.9 percentage points.

6. Benefits of Holding a Media Firm (Fund-Level Analysis)

Our previous analyses provide evidence that a media firm increases its favorable coverage of a firm if one of the firm's institutional investors is also a blockholder of the media firm. These results naturally lead to two questions.

The first question is whether firm-level positive news coverage due to firm-media common ownership translates into positive news coverage at the portfolio level. It is possible that institutional investors *without* media holdings and media firm blockholders might have similar portfolios. Thus, those without media holdings may get a free ride on positive media coverage generated by media blockholders.

This free-ride problem, ex-ante, reduces media blockholders' incentive to affect the news coverage of their portfolio firms. It is also possible that firm-level positive news coverage due to firm-media common ownership, as documented before, might be averaged away and become trivial at the portfolio level. As a result, media firm blockholders might have little incentive to influence media coverage on their portfolio firms. To address the first question, we construct a fund-level positive news coverage measure by aggregating the firm-level positive news coverage across all portfolio holdings for a given fund, then examine whether the fund receives more positive news coverage from media firms that the fund owns.

Second, even if the portfolios of media firm blockholders exhibit more positive news coverage than other institutional investors' portfolios, it is possible that the positive news coverage results in little benefit for the firm media blockholders. In addition, affecting media coverage is not without costs for media firm blockholders, as discussed above. These costs can arise from a low expected return of holding media firms or from deviating from the optimal portfolio by holding (too many) media firm shares. Even if there are benefits of holding media firms, the costs can dominate the benefits. Therefore, it is important to understand whether the positive news coverage associated with firm-media common ownership indeed translates into net benefits for media firm blockholders. We attempt to address this question by investigating the relationship between a fund's ownership in media firms and two important dimensions for fund performance: fund returns and fund flows.

Specifically, to address these two questions, we use a sample of actively-managed US equity mutual funds over the period of 2001 to 2020. Within this sample, we can identify a fund's portfolio holdings, benchmark-adjusted returns, and fund flows in each quarter. Focusing on actively-managed funds is also consistent with our previous finding that the positive relationship between firm-media common ownership and positive media coverage is mainly driven by those media firm blockholders who hold active funds (see Panel C in Table 2). We use our DJC sample to construct the news coverage measure because of its comprehensive data availability for news ar-

ticle data in the RavenPack database during our sample period.

6.1. *Media Ownership and Fund-Level News Coverage*

To test whether firm-level positive news coverage due to firm-media ownership translates into positive news coverage at the portfolio level, we explore the relationship between a fund's ownership of DJC and the aggregate positive news coverage of the fund's portfolio holdings, where positive news coverage is computed using news articles issued by the DJC outlets. This test also indirectly shows whether active funds holding media firms have different portfolios from the funds without media holdings, because differences in the aggregate news coverage of different portfolios provide a relevant measure for differences in the holdings across these portfolios. We employ the following OLS regression specification at the fund-quarter level:

$$\text{Fund\_Positive\_Coverage}_{i,t+j} = \beta \text{Fund\_Media\_Ownership}_{i,t} + \phi X_{i,t} + \gamma_i \times \eta_t + \varepsilon_{i,t}, \quad (8)$$

where *Fund_Positive_Coverage*$_{i,t+j}$ (j = 1, 2, 3, 4) is the aggregate positive news coverage (i.e., *Positive_Coverage*) across all the portfolio firms of fund i in quarter $t+j$. Specifically, *Fund_Positive_Coverage*$_{i,t+j}$ is computed as the sum of the number of positive news articles issued for fund i's portfolio firms in quarter $t + j$ divided by the number of all news articles across these firms, where the number of articles for each firm is weighted by the firm's portfolio weight. *Fund_Media_Ownership*$_{i,t}$ is the percentage of DJC's shares outstanding held by fund i at the end of quarter t. $X_{i,t}$ is a set of control variables, including the logarithm of total net assets, expense ratio, the number of a fund's holdings, and the fund's average stock ownership across its portfolio holdings. We also include *benchmark* × *time* fixed effects ($\gamma_i \times \eta_t$), where a fund's benchmark is its Morningstar Category Benchmark Index (see Pástor et al., 2017). We cluster standard errors at the benchmark and quarter level. Table A1 provides detailed definitions of these variables.

The estimation results of the above equation are presented in Table 6, Panel

A. The coefficients of *Fund_Media_Ownership* in all specifications are positive and statistically significant at the 10% or 5% level. The implication of this finding is twofold. First, the portfolio holdings of investors with DJC ownership are typically different from those without any DJC ownership. Second, a fund that holds greater ownership in DJC receives more positive news coverage from DJC outlets at its portfolio level.

6.2. *Fund Benchmark-Adjusted Returns*

Having shown that a fund's greater media ownership leads to more positive news coverage for the fund's portfolio on average, we proceed to examine the fund's benefits of holding a media firm. Specifically, we examine two important dimensions that an active fund manager often assesses: fund benchmark-adjusted returns and fund flows. To assess fund performance, we employ the following OLS regression specification at the fund-quarter level:

$$\text{Fund\_Return}_{i,t+j} = \beta\text{Fund\_Media\_Ownership}_{i,t} + \phi\text{X}_{i,t} + \gamma_i \times \eta_t + \varepsilon_{i,t}, \qquad (9)$$

where *Fund_Return*$_{i,t+j}$ ($j = 1,2,3,4$) is fund i's benchmark-adjusted return over quarter $t+j$. The benchmark-adjusted return is calculated as the fund's raw return minus the return of its Morningstar Category Benchmark Index. $X_{i,t}$ is the same set of control variables as in Equation (8). We also include *benchmark* $\times$ *time* fixed effects ($\gamma_i \times \eta_t$) and cluster standard errors at the benchmark and quarter level. Table A1 provides detailed definitions of these variables.

The estimation results of Equation (9) are presented in Panel B of Table 6. The coefficients of *Fund_Media_Ownership* in all specifications are statistically insignificant. This result shows that media holdings of a fund are not associated with the fund's future return performance, suggesting that media holdings do not affect a fund's portfolio firms' return on average.

6.3. Fund Flows

We now explore how a fund's media ownership affects its flows. Solomon et al. (2014) showed that the media coverage of a fund's portfolio firms can affect the fund's flow. More importantly, the fund's flow is primarily driven by the media coverage of portfolio firms with positive past performance. Thus, in our sample, it is plausible that fund managers holding DJC influence media coverage of their portfolio firms to attract fund flows. To test this hypothesis, we use the following specification at the fund-quarter level:

$$\text{Fund\_Flow}_{i,t+j} = \beta\text{Fund\_Media\_Ownership}_{i,t} + \phi\text{X}_{i,t} + \gamma_i \times \eta_t + \varepsilon_{i,t}, \qquad (10)$$

where $Fund\_Flow_{i,t+j}$ ($j = 1, 2, 3, 4$) is fund i's flow over quarter $t + j$. Fund flow in quarter t is computed as $\frac{TNA_{i,t}}{TNA_{i,t-1}} - (1 + R_{i,t})$, where $TNA_{i,t}$ is the total net assets of fund i at the end of quarter t, and $R_{i,t}$ is fund i's quarter-t return, net of expenses. $X_{i,t}$ is the same set of control variables in Equation (8).

