Johnson
Cornell
SC Johnson College of Business

Administrative Science Quarterly
2023, Vol. 68(4)956–1007
© The Author(s) 2023

asq-jscu.org

The New Invisible Hand: How Common Owners Use the Media as a Strategic Tool

Mark R. DesJardine,[1] Wei Shi,[2] and Xin Cheng[3]

Abstract

While research has uncovered an array of visible competitive dynamics, a strategic world of competition lies beneath the surface that should also be theorized and empirically traced. We investigate the strategic consequences of ''media–rival'' common ownership, in which investors own a media company *and* a non-media focal firm's rivals. We posit that focal firms receive worse coverage from media outlets when institutional investors hold substantial ownership in both a media company and the focal firm's rivals because the investors' common holdings provide them with incentives and power to enhance the competitiveness of their portfolio firms by tainting the focal firm's media coverage. We account for three moderators to show that this effect amplifies when investors have stronger incentives and power to influence the media and when media executives have incentives to cater to the interests of their investors. Using a novel dataset on common ownership of rival firms and media companies, we find support for our theory. Our study reveals a new invisible hand underlying competitive markets and offers a new view of the media as a strategic tool.

Keywords: institutional ownership, common ownership, media, competitive dynamics, competitive strategy

Competition is at the heart of organizational strategy. As outcompeting rivals is critical to improving organizational performance and the odds of firm survival,

[1] Dartmouth College
[2] University of Miami
[3] Renmin University of China

Corresponding author:
Xin Cheng, Renmin University of China, No. 59 Zhongguancun Street, Haidian District, Beijing 100872, China.

Correction (January 2024): Article updated online to remove the negative symbol in the Model 2 coefficient for *Media–rival CIO* in Table 5.

scholars have long been interested in the types and drivers of firms' competitive actions (Chen, 1996; Hambrick, Cho, and Chen, 1996; Chen and Miller, 2012). Within the field of competitive dynamics, scholars have directed most attention to the array of observable actions that firms use to directly and deliberately target and outmaneuver their rivals, including tactical actions (such as price changes and promotional campaigns) and strategic actions (such as acquisitions and alliances) (e.g., Connelly et al., 2017). More broadly, and beyond a firm's own effort, outside parties may be motivated to act on a firm's behalf to enhance its competitiveness. Governments subsidize local firms to outcompete foreign rivals, activists advocate for firms that advance their social interests, and investors share information that bolsters a firm's competitive knowledge. Driven by their motives, these outsiders use their own means and channels to directly support the competitive prospects of the firms in which they are economically or socially invested.

While scholars have paid close attention to these readily apparent competitive dynamics, there exists a strategic world of competition beneath the surface that should also be theorized and empirically traced. Academic inquiry has helped regulators and other watchdogs to identify some of the questionable channels through which certain parties have tried to orchestrate market competition in their favor. For example, firms tend to publicize negative news of their industry rivals on social media (Cao, Fang, and Lei, 2021). Yet, given the incentives some of these parties have to bolster the competitiveness of certain firms over others, amplified oversight could have the unintended consequence of encouraging such parties to become more creative in how they achieve their competition-based objectives. In particular, beyond parties relying solely on overt means to directly bolster the prospects of certain firms, powerful outsiders motivated by their own economic and/or social interests may manage competition through indirect, discreet pathways of influence. These ''invisible hands'' suggest that there is more than meets the eye in the realm of competitive dynamics.

We mobilize our invisible hand theory in the context of common institutional ownership (hereafter ''common ownership''), which occurs when an institutional investor simultaneously owns shares in at least two publicly traded firms. Increasingly, scholars have been interested in how common owners shape firm outcomes and competitive dynamics (Lewellen and Lowry, 2021; DesJardine, Grewal, and Viswanathan, 2022). Research suggests that common owners can use their ownership positions to coordinate competitive actions among competing firms, to constrain competition in ways that increase the owners' own financial returns (Connelly, Lee et al., 2019). But as statements from both the Organization for Economic Cooperation and Development (2017) and the U.S. Federal Trade Commission (2018) reflect, common owners have drawn intense regulatory scrutiny over concerns that they unfairly ''facilitate explicit forms of product market collaboration'' (He and Huang, 2017: 2674). Thus, when these owners have incentives to coordinate competition and the power to do so, they may seek to evade such scrutiny by using discreet avenues to achieve their competitive objectives.

Marshaling these ideas, we develop a theory whereby common owners use the media to act as an invisible hand in the marketplace.[1] We test this theory

[1] Our invisible hand metaphor plays on Adam Smith's famous idea, delineated in *The Wealth of Nations*, that unseen forces move the free market economy.

by investigating the influence of common ownership in a media company and non-media rival firms of a focal firm (i.e., ''media–rival'' common ownership) on the coverage the focal firm receives from the media company's news outlets. We define media–rival common ownership as the condition in which an institutional investor owns a blockholding stake (at least 5 percent of outstanding shares) in both a media company and at least one of a focal firm's industry rivals. Following existing research (e.g., He, Huang, and Zhao, 2019; Park et al., 2019; Koch, Panayides, and Thomas, 2021), we posit that a 5 percent block position provides investors with sufficient incentives (willingness) and power (ability) to express their preferences and economic interests to senior media executives in ways that alter their coverage decisions. Moreover, as executives attend closely to powerful blockholding investors because the former stand to benefit from meeting the latter's interests (Westphal and Bednar, 2008), senior media executives will also be open to adjusting their coverage decisions to satisfy these blockholders' preferences. Examining a novel dataset of firm–media outlet pairs in a wide range of industries, we find that media–rival common ownership increases the negativity of a focal firm's media coverage. We complement our theory with interviews with nine individuals in three relevant parties, including four journalists, two senior editors, and three media executives.