The results are presented in Panel C of Table 6. We find that the coefficients on *Fund_Media_Ownership* in all specifications are statistically significant at the 5% or 1% significance level, suggesting that greater DJC ownership is associated with more fund flows over the next four quarters. Please note that this finding is not causal and the estimates might be biased when a fund's decision to hold a media firm and the fund's flow are affected by unobservable factors, such as the fund manager's ability. Nonetheless, the result provides suggestive evidence that one benefit of affecting news coverage through media ownership is to attract fund flows. In terms of economic significance, the coefficients on *Fund_Media_Ownership* in columns (1) - (4) indicate that if a fund increases its DJC ownership by 1%, it can attract an additional 0.434% (= 0.071% + 0.093% + 0.123% + 0.147%) fund flows over the next year. In our sample, the annual average fund flow of an active fund is about 2.4%. Thus, 1% increase in DJC ownership implies a 18% (= 0.434%/2.4%) increase in fund flow relative to the sample mean.

7. Conclusion

In this paper, we examine whether institutional investors can influence news coverage of their portfolio firms through their ownership in media firms. We refer to these investors as firm-media common owners. Though influencing media coverage may be costly for both media outlets and firm-media common owners, the benefits could also be substantial. Existing studies have shown that media outlets have significant impacts on virtually every aspect of financial markets, and that mutual fund managers affect media coverage through their advertising spending. Given the pivotal role of media in the financial market, it is surprising that there is limited evidence about whether financial institutions, as shareholders of media firms, can also affect media coverage. In this study, we seek to fill that gap.

Overall, we find that financial media outlets issue more positive news articles covering the portfolio firms of their blockholders. This positive association is more pronounced when public firms have more weight in the portfolios of the firm-media common owners and when firm-media common owners are active investors. We use two empirical settings to address potential endogeneity concerns. First, we use regressions with different fixed effects to fully control for time-varying firm fundamentals and to control for unobserved factors related to time-invariant firm-media pairs. Second, we explore a plausibly exogenous shock that generates variations in firm-media common ownership based on a merger event between two financial institutions. We find baseline results hold in both settings. In addition, we show that firm-media common ownership also increases (decreases) a firm's propensity to receive a positive (negative) article around the firm's earnings announcement dates when the firm has a positive (negative) earnings news.

Finally, we provide evidence suggesting that one incentive for institutional investors to hold media firms and affect media coverage is to attract fund flows. Specifically, we find that aggregate media coverage at the portfolio level is more positive when an institutional investor holds a larger share of a media firm. Furthermore, media holdings are associated with greater fund inflows in the next four

34

quarters. However, we do not find evidence that media ownership is associated with fund return performance. Overall, our study provides evidence that institutional investors affect media coverage through their media ownership and documents that one benefit of influencing media coverage is to attract fund inflows.

References

Ahern, K. R., Sosyura, D., 2014. Who writes the news? corporate press releases during merger negotiations. The Journal of Finance 69, 241–291.

Antón, M., Ederer, F., Giné, M., Schmalz, M. C., 2020. Common ownership, competition, and top management incentives. Ross School of Business Paper .

Appel, I. R., Gormley, T. A., Keim, D. B., 2016. Passive investors, not passive owners. Journal of Financial Economics 121, 111–141.

Azar, J., Schmalz, M. C., Tecu, I., 2018. Anticompetitive effects of common ownership. The Journal of Finance 73, 1513–1565.

Ben-David, I., Franzoni, F., Moussawi, R., Sedunov, J., 2021. The granular nature of large institutional investors. Management Science .

Besley, T., Prat, A., 2006. Handcuffs for the grabbing hand? Media capture and government accountability. American economic review 96, 720–736.

Bharath, S. T., Jayaraman, S., Nagar, V., 2013. Exit as governance: An empirical analysis. The Journal of Finance 68, 2515–2547.

Bushee, B. J., Core, J. E., Guay, W., Hamm, S. J., 2010. The role of the business press as an information intermediary. Journal of accounting research 48, 1–19.

Cook, D. O., Kieschnick, R., Van Ness, R. A., 2006. On the marketing of IPOs. Journal of Financial Economics 82, 35–61.

Crane, A. D., Michenaud, S., Weston, J. P., 2016. The effect of institutional ownership on payout policy: Evidence from index thresholds. The Review of Financial Studies 29, 1377–1408.

Cremers, M., Pareek, A., 2016. Patient capital outperformance: The investment skill of high active share managers who trade infrequently. Journal of Financial Economics 122, 288–306.

Dai, L., Parwada, J. T., Zhang, B., 2015. The governance effect of the media's news dissemination role: Evidence from insider trading. Journal of Accounting Research 53, 331–366.

Dang, T. L., Moshirian, F., Zhang, B., 2015. Commonality in news around the world. Journal of Financial Economics 116, 82–110.

DellaVigna, S., Hermle, J., 2017. Does conflict of interest lead to biased coverage? evidence from movie reviews. Review of Economic Studies 84, 1510–1550.

Djankov, S., McLiesh, C., Nenova, T., Shleifer, A., 2003. Who owns the media? The Journal of Law and Economics 46, 341–382.

Edmans, A., 2009. Blockholder trading, market efficiency, and managerial myopia. The Journal of Finance 64, 2481–2513.

Edmans, A., Goncalves-Pinto, L., Groen-Xu, M., Wang, Y., 2018. Strategic news releases in equity vesting months. The Review of Financial Studies 31, 4099–4141.

Edmans, A., Holderness, C. G., 2017. Blockholders: A survey of theory and evidence. The handbook of the economics of corporate governance 1, 541–636.

Edmans, A., Levit, D., Reilly, D., 2019. Governance under common ownership. The Review of Financial Studies 32, 2673–2719.

Engelberg, J. E., Parsons, C. A., 2011. The causal impact of media in financial markets. The Journal of Finance 66, 67–97.

Fang, L., Peress, J., 2009. Media coverage and the cross-section of stock returns. The Journal of Finance 64, 2023–2052.

Gao, P., Lee, C., Murphy, D., 2020. Financing dies in darkness? The impact of newspaper closures on public finance. Journal of Financial Economics 135, 445–467.

Gentzkow, M., Shapiro, J. M., 2010. What drives media slant? Evidence from us daily newspapers. Econometrica 78, 35–71.

Germano, F., Meier, M., 2013. Concentration and self-censorship in commercial media. Journal of Public Economics 97, 117–130.

Gilens, M., Hertzman, C., 2000. Corporate ownership and news bias: Newspaper coverage of the 1996 telecommunications act. The Journal of Politics 62, 369–386.

Gilje, E. P., Gormley, T. A., Levit, D., 2020. Who's paying attention? Measuring common ownership and its impact on managerial incentives. Journal of Financial Economics 137, 152–178.

Grullon, G., Kanatas, G., Weston, J. P., 2004. Advertising, breadth of ownership, and liquidity. The Review of Financial Studies 17, 439–461.

Gurun, U. G., Butler, A. W., 2012. Don't believe the hype: Local media slant, local advertising, and firm value. The Journal of Finance 67, 561–598.

He, J., Xia, H., Zhao, Y., 2020. "Pump and Dump" through media tone: The role of cross-blockholders in corporate litigation. Working paper .

He, J. J., Huang, J., 2017. Product market competition in a world of cross-ownership: Evidence from institutional blockholdings. The Review of Financial Studies 30, 2674–2718.

He, J. J., Huang, J., Zhao, S., 2019. Internalizing governance externalities: The role of institutional cross-ownership. Journal of Financial Economics 134, 400–418.

Holthausen, R. W., Leftwich, R. W., Mayers, D., 1990. Large-block transactions, the speed of response, and temporary and permanent stock-price effects. Journal of Financial Economics 26, 71–95.

Houston, J. F., Lin, C., Ma, Y., 2011. Media ownership, concentration and corruption in bank lending. Journal of Financial Economics 100, 326–350.