We broaden our theoretical framework to explore the conditions that are necessary to summon the invisible hand. Central to our theory is that incentives and power must exist for an invisible hand to operate: the intervening actors (i.e., common owners) must have incentives and power to act behind the scenes, and the recipient party (i.e., the media) must have incentives to comply. In our setting, when firms compete closely in the same product or geographic markets, common owners stand to benefit more from altering the media coverage of rivals (compared to when the firms are relatively distant rivals), and media executives are more likely cognizant of those rivalries. Therefore, we posit that common owners' influence over the media will be stronger when firms covered by the media are closer rivals. Turning to the power side of the equation, we decompose common owners by their ownership characteristics. Following the idea that long-term investors have greater influence over executives than short-term investors do (Shi, Connelly, and Hoskisson, 2017), we postulate that common owners' influence on media will be stronger for such owners with long investment horizons. Lastly, considering the incentives of the recipient party, we argue that common owners' influence over the media will be stronger when media executives have greater stock-based compensation, which makes them more attentive to investors' interests.

Our theory broadens awareness of the dynamics underlying market-based competition. Decades of scholarly attention have been devoted to understanding how firms use competitive actions to outmaneuver their rivals (Chen and Miller, 2012). Nevertheless, only recently, aided by methodological and data advancements, could we uncover how competition is shaped by forces hidden from plain sight. Our study dives beneath the surface to highlight the role of powerful outsiders who elevate the competitive prospects of some firms over others through indirect, discreet pathways of influence. While we situate our study in the context of common owners in the media, we discuss how this

theoretical framework can shed light on other invisible hands that may be at play in settings of competitive dynamics.

Our study also extends understanding of common owners' influence on interfirm competition. Existing research suggests that common ownership of industry rivals can affect competition and the similarity of competitive actions adopted by those rivals (He and Huang, 2017; Connelly, Lee et al., 2019). Our study theorizes how common owners use their ownership in the media to influence the competitiveness of other types of firms in their portfolios, expanding the effects of common ownership to between industries and uncovering a novel channel through which common owners can affect industry competition.

Finally, the context of our study allows us to advance research on the antecedents of media coverage. Picard (2011: viii) warned that ''scholars [have] ignored, or lightly attended to, the effects of economic forces'' in driving the media coverage firms receive. The few exceptions have been limited to showing how media outlets bias their coverage because of government control (Besley and Prat, 2006) or to gain advertising revenues (Reuter and Zitzewitz, 2006) or readers (Core, Guay, and Larcker, 2008). Although institutional investors have become the largest shareholders of most publicly traded media companies, investors' role in the media has been mostly overlooked. Adopting a critical lens to examine the ''economic forces''Picard (2011) warned about, our study shows that the coverage a firm receives can be subject to the economic interests of media companies' investors. Because free and independent media are vital to society and democracy, we heed recent academic calls to answer the question, ''How can we create a news ecosystem and culture that values and promotes truth?'' (Lazer et al., 2018: 1096), and we discuss the practical implications of our findings for effective governance of the media.

THEORETICAL BACKGROUND

Invisible Hands and the Economic Forces That Shape Markets

Extensive research has documented a host of visible forces that shape market competition. Of course, firms play a key role, as shown by competitive dynamics research revealing the series of actions firms undertake to elevate their competitive positions above those of their industry rivals (Porter, 1980). Beyond examining firms that directly engineer such actions as pricing changes and acquisitions, scholars have drawn attention to interventions by outside parties that visibly support certain firms over others as a mechanism that shapes market competition. For example, governments may overtly favor domestic firms by granting them special terms or subsidies to compete with foreign rivals (Impullitti, 2010), or investors may openly call for companies to adopt more aggressive competitive actions aimed at outpacing their rivals (Connelly et al., 2017).

Yet, beyond the visible forces that mold markets into what we see today, a host of hidden forces may be at play. Hidden forces—or invisible hands—exist when certain parties are sufficiently incentivized to shape market competition but in ways that conceal their influence. Such incentives are likely to manifest in various contexts, including those involving government and investor intervention. For example, an investor seen as having controversial values might wish to bring down certain companies that do not align with those values. To protect

their own reputation while advancing their values, this investor might attempt to orchestrate an attack on those companies outside the purview of onlookers.

The essence of our theory is that some parties will have economic and/or social interests in orchestrating market competition without having outsiders detect their influence. To grasp the broad foundations of this theory and envision its potential applications in myriad settings, it is necessary to recognize its four key variables: (1) the *actor* who engineers the invisible hand influence; (2) the *channel* they use to engineer that influence; (3) the *tie* they have in the channel that affords them influence; and (4) the *targets* they influence through their channel of choice. The actor in our context is the institutional investor, but it could just as well be business analysts, politicians, founders, or others who could benefit by using an invisible hand to affect competition. The channel we explore is the media, but alternative channels include other types of information intermediaries (e.g., rating agencies or online review aggregators), trusted authorities (e.g., securities analysts), celebrities, and others who can sway stakeholders and competitive dynamics by what they publish, report, or say. In our context, the actor's tie to the channel is economic (i.e., an ownership stake), but it could also be social or relational (e.g., having a close friend who is a news anchor). The targets we study are rivals of the firms in institutional investors' portfolios, but other targets in other contexts could be different joint venture partners, other investors, and government agencies. Our theory can thus be abstracted to a higher level to capture many different facets of the market's invisible hands.

The Invisible Hand of Common Owners

Like other investors, common owners shape firms' competitive moves and strategic decisions mainly through two means: (1) voice, by actively engaging management on certain issues, and (2) exit, by threatening to sell their stock when they are dissatisfied with management (Hirschman, 1970). Prior studies have shown that such influence is amplified when common owners blockhold at least 5 percent of a company's shares because such a stake provides the common owner with ''strong incentives'' (Edmans, 2009: 2481) to engage with management and because the owner's divestment can be highly costly to the firm, thereby giving the owner more power over management (Connelly et al., 2010; Edmans and Holderness, 2017). At the same time, executives have strong incentives to satisfy the interests of blockholding common owners because the latter can influence managers' compensation, job security, and future career opportunities (Coles and Hoi, 2003; Fich and Shivdasani, 2007; Fos and Tsoutsoura, 2014).