Kacperczyk, M., Sialm, C., Zheng, L., 2008. Unobserved actions of mutual funds. The Review of Financial Studies 21, 2379–2416.

Kaniel, R., Parham, R., 2017. WSJ category kings–The impact of media attention on consumer and mutual fund investment decisions. Journal of Financial Economics 123, 337–356.

Keim, D. B., Madhavan, A., 1998. The cost of institutional equity trades. Financial Analysts Journal 54, 50–69.

Kuhnen, C. M., Niessen, A., 2012. Public opinion and executive compensation. Management Science 58, 1249–1272.

Liu, B., McConnell, J. J., 2013. The role of the media in corporate governance: Do the media influence managers' capital allocation decisions? Journal of Financial Economics 110, 1–17.

Liu, L. X., Sherman, A. E., Zhang, Y., 2014. The long-run role of the media: Evidence from initial public offerings. Management Science 60, 1945–1964.

López, Á. L., Vives, X., 2019. Overlapping ownership, R&D spillovers, and antitrust policy. Journal of Political Economy 127, 2394–2437.

Pástor, L., Stambaugh, R. F., Taylor, L. A., 2017. Do funds make more when they trade more? The Journal of Finance 72, 1483–1528.

Peress, J., 2014. The media and the diffusion of information in financial markets: Evidence from newspaper strikes. The Journal of Finance 69, 2007–2043.

Reuter, J., Zitzewitz, E., 2006. Do ads influence editors? Advertising and bias in the financial media. The Quarterly Journal of Economics 121, 197–227.

Shroff, N., Verdi, R. S., Yu, G., 2014. Information environment and the investment decisions of multinational corporations. The Accounting Review 89, 759–790.

Solomon, D. H., 2012. Selective publicity and stock prices. The Journal of Finance 67, 599–638.

Solomon, D. H., Soltes, E., Sosyura, D., 2014. Winners in the spotlight: Media coverage of fund holdings as a driver of flows. Journal of Financial Economics 113, 53–72.

Tetlock, P. C., 2007. Giving content to investor sentiment: The role of media in the stock market. The Journal of finance 62, 1139–1168.

Tetlock, P. C., 2010. Does public financial news resolve asymmetric information? The Review of Financial Studies 23, 3520–3557.
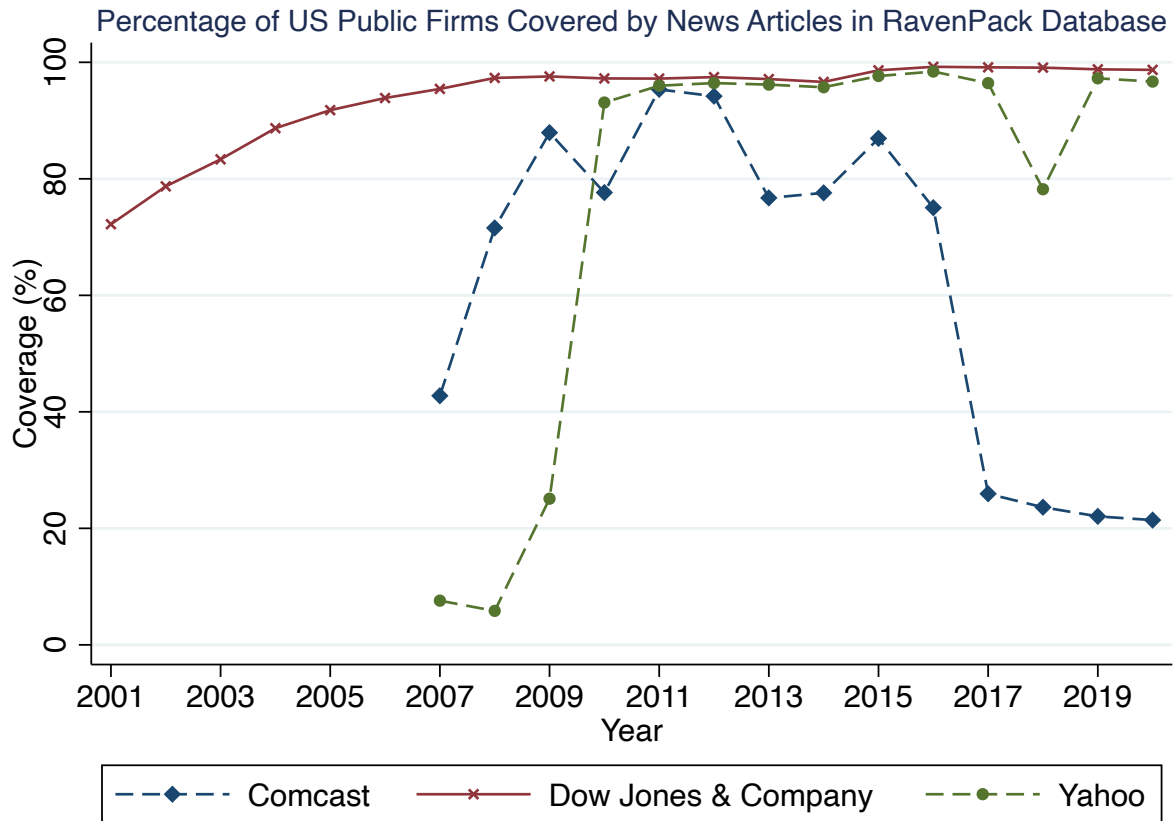
Fig. 1. **RavenPack Coverage**

This figure presents the percentage of US public firms that are covered by news articles from the news outlets owned by three media firms (DJC, Comcast , Yahoo) in the RavenPack database, for each year between 2001 and 2020. The media outlets of DJC include the Dow Jones Newswires, *the Wall Street Journal*, Barron's, Smart Money, Financial News Online, and MarketWatch. The media outlets of Comcast are CNBC, NBC News, and MSNBC. The media outlets of Yahoo are Yahoo Finance! and Yahoo News.
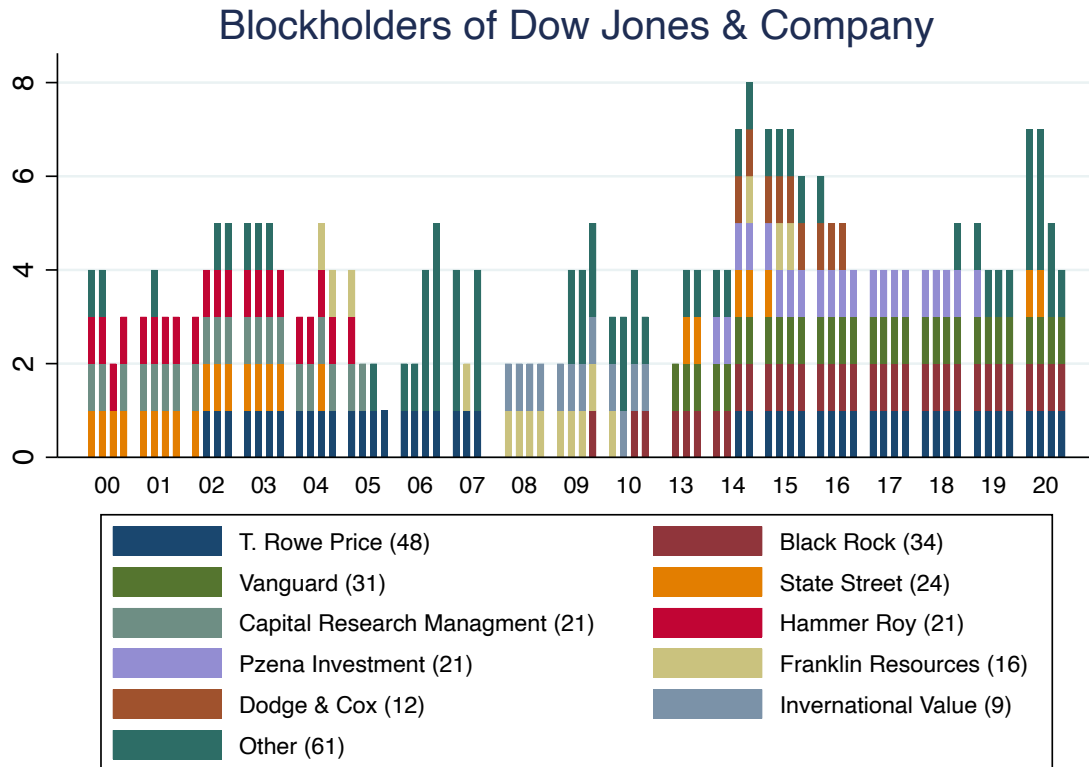
Fig. 2. **Blockholders of Dow Jones & Company**

This graph presents the blockholders of Dow Jones & Company in each quarter and the number of quarters an institutional investor served as a blockholder of Dow Jones & Company (in parentheses) from 2000Q1 to 2020Q4.
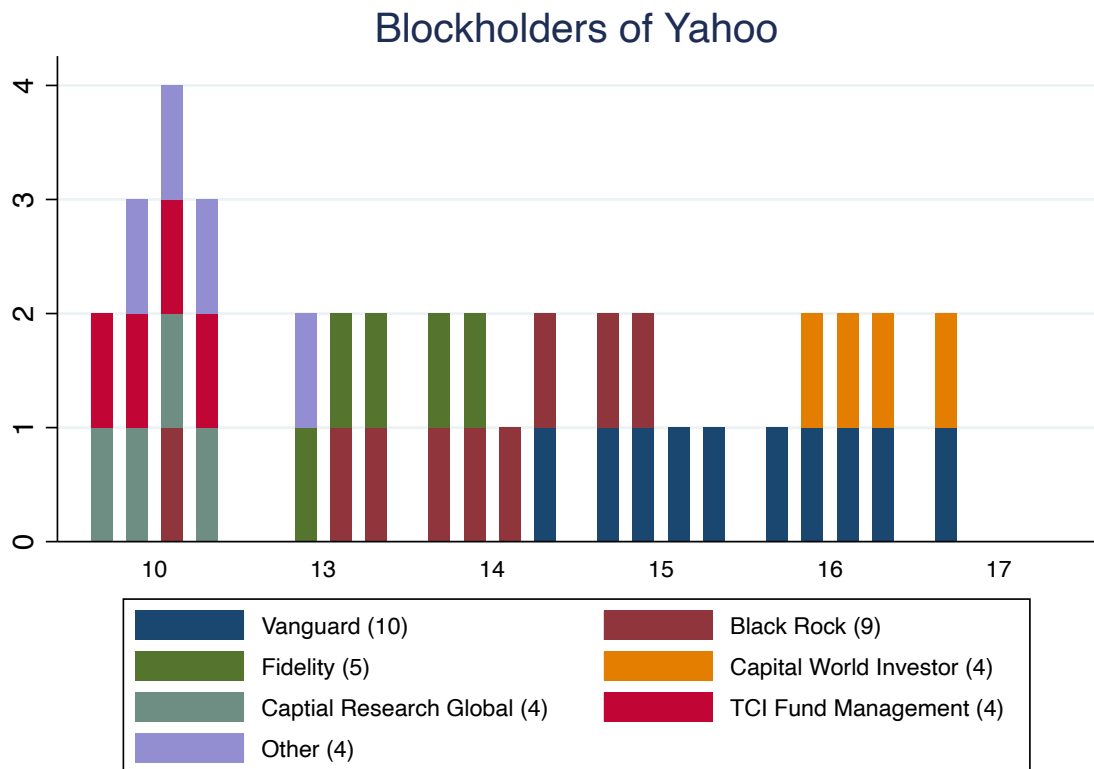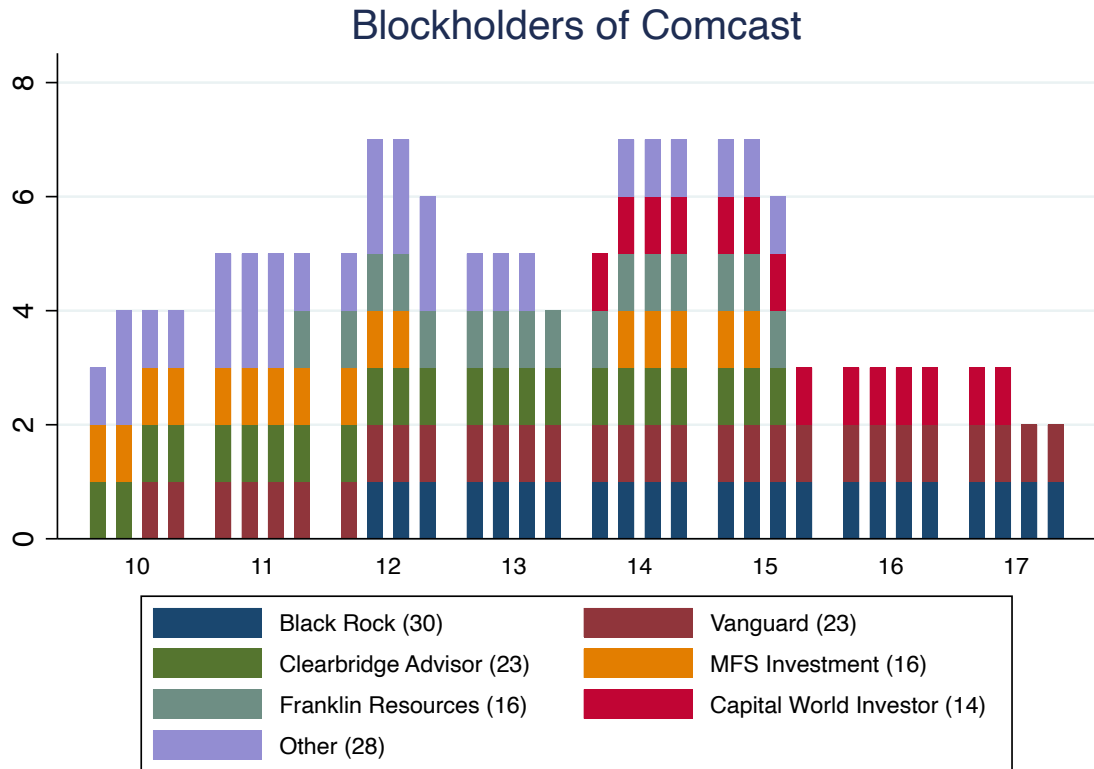
Fig. 3. Blockholders of Comcast and Yahoo

This graph shows the blockholders of Comcast (Panel A) and Yahoo (Panel B) in each quarter and the number of quarters an institutional investor served as a blockholder of these two firms (in parentheses) from 2010Q1 to 2017Q4.