In light of their incentives and power to influence management, common owners have come under intense scrutiny for visibly exerting their hand, that is, for directly coordinating the competitive actions of firms within industries (Connelly, Lee et al., 2019). Inkpen and Sundaram (2022: 557) warned that common ownership can harm consumers because ''Shareholders with concurrent investments in competing firms will maximize portfolio returns rather than individual firm returns, leading to owners wanting firms to cooperate more and compete less.'' Though some studies have questioned whether common ownership affects competition (Lewellen and Lowry, 2021), others have cautioned against the anticompetitive effects of common owners directly coordinating

firm actions (Condon, 2020; Coffee, 2021), and policymakers have proposed regulating common ownership, including through antitrust laws to scrutinize common owners' transactions (Elhauge, 2015; OECD, 2017; Federal Trade Commission, 2018).

To evade this concern and regulatory sanctioning, common owners may seek to use more-indirect channels that allow them to maintain influence over the competitive dynamics of firms and industries to advance their economic interests—but to do so out of plain sight. Specifically, rather than directly and overtly intervening to coordinate competitive actions among portfolio firms in one industry, which is highly visible to outsiders (He and Huang, 2017), common owners may seek to leverage their ownership positions in some industries to shape the competitive prospects of firms in distant industries. Extending their influence across industry lines to elevate the competitiveness of some firms over others should help common owners avoid the more easily detectable form of coordination that they might facilitate within an industry. One attractive area in which to apply this strategy is through the media.

Although institutional investors have become the largest shareholders of most publicly traded news media companies, scholars have not yet considered whether the ownership structure of media companies can alter their coverage of certain firms. Yet, common owners might use their holdings in media companies as an indirect channel to alter another industry's competitive dynamics in a manner that improves the prospects of the non-media firms in the owners' portfolios. The lack of investigation into these possible effects of ownership in media companies is surprising given that prior research has shown that the media can be biased and subject to outside forces (Gurun and Butler, 2012; Lamin and Zaheer, 2012; McDonnell and King, 2013; Hersel, 2022), and media coverage is crucial in shaping the competitive prospects of firms (Deephouse, 2000; Graf-Vlachy et al., 2020), the central interest of common owners. Most beneficial of all, however, is that by influencing the media to shape market competition, common owners may continue to advance their economic interests without obvious detection.

The Media as a Strategic Asset

Media coverage can have profound consequences for the reputations, competitiveness, and performance of targeted firms. Ubiquitous and often used as a primary source of insights into the inner workings of firms (Deephouse, 2000), the media can shape corporate outcomes through three main channels (Graf-Vlachy et al., 2020). First, the media can change the social and psychological perceptions of their audiences so that stakeholders behave differently toward firms. For example, media coverage of products and services can change customers' purchasing behaviors (Berger, Sorensen, and Rasmussen, 2010; Stephen and Galak, 2012). Second, the media can act as a source of institutional pressure on firms (Bednar, Boivie, and Prince, 2013), questioning firms' legitimacy and altering stakeholders' social approval (Pollock and Rindova, 2003; McDonnell and King, 2013; Durand and Vergne, 2015). Corporate behaviors that the media deem inappropriate can lead to lost revenue for firms (Jonsson, Greve, and Fujiwara-Greve, 2009). Third, media coverage can release new information about firms to financial markets, such that investors trade

differently depending on the coverage a firm receives (Bednar, 2012; Astvansh, Wang, and Shi, 2022).

Through these channels, the media can shape the returns that investors realize on their investments in firms. Media coverage can change stock prices directly, as investors pay more attention to covered firms (Madsen and Niessner, 2019) and react immediately to the content of the coverage (Tetlock, 2011), or indirectly, by harming a firm's business and influencing other stakeholders' behaviors, such as customers' attitudes and purchases (Berger, Sorensen, and Rasmussen, 2010; Kaniel and Parham, 2017). Through these pathways, media coverage can have both immediate and lasting effects on firms' stock prices, as positive coverage bolsters the value of firms and negative coverage hampers their returns (Engelberg and Parsons, 2011; Dougal et al., 2012).

Given the media's importance as a strategic asset, scholars have devoted much attention to understanding the factors that shape media coverage. Some studies have shown that coverage is influenced by journalists, including their cognitive constraints and biases (Westphal and Deephouse, 2011). Others have demonstrated that firms themselves can intervene to influence media coverage in ways that advance their own interests (Lamin and Zaheer, 2012; McDonnell and King, 2013). Still other studies have indicated that media companies choose which topics to cover and how to report on them for economic reasons, seeking to grow either their revenue or their readership (You, Zhang, and Zhang, 2018; Rees and Twedt, 2022). For example, media companies may more favorably report on companies from which they receive more advertising revenue (Gurun and Butler, 2012; Beattie et al., 2021) and ''under-report or bias news that sufficiently reduces advertiser profits'' (Ellman and Germano, 2009: 680), or they may publish scandalous stories to grow their audience (Core, Guay, and Larcker, 2008; Gentzkow and Shapiro, 2008; Bednar, 2012).

Beyond revenue and readers, another economic force that might influence the coverage that media companies issue is their ownership structure. In the few studies on this topic published to date, scholars have shown that such coverage can be influenced by whether the media company is family owned or government controlled. As family-owned firms emphasize professional or community goals over profits (Edmonds, 2004), family-owned media companies tend to cover more controversial social issues compared to their publicly owned counterparts (Rohlinger and Proffitt, 2017). Research has also shown that news articles published by market-oriented media companies are more critical, accurate, and comprehensive than those issued by government-controlled entities (You, Zhang, and Zhang, 2018). In a study on ''media capture,''Besley and Prat (2006: 720) suggested that ''the government may influence news content by maintaining a 'cozy' relationship with the media.'' Although some scholars have suggested that media companies ''might sacrifice accuracy in order to appeal to individual investors'' (Ahern and Sosyura, 2015: 2054), only limited empirical evidence has linked institutional investor ownership to media coverage.