Table 1: **Summary Statistics**

In this table, we present the summary statistics of the samples used in the empirical analyses. In Panel A, we report the summary statistics based on the sample using the media outlets of DJC from 2001 to 2020. In Panel B, we report the summary statistics based on the sample using media outlets DJC, Yahoo Finance, and CNBC from 2010 to 2016. *Positive_Coverage* is the number of positive news articles divided by the total number of articles issued by media m for firm i as of quarter t. A news article is defined to be positive, neutral, or negative if its RavenPack Composite Sentiment Score (*CSS*) is above, equal to, or below 50, respectively. We construct four different measures for the common ownership between a media outlet and a public firm. *ComOwnDummy* is an indicator variable that is equal to one if firm i has at least one institutional investor who is also a blockholder of media m as of quarter t. *LnNumComOwn* is the total number of firm i's institutional investors in media firm m that are also the media firm's blockholders. *TotalComOwn* is the total ownership in media firm m of firm i's institutional investors that are also the media's blockholders. *MaxComOwn* is the highest media ownership media m among firm i's institutional investors that are also the media's blockholders. Table A1 provides detailed definitions for all the variables.

Panel A. Firm-quarter observations by DJC

	N	Mean	Median	StdDev	25th PCTL	75th PCTL
Positive_Coverage	275,995	28.05	25.00	19.22	14.29	40.00
ComOwnDummy	275,995	0.64	1.00	0.48	0.00	1.00
LnNumComOwn	275,995	0.71	0.69	0.58	0.00	1.10
TotalComOwn	275,995	0.12	0.08	0.12	0.00	0.20
MaxComOwn	275,995	0.07	0.07	0.06	0.00	0.13
FirmSize	275,995	6.48	6.48	2.13	4.98	7.89
TobinQ	275,995	1.56	1.08	1.57	0.66	1.86
R&D	275,995	0.01	0.00	0.03	0.00	0.01
Leverage	275,995	0.21	0.16	0.21	0.03	0.33
Profitability	275,995	-0.01	0.00	0.07	-0.01	0.02
PastReturn	275,995	0.10	0.04	0.55	-0.21	0.30
InstOwn	275,995	0.56	0.61	0.32	0.27	0.84
BlockDummy	275,995	0.80	1.00	0.40	1.00	1.00

Panel B. Firm-media-quarter observations by Comcast, DJC, and Yahoo

	N	Mean	Median	StdDev	25th PCTL	75th PCTL
Positive_Coverage	229,150	38.30	33.33	28.80	15.79	55.56
ComOwnDummy	229,150	0.69	1.00	0.46	0.00	1.00
LnNumComOwn	229,150	0.80	1.10	0.62	0.00	1.39
TotalComOwn	229,150	0.11	0.10	0.11	0.00	0.19
MaxComOwn	229,150	0.05	0.06	0.04	0.00	0.08
FirmSize	229,150	6.88	6.89	2.09	5.46	8.29
TobinQ	229,150	1.53	1.10	1.45	0.69	1.85
R&D	229,150	0.01	0.00	0.03	0.00	0.01
Leverage	229,150	0.21	0.16	0.21	0.03	0.32
Profitability	229,150	-0.01	0.01	0.06	-0.00	0.02
PastReturn	229,150	0.15	0.09	0.49	-0.12	0.32
InstOwn	229,150	0.62	0.70	0.32	0.37	0.88
BlockDummy	229,150	0.84	1.00	0.37	1.00	1.00

Table 2: **Firm-Media Common Ownership and News Coverage**

In this table, we examine the relation between a firm's common ownership with a media outlet and its corresponding news coverage. The sample is based on the firms that were covered by the DJC news outlets from 2001 to 2020. In Panel A, we report the OLS baseline results. In Panel B, we report the results of the cross-sectional test exploring the importance of a firm in institutional investors' portfolios. In Panel C, we analyze whether our results are different for active and passive institutional investors. Panel D presents the results using an alternative measure for positive news coverage. For all specifications we include the control variables, as well as firm and quarter fixed effects. The measures for firm-media common ownership are standardized to have zero means and one unit standard deviations. Robust standard errors are clustered at the firm level and reported in parentheses. *, **, and *** indicate that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively. Table A1 provides detailed variable definitions.

Panel A. Baseline Results

	Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	0.622***			
	(0.202)			
LnNumComOwn$_t$		0.386***		
		(0.125)		
TotalComOwn$_t$			0.613***	
			(0.132)	
MaxComOwn$_t$				0.571***
				(0.118)
FirmSize$_t$	-0.284*	-0.305*	-0.347**	-0.306*
	(0.161)	(0.161)	(0.161)	(0.161)
TobinQ$_t$	0.056	0.052	0.042	0.051
	(0.069)	(0.069)	(0.069)	(0.069)
R&D$_t$	7.433**	7.320**	7.133**	7.361**
	(3.613)	(3.615)	(3.616)	(3.607)
Leverage$_t$	-0.900*	-0.898*	-0.889*	-0.859*
	(0.491)	(0.491)	(0.491)	(0.490)
Profitability$_t$	12.748***	12.755***	12.766***	12.765***
	(0.918)	(0.918)	(0.919)	(0.917)
PastReturn$_t$	0.767***	0.774***	0.783***	0.775***
	(0.091)	(0.091)	(0.092)	(0.091)
InstOwn$_t$	-0.444	-0.491	-0.553	-0.539
	(0.454)	(0.454)	(0.452)	(0.453)
BlockDummy$_t$	-0.007	0.001	0.013	0.008
	(0.210)	(0.210)	(0.210)	(0.210)
Firm FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	275,995	275,995	275,995	275,995
Adj. R^2	0.278	0.278	0.278	0.278

Panel B. Overweight vs. Underweight on Firms by Media Blockholders

	Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$ × HighWeight$_t$	0.593***			
	(0.159)			
ComOwnDummy$_t$	0.614***			
	(0.202)			
LnNumComOwn$_t$ × HighWeight$_t$		0.098		
		(0.231)		
LnNumComOwn$_t$		0.327**		
		(0.132)		
TotalComOwn$_t$ × HighWeight$_t$			0.466***	
			(0.166)	
TotalComOwn$_t$			0.449***	
			(0.149)	
MaxComOwn$_t$ × HighWeight$_t$				0.848***
				(0.200)
MaxComOwn$_t$				0.489***
				(0.122)
Controls	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	275,995	275,995	275,995	275,995
Adj. R^2	0.278	0.278	0.278	0.278

Panel C. Active vs. Passive Media Blockholders

	Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy_Active$_t$	1.090***			
	(0.178)			
ComOwnDummy_Passive$_t$	-0.484			
	(0.613)			
LnNumComOwn_Active$_t$		0.690***		
		(0.097)		
LnNumComOwn_Passive$_t$		-0.208		
		(0.296)		
TotalComOwn_Active$_t$			0.779***	
			(0.101)	
TotalComOwn_Passive$_t$			-0.003	
			(0.418)	
MaxComOwn_Active$_t$				0.664***
				(0.096)
MaxComOwn_Passive$_t$				-0.022
				(0.419)
Controls	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	275,995	275,995	275,995	275,995
Adj. R^2	0.278	0.278	0.278	0.278

Panel D. Composite Sentiment Score (CSS)

	Average_CSS$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	0.213***			
	(0.039)			
LnNumComOwn$_t$		0.138***		
		(0.023)		
TotalComOwn$_t$			0.099***	
			(0.023)	
MaxComOwn$_t$				0.083***
				(0.021)
Controls	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	275,995	275,995	275,995	275,995
Adj. R^2	0.254	0.254	0.254	0.254

Table 3: **Multiple Media Outlets**
In this table, we examine the effects of institutional investors' media ownership on the news coverage of their portfolio firms, using the sample of news articles from DJC's news outlets, CNBC, and Yahoo Finance from 2010 to 2016. In Panel A, we report the results with *firm × quarter* and *media* fixed effects. In Panel B, we present the results with *firm × media* and *year – quarter* fixed effects. Control variables are the same as those in our baseline specifications in Table 2. The measures for firm-media common ownership are standardized to have zero means and one unit standard deviations. Robust standard errors are clustered at the firm level and reported in parentheses. *, **, and *** indicate that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively. Table A1 provides detailed variable definitions.