In the United States, publicly traded news media companies are owned by three major categories of investors (Picard, 1994): individuals, insiders, and institutions. Individuals are retail investors who invest on their own and do not hold substantial shares. Insiders are executives of media companies with equity stakes (a topic to which we return in our final hypothesis). Institutions are larger and more sophisticated investors that manage money on behalf of others. Whereas individuals' and insiders' ownership of media companies has

been declining, institutional ownership has been on the rise. In 1999, institutional investors owned 69 percent of the shares of the 17 publicly traded newspapers in the United States (Cranberg, Bezanson, and Soloski, 2001). By 2019, although only 15 publicly traded media companies remained, institutional investors had accumulated 85 percent ownership stakes in these companies.

HYPOTHESES DEVELOPMENT

Picard (2011: vii) contended that ''the economics and financing of media companies are the foundations upon which all media activity takes place,'' meaning that to understand the coverage decisions of media companies, ''one must understand . . . the pressures that lead executives to make choices.'' In line with this observation, extensive empirical examination has attempted to reveal the economic forces that can bias the business media's coverage of companies, though, as noted, most research so far has focused on corporate influence and/or media outlets altering coverage to grow either their advertising revenues or their audience. Beattie and colleagues (2021: 698), for instance, warned that ''powerful corporate interests have a strategic incentive to influence the media to promote friendly coverage.'' These studies have provoked ''questions about the reliability of content'' in the media (Reuter and Zitzewitz, 2006: 225) and have raised red flags about the prospect of media capture (Besley and Prat, 2006; Petrova, 2008). Beyond catering to advertisers and readers, some media outlets may account for the interests of an equally influential stakeholder group: institutional investors.

To understand how institutional investors might influence the coverage of a media outlet, one first needs to examine the corporate hierarchy within media outlets and how coverage decisions tend to be made in the media production process. In most media organizations, multiple departments exist, including administration, advertising (commercial), and editorial. The editorial department is most relevant to what a media outlet covers because it directly oversees all media coverage and content. Within this department, media outlets employ a group of editors. Excluding senior executives, the editor-in-chief has the final say on content and sometimes oversees various sub-editors, depending on the size of the media outlet, such as a managing editor and multiple category editors (e.g., business editor), who then directly oversee the journalists, correspondents, and staff writers.

Under this structure, a media outlet's coverage and content decisions are controlled by senior editors, especially the editor-in-chief, and, most high-ranking of all, senior executives. While journalists have some discretion over the articles they write, many stories will flow through these senior editors, who are overseen by senior executives (Bednar, 2012; Rees and Twedt, 2022). In terms of on-the-floor content control, the editor-in-chief is responsible for selecting which stories or articles will be published and is akin to a company's CEO, though, as one editor explained, ''sometimes the content will go even further up the chain.''[2] This editor, and others we interviewed, explained that

[2] Given the prominent role of the editor-in-chief, many commentators provided detailed explanations of this role. For a relevant explanation of the specific job duties compared to other editor positions, see https://www.indeed.com/career-advice/finding-a-job/editor-in-chief-vs-managing-editor.

most stories with sensitive content—for example, something that might affect the prospects of another company, such as coverage of a product recall—will flow through senior authorities, who determine whether it is in the media company's interest to publish those stories. Exposing the potential for intrusion into this process, Beattie and colleagues (2021) found that U.S. newspapers provide less coverage of product recalls issued by auto manufacturers that are regular and lucrative advertising clients of the media outlets.

The organizational structure of media companies can allow their ownership to influence their coverage and content decisions in two ways: (1) to some extent, through investors voicing their interests regarding a media outlet's content coverage decisions, as a large advertising client might do regarding coverage of its product recalls (Reuter and Zitzewitz, 2006); and (2) more subtly, through media executives making coverage decisions that seek to placate powerful institutional investors. To be clear, we do not know exactly how these mechanisms operate at the micro level, but extant research and our field work lead us to consider several possibilities.

Influencing media content decisions likely begins with institutional investors using one-on-one meetings to cultivate close relationships with senior executives, which investors could exploit to subtly insinuate their preferences into the organizational hierarchy. During these meetings, which typically occur either in house at a firm's headquarters or at the investor's office during road shows, ''firm management usually meets with the portfolio managers who directly make decisions about whether to buy or sell a position in the firm'' (Solomon and Soltes, 2015: 331). Portfolio managers and other institutional investor affiliates are free to share what they want with executives during these meetings. Indeed, while Regulation Fair Disclosure (Reg FD) was enacted to limit the unfair exchange of information from executives to select institutional investors, it does not govern the information exchange from institutional investors to executives. As one investor relations officer we interviewed explained, this one-sided regulation means that ''PMs [portfolio managers] will be very open about what they think management should do on a variety of fronts: use of capital, bonus structures, approach to a market or a competitor, who to buy or what to sell, what they own or have an interest in. Nothing is really out of bounds for them.'' As most portfolio managers receive substantial performance-based compensation tied to their fund's performance, with bonus/salary ratios often exceeding 200 percent for reaching investment return targets, these individuals have strong incentives to use these meetings to advance their economic objectives (Ma, Tang, and Gomez, 2019).[3]

Portfolio managers of institutional investors with large holdings may use these private meetings to share information that promotes their economic interests and preferences for media coverage. Although the regulatory

[3] Despite Regulation Fair Disclosure, which restricts the information executives can share with select institutional investors, multiple studies have shown that investors can gain material knowledge during one-on-one meetings with management that allows them to make more informed trades (e.g., Becht, Franks, and Wagner, 2021). For example, Solomon and Soltes (2015: 329) explained that their analysis ''suggests that private meetings confer benefits to a select group of investors who are able to gain access to management.'' Hence, without such regulations governing what institutional investors can say, it becomes highly plausible that during such meetings portfolio managers and other institutional investor affiliates could pass information to executives to further promote the former's interests.

environment does not preclude overt influence and direction, we expect such influence to occur more covertly through the subtle sharing of information. For example, Lowe's faced strong backlash for withdrawing its advertising from the U.S. reality television show *All-American Muslim* in 2011. A media investor with shares in The Home Depot but not in Lowe's might have oriented a media executive toward the Lowe's story, perhaps by making a passing remark during a private meeting such as, ''Did you hear about the Lowe's scandal?'' or by sending the executive information about the event. Such information exchange might even take place subconsciously, as portfolio managers are biased by their familiarity with the companies in their portfolios and against their rivals. Noting media executives' potential receptivity to such cues, one journalist informed us, ''There are different incentives at the top about what's covered, whether it's business, politics, or whatever. And things happen behind closed doors that influence what gets published at the end of the day.'' Although we expect that many media executives will be unreceptive to direct persuasion techniques, they could be receptive to these more-subtle forms of influence.

At higher levels of the hierarchy in institutional investment firms, general partners (or principals) may go beyond private meetings and subtle information sharing to exert their influence by obtaining board representation and/or placing insiders directly in a media company in which they have ownership. Institutional investor Alden Global Capital did both. After controlling two seats on the board of Tribune Publishing (owner of the *Chicago Tribune*) since 2019, Alden took a further step in mid-2021 by purchasing a controlling stake, which enabled this investor to install the president of Alden, Heath Freeman, as CEO of the media company. Alden's ownership enabled the investor to have direct authority over internal decision making, which it leveraged to install its own loyal editors. As an executive at the *Chicago Tribune* at the time recalled to us,

> To get their way, investors will replace the people they don't like where they can. It happened at the *Chicago Tribune* in the last year. We had an editor [-in-chief] named Bruce Dold, R. Bruce Dold, D-O-L-D. He was a veteran newsman and Pulitzer Prize winner and Alden, when they took control of the *Tribune*, he was terminated, and his top deputy was terminated, and another editor was selected. That was never explained. Alden didn't say, ''Here's our agenda, here's our reasoning, here's why we did that.'' Everybody was left to read the tea leaves, but the obvious implication that we all in the newsroom took away from this tragedy is that Bruce was much more apt to stand up against these guys. Mostly in terms of hiring and firing and fighting for the robustness and the independence of the newsroom. . . . But both him and his top right-hand man, who day-to-day really managed the news, were both terminated, and they were replaced by a guy who was much more corporate and willing to manage at the directive of the investor, a guy who has publicly said he's just willing to manage with what's on the four corners of his desk.[4]

Compounding this deliberate and active form of influence by institutional investors, senior media executives may filter their content decisions through the lens of major investors with whom they have built relationships. As institutional investors have the power to discipline executives whom they see as unfit, perhaps even wielding near-full decision-making authority (as when the

[4] For media coverage of this event, see https://www.nytimes.com/2020/02/27/business/media/chicago-tribune-editors.html.

Alden president became the media company's new CEO), senior executives and editors will be motivated to please their investors by attending to their interests (Brown et al., 2019), just as they do with advertisers (Reuter and Zitzewitz, 2006; Beattie et al., 2021). In the media industry, executives may do this by ensuring that the coverage their outlets publish advances—or at least does not undermine—their investors' primary economic interests, such as by covering more positive news for some firms and more negative news for others. From a human resources perspective, shareholder-friendly senior executives may also internally promote editors who are more sensitive to shareholder interests, as the *Chicago Tribune* example suggests.

The ongoing concentration of the media industry has made the hand of institutional investors and senior media executives in coverage decisions even more powerful. As one interviewee explained, those at the top of the media hierarchy have undue influence because they control the career mobility of journalists and editors:

> Old-time editors, who stick up to management, are gone. As journalism has disappeared over the past decades, management has gained more influence because editors and journalists are now entirely dependent. There's places still that have killer editors who are like, ''I don't care what you think,'' and will lose their job over publishing that story—though that's not that common in the industry because we're seeing so much attrition and turnover and fewer openings. All those really great old-timey editors are just not really around anymore, and the new guys know they won't keep their job if they don't play by the rules.

Such career pressures, we heard from our interviewees, limit journalists' and editors' ability to remain independent in their reporting. If senior executives or an editor-in-chief asks for content changes or certain companies to be covered and others not, then journalists and editors who do not comply risk losing their jobs, knowing that fewer options elsewhere will be open to them than in the past. Along these lines, Gentzkow and Shapiro (2008) noted that the loss of independently owned media outlets has amplified media bias and distortion. An editor we interviewed explained the tension: ''Even as an editor, though I wasn't flat-out told that I couldn't run the editorial I wanted, I was very much discouraged from doing so, which I agreed to because I couldn't take that career risk.''

As the affiliates of institutional investors use their power to angle media coverage decisions in their favor—through private meetings, board seats, and appointing loyal insiders—and media executives cater to the interests of their most powerful investors, the coverage decisions of media companies reflect those interests. In particular, common owners have incentives to leverage the media as an indirect channel to ensure more negative coverage of the rivals of other companies in their portfolios. Media executives do not need to be aware of the exact competitive landscapes in which their investors' portfolio firms compete; instead, just by investors priming executives to follow certain directions more than others, media coverage could change in line with common owners' interests.

The strategy of using the media to elevate the relative competitiveness of portfolio firms above that of their rivals aligns with existing research, which shows that firms often publicize negative news about rival firms as part of their

own competitive strategy (Gentzkow and Shapiro, 2008; Blasco, Pin, and Sobbrio, 2016). Using a sample of 649 Twitter messages posted between 2009 and 2017, Cao, Fang, and Lei (2021) showed that firms tweet adverse news about industry peers. Just as firms use messaging as a direct channel to their advantage, investors with common ownership in the media can employ a competitive media strategy as an indirect channel. As the media coverage of rivals of portfolio firms becomes more negative, the common owner of the media and focal firms will benefit from the improved investment returns brought by those firms' competitive repositioning, while executives of media companies benefit from pleasing their investors.[5] These observations lead to the following hypothesis:

> **Hypothesis 1 (H1):** The negativity of a media outlet's coverage of a focal firm is positively associated with the level of common ownership of the firm's rivals and the media outlet. Specifically, when an investor owns more shares in rival firms and in the media outlet, the focal firm's media coverage from that outlet will be more negative (less positive).