Panel A. Panel Regression with Firm × Time and Media FEs

	Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	3.907***			
	(0.261)			
LnNumComOwn$_t$		1.556***		
		(0.125)		
TotalComOwn$_t$			1.225***	
			(0.102)	
MaxComOwn$_t$				2.068***
				(0.112)
Firm × Time FEs	Yes	Yes	Yes	Yes
Media FEs	Yes	Yes	Yes	Yes
Observations	229,150	229,150	229,150	229,150
Adj. R^2	0.332	0.332	0.332	0.333

Panel B. Panel Regression with Firm × Media and Time FEs

	Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	2.724***			
	(0.247)			
LnNumComOwn$_t$		1.247***		
		(0.124)		
TotalComOwn$_t$			1.240***	
			(0.107)	
MaxComOwn$_t$				1.743***
				(0.111)
Controls	Yes	Yes	Yes	Yes
Firm × Media FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	229,150	229,150	229,150	229,150
Adj. R^2	0.325	0.325	0.325	0.326

Table 4: **Quasi-Natural Experiment of Institution Mergers**
In this table, we present the results of the difference-in-differences (DiD) tests based on an institution merger event in which T. Rowe Price (TRP) acquired the Preferred Group Mutual Fund (PGMF) in 2006Q2. The sample period for the DiD tests are from 2004Q3 to 2007Q3. The deal was announced and processed in 2006Q1, which is defined as the event quarter (T) and removed from the sample. In Panel A, we examine whether treated firms experienced an increase in common ownership with the media firm after the merger. In Panel B, we examine whether treated firms experienced an increase in positive news coverage after the merger. Robust standard errors are clustered at the firm level and reported in parentheses. *, **, and *** indicate that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively. Table A1 provides detailed variable definitions.

Panel A. The Effect of the Institution Merger on Firm-Media Common Ownership

	ComOwnDummy (1)	LnNumComOwn (2)	TotalComOwn (3)	MaxComOwn (4)
Treat × Post	0.153***	0.556***	0.572***	0.751***
	(0.036)	(0.068)	(0.070)	(0.125)
FirmSize	0.103***	0.419***	0.427***	0.330***
	(0.025)	(0.061)	(0.063)	(0.082)
TobinQ	0.030***	0.118***	0.120***	0.094***
	(0.011)	(0.025)	(0.024)	(0.035)
R&D	-0.525	-1.054	-0.690	-0.667
	(0.715)	(1.110)	(1.197)	(2.219)
Leverage	-0.061	-0.474***	-0.450***	-0.345
	(0.083)	(0.163)	(0.163)	(0.263)
Profitability	0.029	-0.588	-0.840	-0.752
	(0.296)	(0.530)	(0.512)	(0.762)
PastReturn	-0.052***	-0.081**	-0.065*	-0.128**
	(0.019)	(0.035)	(0.033)	(0.055)
InstOwn	0.100	0.510***	0.405**	0.090
	(0.095)	(0.192)	(0.185)	(0.284)
BlockDummy	0.019	0.029	0.028	0.088**
	(0.013)	(0.031)	(0.033)	(0.040)
Firm FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	3,648	3,648	3,648	3,648
Adj. R^2	0.457	0.777	0.793	0.725

Panel B. The Effect of the Institution Merger on Media Coverage

	Positive_Coverage		
	(1)	(2)	(3)
Treat × Post	9.050***	8.149***	
	(1.800)	(1.970)	
Treat × T - 2			1.023
			(2.226)
Treat × T - 1			0.189
			(2.290)
Treat × T + 1			9.933***
			(2.814)
Treat × ⩾ T + 2			8.015***
			(2.182)
Controls	No	Yes	Yes
Firm FEs	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes
Observations	3648	3648	3648
Adj. R^2	0.417	0.419	0.418

Table 5: **Earnings Announcements**

In this table, we present the results using quarterly earnings announcements as the empirical setting. *EA_Positive(Negative)_Coverage* is measured as the number of positive (negative) news articles issued about a firm, scaled over the total number of articles about the firm, within the seven days after the earnings announcements. Earnings surprise is measured by *CAR*, the cumulative abnormal return during the 3-days window of [t-1, t+1] around an earning announcement on date t. In Panel A, we report the results for the positive news coverage based the sample that includes only positive earnings surprises (i.e., *CAR*>0). In Panel B, we report results for the negative news coverage based the sample that includes only negative earnings surprises (i.e., *CAR*<0). The measures for firm-media common ownership are standardized to have zero means and one unit standard deviations. Robust standard errors are clustered at the firm level and reported in parentheses. *, **, and *** indicate that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively. Table A1 provides detailed variable definitions.

Panel A. Positive Media Coverage Following Positive Earnings Surprises

	EA_Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	3.250***			
	(0.433)			
LnNumComOwn$_t$		1.020***		
		(0.271)		
TotalComOwn$_t$			-0.393	
			(0.276)	
MaxComOwn$_t$				1.479***
				(0.248)
CAR	0.219***	0.217***	0.216***	0.217***
	(0.016)	(0.016)	(0.016)	(0.016)
Controls	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	85,021	85,021	85,021	85,021
Adj. R^2	0.389	0.388	0.388	0.389

Panel B. Negative Media Coverage Following Negative Earnings Surprises

	EA_Negative_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	-1.901***			
	(0.557)			
LnNumComOwn$_t$		-1.706***		
		(0.347)		
TotalComOwn$_t$			-1.961***	
			(0.363)	
MaxComOwn$_t$				-1.220***
				(0.293)
CAR	-0.388***	-0.388***	-0.388***	-0.387***
	(0.023)	(0.023)	(0.023)	(0.023)
Controls	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	83,938	83,938	83,938	83,938
Adj. R^2	0.485	0.485	0.486	0.485

48

Table 6: **Possible Benefits of Media Ownership (Fund-Level Analysis)**

In this table, we present the results that examine the possible benefits of holding a media firm over the sample period from 2001Q1 to 2020Q4. The main variable of interest, $Fund\_Media\_Ownership_{i,t}$, is the percentage of DJC's shares outstanding held by fund i at the end of quarter t. In Panel A, we present the results on the relation between a fund's ownership in a media firm and a weighted average of positive coverage across the fund's portfolio firms, based on the news articles from the media firm. In Panel B, we report the results on the relation between a fund's ownership in a media firm and its future benchmark-adjusted fund returns, where a fund's benchmark-adjusted return is the fund return minus the return of the fund's Morningstar Category benchmark. In Panel C, we present the results on the relation between a fund's ownership in a media firm and its future fund flows. Fund flow is computed as $\frac{TNA_t}{TNA_{t-1}} - (1 + R_t)$, where TNA_t is total net assets of a fund at the end of quarter t and R_t is the fund's quarter-t return, net of expense. Fund flow and benchmark-adjusted return are in percentage points. For all specifications, $benchmark \times quarter$ fixed effects are included. Robust standard errors are two-way clustered at both the benchmark and year-quarter levels and reported in parentheses. *, **, and *** indicate that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively. Table A1 provides detailed variable definitions.