Figure 1 shows how this process works, using the home improvement industry as an example.

Note that research on negative spillovers (Gleason, Jenkins, and Johnson, 2008; Paruchuri and Misangyi, 2015; Naumovska and Zajac, 2022) has shown that firms in an industry experience co-movements in stock prices because of investors' tendency to generalize behaviors across industry peers, which could undermine the validity of the competitive media strategy we theorize. However, such spillovers occur predominantly for significant events expected to cause jolts to investors' sensemaking and create widespread corporate reputational harm, such as financial restatements (Shi, Wajda, and Aguilera, 2022). General changes in the overall media coverage of certain companies are unlikely to cause such spillovers. Moreover, even if such spillovers do occur, the relative increase in competitiveness that firms can experience due to more negative coverage of their rivals should still present net benefits for focal firms.[6] Indeed, Naumovska and Lavie (2021) suggested that sophisticated institutional investors will see the net benefit of the competition effect beyond potential reputational spillovers.

Our theory follows a two-way street: common owners angle media companies to issue certain coverage, while senior media executives, attentive to the power their investors wield, filter coverage decisions in line with their common owners' economic interests. For this logic to hold, three conditions must exist: common owners need to have incentives to influence the media (condition 1)

[5] Investors could also potentially influence their owned media outlets to cover portfolio firms in a more positive way. We do not theorize about this relationship for two reasons. First, institutional investors seek to influence the media coverage of their portfolio firms' rivals because the investors' more distal relationship with the rivals can help these investors mitigate detection of their hand in the media, which is likely their utmost concern. Second, given the negative returns associated with adverse media coverage, institutional investors will be less likely to invest in companies with negative media coverage and more likely to invest in companies with relatively positive coverage. This stock selection makes it difficult to tease apart the extent to which investors' ownership in media outlets or those investors' stock selection influences a firm's media coverage.

[6] We thank an anonymous reviewer for raising this important caveat and suggesting the logic for why the ''competition effect'' would offset potential negative reputational spillovers.

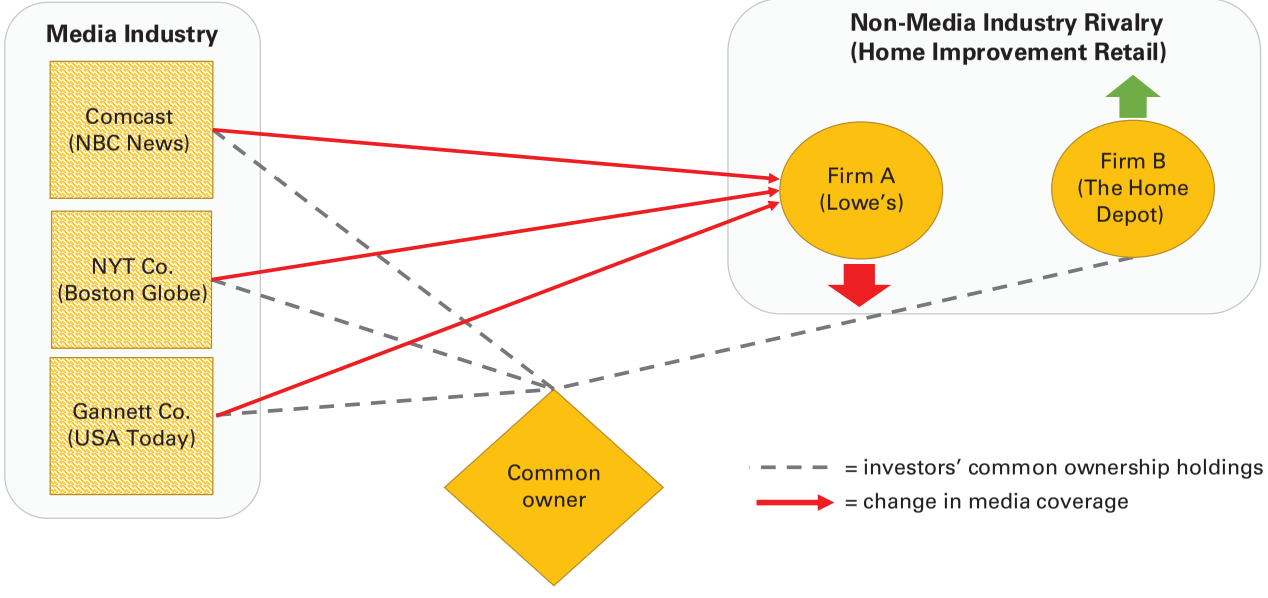
Figure 1. Mapping the Influence of Common Institutional Ownership in the Media

Step 1: Common owner influence in the media

Common owner encourages media outlets to cover more negative and fewer positive news events about a rival firm. Senior executives in media outlets may benefit by altering coverage of firms to satisfy the common owner's interests.

Step 2: Media coverage change of select rival firms

Competitive position of the firm targeted by the media competitive strategy (e.g., Lowe's) is hampered, and relative position of its competitors (e.g., The Home Depot) improves, financially benefiting the common owner.



and the power to do so (condition 2), and media executives need to recognize their investors' economic interests and have incentives to cater to those interests (condition 3). To extend our theoretical framework and probe the underlying mechanisms, we incorporate three additional hypotheses that act as levers on one or more of these conditions. We begin by exploring the market overlap of non-media focal firms in the common owner's portfolio and their rivals, which affects common owners' incentives to influence the media (condition 1) and the salience of these rivalries to media executives (condition 3).

Amplifying Influence When Portfolio Firms and Their Rivals Are Close Competitors

Market overlap, in terms of both product similarity (Hoberg and Phillips, 2016) and geographic overlap (Haveman and Nonnemaker, 2000), influences the intra-industry rivalry between two firms and its intensity and saliency. Industry rivals with similar products or overlapping geographies may adopt the same technologies, recruit employees with similar skills, and target the same types of customers (Chen, 1996). Whereas some industry rivals share highly similar product portfolios or market geographies, others compete in an industry but have considerably different product portfolios or geographies (Connelly et al., 2020). In the retail hardware industry, for instance, Lowe's overlaps intensely in terms of product offerings and geographic span with The Home Depot but has much less product similarity with the Tractor Supply Company, another major hardware retailer, and Lowe's has less geographic overlap with regional hardware retailers that operate primarily in rural locations. A high level of product similarity or geographic overlap between two industry peers indicates that these companies compete more directly for the same customers and business, which creates intense and recognizable rivalries (Hsieh, Tsai, and Chen, 2015).

Common owners stand to profit more from boosting the competitiveness of firms in their portfolios and hampering the competitiveness of rival firms when their portfolio firms and their rivals have higher market overlap in terms of either product similarity or geographic markets. In such settings, as customers and employees can easily switch between firms to meet their needs, one firm's gain will often come directly from a rival's loss. When such interdependence prevails in the market, institutional investors can constrain the competitiveness of their portfolio firms' rivals to further strengthen the relative position of their portfolio firms in that market, amplifying their own investment returns. Accordingly, when institutional investors have common ownership in media companies, portfolio managers and general partners can use their influence to profit by persuading media executives to publish unfavorable news about their portfolio firms' closest product and geographic market rivals. While the market overlap will not influence the investors' power to enact this strategy, it will increase their incentives to do so.

In terms of the prior example, as more negative news coverage undermines the competitive position of Lowe's, investors in The Home Depot stand to benefit as consumers shift their purchases away from this highly similar hardware retailer. By comparison, The Home Depot's investors would benefit much less from undermining Tractor Supply Company or regional hardware stores, which have fewer overlapping products and geographies with those of The Home Depot. Common owners of media companies thus have stronger incentives to

direct their competitive media strategy against non-media rivals whose market overlap is greatest with the firms in their portfolios.

Additionally, since rivals with high product or geographic overlap will naturally appear more similar to the common owners' portfolio firms, their mutual presence in a market or region will make the competition between the two firms more salient. We expect that these similarities will make senior media executives more keenly aware of such rivalries and thus able to filter media content consciously in ways that align with their largest institutional investors' preferences against those rival firms. For example, a media executive who is aware that their largest investor is also a major owner of The Home Depot should readily recognize the opportunity to benefit that investor by reporting negative news about Lowe's. By comparison, for rivals with lower product similarity or that operate in fewer overlapping geographic markets, the competitive connection is more likely to be missed, impeding the likelihood of media coverage changes manifesting from the media executives' own opportunism. Taken together, these observations suggest the following hypotheses:

Hypothesis 2a (H2a): The positive relationship between rival firms' investors' media ownership and the media coverage negativity of a focal firm will be stronger (resulting in more negative coverage) when the product similarity between the firm and its rivals is higher.

Hypothesis 2b (H2b): The positive relationship between rival firms' investors' media ownership and the media coverage negativity of a focal firm will be stronger (resulting in more negative coverage) when the geographic market overlap between the firm and its rivals is larger.

Regarding H2b, since stock prices of firms headquartered in the same geographic area may co-move (Pirinsky and Wang, 2006; Paruchuri and Misangyi, 2015), the negative media coverage of rival firms could undermine the standing of a focal firm in the common owner's portfolio, harming their investment objectives. Yet, such coverage changes may still occur if media executives act in ways that they believe will promote their investors' interests, as our theory suggests. In other words, we expect that media executives will be intuitively guided by the salience of rivalries, which increases through geographic overlap, and less conscious of the potential for the co-movement of stock prices within geographic regions.

Catering Media Coverage to Long-Term Institutional Investors

Based on their investment orientation, institutional investors will have varying degrees of power to influence the media (condition 2), and media executives should differ in their incentives to act in investors' interests (condition 3). A focal characteristic that shapes an institutional investor's relationship with a portfolio firm is its investment horizon, defined as the average length of time an investor holds on to a firm's stock.

Institutional investors with long investment horizons have more power to influence the coverage decisions of media executives. Holding shares over an extended period gives long-term institutional investors more opportunities to interact with a portfolio firm's managers and to build close relationships with those individuals (Cunningham, 2020). Through these interactions, long-term

investors gain more opportunities to strategically share information with media executives that can guide their subsequent coverage decisions. Moreover, since long-term investors are typically seen as quality shareholders with the ability to offer unique insights, their investment (and divestment) decisions are typically valued by other investors, and some shorter-term investors mirror their portfolios (Connelly, Shi et al., 2019). By virtue of their ability to guide the investment decisions of the broader market, long-term investors have considerable power to influence media executives' decisions through the threat of exit, which (if followed through) can significantly impact the affected media companies' stock prices (and the media executives' financial welfare). These factors give long-term investors relatively more power to implement a competitive media strategy.

Naturally, media executives will be more accommodating to the economic interests of institutional investors with long investment horizons. An added benefit of long-term holdings is that they provide media executives more time, by engaging with the same institutional investor over an extended period, to better understand a common owner's broader portfolio, including their holdings in other companies, and to realize how changes in media coverage can either promote or hinder that investor's economic interests.

Putting these arguments together, we posit that when institutional investors can better direct media executives toward the former's economic interests and incentivize the executives to cater to those interests, these common owners with long investment horizons will be especially able to implement a competitive media strategy. This leads to our next hypothesis:

> **Hypothesis 3 (H3):** The positive relationship between rival firms' investors' media ownership and the media coverage negativity of a focal firm will be stronger (resulting in more negative coverage) for common owners with long investment horizons.

Varying Incentives of Media Executives

Lastly, to further reveal the underlying incentive mechanism on the media side of our theory (condition 3), we consider how our hypothesized relationship will change with the pecuniary incentives of media executives. The economic incentives that executives can use to please their investors vary considerably. Whereas a high degree of stock-based compensation ties the wealth of some media executives tightly to their firm's stock price, a low degree of stock ownership relieves executives of this dependency. Such differences in compensation structures differentially shape media executives' motivation to please their investors. Specifically, executives with greater stock-based incentives relative to their total compensation will be more strongly motivated to satisfy their larger investors' interests, since divestment by those investors can cause greater personal financial loss to the executives by reducing the value of their stock-based compensation (David, Kochhar, and Levitas, 1998). By comparison, while media executives with little of their wealth tied to their firm's stock price through stock rewards will surely still care about their investors' interests, they will have a weaker motivation to closely attend to those interests.