Panel A. Fund_Positive_Coverage

	Fund_Positive_Coverage			
	t+1	t+2	t+3	t+4
Fund_Media_Ownership$_t$	0.022*	0.024*	0.029**	0.026*
	(0.011)	(0.011)	(0.012)	(0.012)
LnTNA$_t$	0.033	0.033	0.028	0.031
	(0.029)	(0.028)	(0.027)	(0.027)
LnNumberStocks$_t$	0.005	0.004	-0.011	-0.019
	(0.067)	(0.066)	(0.067)	(0.065)
ExpenseRatio$_t$	0.632	0.069	0.560	0.870
	(11.497)	(10.687)	(11.005)	(11.077)
StockOwnership$_t$	-0.308**	-0.301**	-0.290**	-0.289**
	(0.096)	(0.099)	(0.094)	(0.090)
Benchmark × Time FEs	Yes	Yes	Yes	Yes
Observations	101,977	101,293	100,234	98,699
Adj. R^2	0.806	0.807	0.807	0.807

Panel B. Benchmark-Adjusted Return

	Benchmark-Adjusted_Return			
	t+1	t+2	t+3	t+4
Fund_Media_Ownership$_t$	0.004	0.002	0.004	0.001
	(0.005)	(0.005)	(0.007)	(0.007)
LnTNA$_t$	-0.034*	-0.019	-0.019	-0.007
	(0.015)	(0.016)	(0.017)	(0.016)
LnNumberStocks$_t$	0.024	0.036	0.024	0.037
	(0.039)	(0.041)	(0.042)	(0.036)
ExpenseRatio$_t$	-10.605	-4.869	-9.537	-2.203
	(7.438)	(6.598)	(6.703)	(6.422)
StockOwnership$_t$	0.148*	0.146*	0.152*	0.131*
	(0.070)	(0.066)	(0.074)	(0.067)
Benchmark × Time FEs	Yes	Yes	Yes	Yes
Observations	98,891	97,445	95,585	93,387
Adj. R^2	0.168	0.168	0.162	0.151

	Panel C. Fund Flow			
	Fund_Flow			
	t+1	t+2	t+3	t+4
Fund_Media_Ownership$_t$	0.071**	0.093**	0.123***	0.147***
	(0.030)	(0.031)	(0.030)	(0.034)
LnTNA$_t$	-1.153***	-1.083***	-1.077***	-1.050***
	(0.068)	(0.060)	(0.060)	(0.062)
LnNumberStocks$_t$	0.107	0.031	0.042	-0.010
	(0.134)	(0.115)	(0.124)	(0.123)
ExpenseRatio$_t$	-226.997***	-219.435***	-204.050***	-190.420***
	(43.997)	(37.604)	(33.296)	(25.884)
StockOwnership$_t$	0.757**	0.620**	0.544*	0.485
	(0.269)	(0.262)	(0.270)	(0.270)
Benchmark × Time FEs	Yes	Yes	Yes	Yes
Observations	104,398	102,744	100,758	98,406
Adj. R^2	0.049	0.046	0.046	0.045

Appendix

Table A1: **Variable Definitions**

Panel A. Firm-Level Variables

Variable Name	Definition
Positive_Coverage$_{i,m,t}$	The number of positive news articles divided by the total number of articles issued by media m for firm i as of quarter t. This ratio is converted into percentage points by multiplying 100. A news article is defined to be positive, neutral, or negative if its RavenPack Composite Sentiment Score (CSS) is above, equal to, or below 50, respectively.
ComOwnDummy$_{i,m,t}$	An indicator variable that is equal to one if firm i has at least one institutional investor who is also a blockholder of media m as of quarter t.
LnNumComOwn$_{i,m,t}$	The (log of) total number of firm i's institutional investors in media firm m who are also the media firm's blockholders as of quarter t.
TotalComOwn$_{i,m,t}$	The total ownership in media firm m of firm i's institutional investors who are also the media's blockholders as of quarter t.
MaxComOwn$_{i,m,t}$	The highest ownership in media m among the firm i's institutional investors who are also the media's blockholders as of quarter t.
FirmSize$_{i,t}$	The log of the book value of total assets for firm i as of quarter t.
TobinQ$_{i,t}$	Market value of equity scaled by the book value of total assets for firm i as of quarter t.
R&D$_{i,t}$	Total research and development (R&D) expenditure scaled by the book value of assets for firm i as of quarter t.
Leverage$_{i,t}$	The sum of long-term and short-term debt scaled by the book value of total assets for firm i as of quarter t.
Profitability$_{i,t}$	Net income before extraordinary items scaled by the book value of total assets for firm i as of quarter t.
PastReturn$_{i,t}$	Cumulative return over the past 12 months for firm i as of quarter t.
InstOwn$_{i,t}$	The percentage of shares outstanding held by institutional investors for firm i as of quarter t.
BlockDummy$_{i,t}$	An indicator variable that takes the value of 1 for firm i that has at least one institutional investor with greater than 5% shares outstanding as of quarter t.
HighWeight$_{i,t}$	An indicator variable that takes the value of 1 if the average portfolio weight of firm i across a media firm's blockholders is in the first quartile within quarter t.

Variable Name	Definition
ComOwnDummy_Active$_{i,m,t}$	An indicator variable that is equal to one if firm i has at least one active mutual fund investor who is also a blockholder of media m as of quarter t.
LnNumComOwn_Active$_{i,m,t}$	The total number of firm i's active mutual fund investors in media firm m who are also the media firm's blockholders.
Total ComOwn_Active$_{i,m,t}$	The total ownership in media firm m of firm i's active mutual fund investors who are also the media's blockholders.
MaxComOwn_Active$_{i,m,t}$	The highest media ownership media m among the firm i's active mutual fund investors who are also the media's blockholders.
ComOwnDummy_Passive$_{i,m,t}$	An indicator variable that is equal to one if firm i has at least one passive mutual fund investor who is also a blockholder of media m as of quarter t.
LnNumComOwn_Passive$_{i,m,t}$	The total number of firm i's passive mutual fund investors in media firm m who are also the media firm's blockholders.
TotalComOwn_Passive$_{i,m,t}$	The total ownership in media firm m of firm i's passive mutual fund investors who are also the media's blockholders.
MaxComOwn_Passive$_{i,m,t}$	The highest media ownership media m among the firm i's passive mutual fund investors who are also the media's blockholders.
Average_CSS$_{i,m,t}$	The average CSS index across all news articles for for firm i as of quarter t.
Treat$_i$	An indicator variable that takes the value of 1 if firm i was held by T. Rowe Price (TRP) but not held by Preferred Group Mutual Fund (PGMF) before TRP's acquisition of PGMF, and 0 for firms that were held by both PGMF and TRP before the acquisition.
Post$_t$	An indicator variable that takes the value of 1 for the period after TRP's acquisition of PGMF, and 0 otherwise.
EA_Positive_Coverage$_{i,m,t}$	The number of positive news articles divided by the total number of articles issued by media m for firm i over the week after the firm's earnings announcement in quarter t.
EA_Negative_Coverage$_{i,m,t}$	The number of negative news articles divided by the total number of articles issued by media m for firm i over the week after the firm's earnings announcement in quarter t.
CAR$_{i,t}$	Cumulative return over the 3-day window (t-1, t+1) around a firm i's earnings announcement date in quarter t.

Variable Name	Definition
$\text{Fund\_Positive\_Coverage}_{i,m,t}$	The sum of the number of positive articles issued for fund i's portfolio firms by media m in quarter j, scaled by the total number of articles issued for fund i's portfolio firms by media m in quarter j, where each article is weighted by firms' portfolio weights in the fund.
$\text{Benchmark-adjusted\_Return}_{i,t}$	Fund i's portfolio return minus the return of the fund's Morningstar Category benchmark in quarter t.
$\text{Fund\_Flow}_{i,t}$	Fund flow is computed as $\frac{TNA_{i,t}}{TNA_{i,t-1}} - (1+R_{i,t})$, where $TNA_{i,t}$ is the total net assets of a fund at the end of quarter t, and $R_{i,t}$ is the fund's quarter-t return, net of expense.
$\text{Fund\_Media\_Ownership}_{i,m,t}$	Fund ownership in media, defined as the total holdings of fund i in media m scaled by the total shares outstanding of media m as of quarter t.
$\text{LnTNA}_{i,t}$	The log of fund i's total net assets as of quarter t.
$\text{LnNumberStocks}_{i,t}$	The log of the number of portfolio firms held by fund i as of quarter t.
$\text{ExpenseRatio}_{i,t}$	Expense ratio of fund i as of quarter t.
$\text{StockOwnership}_{i,t}$	The average ownership of fund i across its portfolio firms as of quarter t, where the ownership in a stock is defined as the fund's holdings scaled by the stock's total shares outstanding.

Table A2: **Media Selection**

In Panel A, we show the seven media outlets selected from the RavenPack database with news articles covering at least 70% of US public firms for five consecutive years. Parent Firm indicates the companies that own the media outlets. Average Coverage in RavenPack is the annual average of the percentage of US public firms covered by the media outlet's news articles in the RavenPack database. Coverage Period in RavenPack is the period in which the media outlet's articles are included in the RavenPack database. In Panel B, we show all the media outlets of three US public media firms that are included in RavenPack, representing the full list of news outlets used in our analyses.

Panel A. Media outlets covering at least 70% of US public firms

Media Outlet	Parent Firm	Average Coverage in RavenPack	Coverage Period in RavenPack
CNBC	Comcast (US public firm)	83%	2008 - 2015
Dow Jones Newswires	Dow Jones & Company (US public firm) acquired by News Corporation (US public firm) in 2007	94%	2001 - 2020
Reuters	Thomson Reuters Corporation (Canadian public firm)	92%	2007 - 2018
RTTNews	RTTNews	87%	2007 - 2014
Seeking Alpha	Seeking Alpha Ltd	94%	2012 - 2020
TMCnet	Technology Marketing Corporation	87%	2008 - 2014
Yahoo Finance	Yahoo (US public firm)	94%	2010 - 2020

Panel B. The full list of media outlets used in our analyses

US Public Media Firm	Outlets Covered by RavenPack
Comcast	CNBC
	MSNBC
	NBC News
Dow Jones & Company	Dow Jones Newswires
	Wall Street Journal
	MarketWatch
	Smart Money
	Barron's
	Financial News Online
Yahoo	Yahoo Finance
	Yahoo News

Table A3: **Robustness Check: Only Three Media Outlets**

In this table, we repeat our main analyses by only focusing on three media outlets: CNBC, Dow Jones Newswires, and Yahoo Finance. In Panels A, E, and F, the results are only based on Dow Jones Newswires instead of all the DJC's news outlets used in Tables 2, 4, and 6. In Panels B and C, we base the analyses only on CNBC, Dow Jones Newswires, and Yahoo Finance, rather than all the news outlets of Comcast, DJC, and Yahoo that are used in Table 3. The measures for firm-media common ownership are standardized to have zero means and one unit standard deviations. Robust standard errors are clustered at the firm level and reported in parentheses. *, **, and *** indicate that the coefficient is statistically significant at the 10%, 5%, and 1% level, respectively.

Panel A. Baseline Results

	Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	0.723***			
	(0.203)			
LnNumComOwn$_t$		0.520***		
		(0.127)		
TotalComOwn$_t$			0.831***	
			(0.133)	
MaxComOwn$_t$				0.673***
				(0.119)
Controls	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	275,941	275,941	275,941	275,941
Adj. R^2	0.284	0.285	0.285	0.285

Panel B. Panel Regression with Firm × Time and Media FEs

	Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	3.156***			
	(0.264)			
LnNumComOwn$_t$		1.347***		
		(0.125)		
TotalComOwn$_t$			1.067***	
			(0.102)	
MaxComOwn$_t$				1.970***
				(0.112)
Firm × Time FEs	Yes	Yes	Yes	Yes
Media FEs	Yes	Yes	Yes	Yes
Observations	220,318	220,318	220,318	220,318
Adj. R^2	0.335	0.334	0.334	0.336

Panel C. Panel Regression with Firm × Media and Time FEs

	Positive_Coverage$_{t+1}$			
	(1)	(2)	(3)	(4)
ComOwnDummy$_t$	2.143***			
	(0.255)			
LnNumComOwn$_t$		1.106***		
		(0.124)		
TotalComOwn$_t$			1.128***	
			(0.106)	
MaxComOwn$_t$				1.613***
				(0.112)
Controls	Yes	Yes	Yes	Yes
Firm × Media FEs	Yes	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes	Yes
Observations	220,318	220,318	220,318	220,318
Adj. R^2	0.337	0.337	0.337	0.338

Panel D. The Effect of the Institution Merger on Media Coverage

	Positive_Coverage		
	(1)	(2)	(3)
Treat × Post	9.427***	8.518***	
	(1.782)	(1.943)	
Treat × T - 2			0.922
			(2.241)
Treat × T - 1			0.512
			(2.282)
Treat × T + 1			10.038***
			(2.805)
Treat × ⩾ T + 2			8.503***
			(2.162)
Controls	No	Yes	Yes
Firm FEs	Yes	Yes	Yes
Time FEs	Yes	Yes	Yes
Observations	3648	3648	3648
Adj. R^2	0.425	0.427	0.426

Panel E. Fund_Positive_Coverage

	Fund_Positive_Coverage			
	t+1	t+2	t+3	t+4
Fund_Media_Ownership$_t$	2.399**	2.504**	2.700**	2.412**
	(0.978)	(0.888)	(0.928)	(0.928)
LnTNA$_t$	0.025	0.025	0.019	0.021
	(0.025)	(0.024)	(0.024)	(0.024)
LnNumberStocks$_t$	0.030	0.030	0.019	0.011
	(0.076)	(0.074)	(0.075)	(0.074)
ExpenseRatio$_t$	4.785	4.569	4.368	4.044
	(11.600)	(11.093)	(11.240)	(11.145)
StockOwnership$_t$	-0.256**	-0.246*	-0.232*	-0.233**
	(0.105)	(0.109)	(0.104)	(0.102)
Benchmark × Time FEs	Yes	Yes	Yes	Yes
Observations	101,977	101,293	100,234	98,699
Adj. R^2	0.839	0.841	0.841	0.841

Panel F. Fund Flow

	Fund_Flow			
	t+1	t+2	t+3	t+4
Fund_Media_Ownership$_t$	7.060**	9.330**	12.287***	14.660***
	(2.971)	(3.128)	(2.990)	(3.351)
LnTNA$_t$	-1.153***	-1.083***	-1.077***	-1.050***
	(0.068)	(0.060)	(0.060)	(0.062)
LnNumberStocks$_t$	0.107	0.031	0.042	-0.010
	(0.134)	(0.115)	(0.124)	(0.123)
ExpenseRatio$_t$	-226.997***	-219.435***	-204.050***	-190.420***
	(43.997)	(37.604)	(33.296)	(25.884)
StockOwnership$_t$	0.757**	0.620**	0.544*	0.485
	(0.269)	(0.262)	(0.270)	(0.270)
Benchmark × Time FEs	Yes	Yes	Yes	Yes
Observations	104,398	102,744	100,758	98,406
Adj. R^2	0.049	0.046	0.046	0.045