The influence of common ownership on a media outlet's coverage will increase in outlets where senior media executives have more stock-based

incentives relative to their total compensation. In such contexts, media executives will pay closer attention to the major investors that hold their company's stock. Such awareness can come from purchasing third-party investment community reports and spending relatively more hours digesting investor holdings data with investor relations personnel. The management advisory firm Rivel, for instance, sells complete investor holdings reports to companies (including other companies in their investors' portfolios) and surveys of how those investors view the company and its managerial effectiveness. Economically incentivized executives will not only be relatively more willing to purchase such investment reports but will also spend more time poring over ownership data to identify their major investors and to determine those investors' other holdings and interests, heeding the advice to ''evaluate which institutional investors own shares in competing and peer companies'' (Oram, 2016: 20). Moreover, once aware of their major investors and their other holdings, executives with stronger economic incentives will seek more information from these investors directly. In one-on-one investment meetings, an executive with sufficient motivation to please an investor may make deeper inquiries about the investor's other holdings or ask about the investor's perspective on the outlet's media coverage.

Armed with more information about who their major investors are and where their economic interests in other companies lie, and more intensely motivated to ensure that those investors' interests are addressed, media executives with greater stock-based compensation will exert relatively more effort to filter coverage decisions through the lens of their common owners. As a result, media companies in which executives have higher relative stock-based compensation will engage in more negative coverage of the rivals of their common owner investors' portfolio firms, compared to media companies in which executives have lower relative stock-based compensation:

> Hypothesis 4 (H4): The positive relationship between rival firms' investors' media ownership and the media coverage negativity of a focal firm will be stronger (resulting in more negative coverage) in media outlets controlled by media companies in which executives receive more stock-based incentives relative to their total compensation.

METHODS

Data

We collected data from multiple sources to construct our sample. First, we collected media coverage data from RavenPack. Since RavenPack covers most major media sources beginning in 2007, our sample period ranges from 2007 to 2019. As we describe in the construction of our independent variable, we identified a focal firm's industry rivals based on the Text-based Network Industry Classification (TNIC-3) developed by Hoberg and Phillips (2016). We obtained firm financial data from Compustat, stock data from the Center for Research in Security Prices (CRSP), institutional ownership data from Thomson Reuters 13F Holdings, CEO compensation data from ExecuComp, analyst coverage data from Institutional Brokers' Estimate System (I/B/E/S), and litigation data from Audit Analytics.

Our sample started with the 9,357 U.S. firms covered by Compustat, most of which are also covered by CRSP. After merging the Compustat universe with RavenPack, we retained 4,458 firms, a number reduced to 4,152 firms after merging the dataset with institutional ownership data from Thomson Reuters 13F Holdings. Since our analyses required a dyadic dataset, we used the 4,152 firms for which we had data to create 109,965 firm–media outlet dyads in our final sample, which encompasses all media outlets owned by the 15 publicly traded media companies in the United States in 2019.

Dependent Variable: Media Coverage Negativity

Our dependent variable captures the sentiment of a firm's media coverage as reported by a media outlet. To create this variable, we first identified the publicly traded parent companies of each media outlet in our sample. RavenPack identifies media outlets at the division level, which differentiates the *Wall Street Journal* from the *Wall Street Journal Online*, for example. Yet, the coverage of a firm by different divisions of one media outlet is highly correlated, leading us to identify news reporting at the media outlet level. We used manual online searches to identify the names of parent media companies owning each media outlet covered by RavenPack. Many media outlets (e.g., *Bloomberg Businessweek*) are owned by private media companies that do not have publicly traded shares; thus, they are not commonly owned and are excluded from our sample.[7] We also excluded media outlets that appeared for only one year in RavenPack given that we conducted firm–media outlet dyadic fixed-effects regressions, which requires at least two years of data. Table 1 shows the names of the media outlets in our sample and their parent media companies.

Next, we identified all relevant news articles on a firm reported by each media outlet in each year. Using RavenPack's relevance score, we retained only articles with the maximum value of 100, which ensures that the firm identified is the central focus of the article (Gao, Parsons, and Shen, 2018; Bushee, Cedergren, and Michels, 2020).[8] We then used the Event Sentiment Score (ESS) from RavenPack to measure the sentiment of each news article, which ranges from 0 to 100. The ESS is generated by analyzing the content of news, using three methodologies: traditional language analysis, expert consensus, and market response analysis.

In this process, all news articles about a firm published by different media outlets are classified into a set of predefined categories related to business activities. The categories cover different types of corporate news events such as earnings announcements, M&As, product services, equity actions, analyst ratings, and labor issues. RavenPack then uses textual analysis to quantify the ESS for each news category in two steps. First, the ESS range for each category is bounded by a consensus-based scheme developed by finance and

[7] Thanks to an anonymous reviewer's suggestion, we examined the potential bias of excluding private media outlets from our sample. As reported in Table A1 in the Online Appendix, we found no statistically significant difference between the media coverage negativity of public media outlets in our sample and the coverage of excluded private media outlets.

[8] For instance, for a news article with the headline "IBM in software pact with Raytheon units for Navy program," IBM and Raytheon will each have a relevance score of 100, as both have a central role in the news story.

Table 1. Coverage of Media Outlets and Public Media Companies in the United States Between 2007 and 2019

Example Media Outlets	Parent Media Company	Number of News Articles	Number of Firms Covered
CNBC	Comcast Corporation	206,453	3,540
NBC	Comcast Corporation	5,365	298
Marketwatch	News Corporation	88,956	2,813
Wall Street Journal	News Corporation	65,003	2,803
Barrons	News Corporation	13,613	692
New York Post	News Corporation	2,061	164
Houston Chronicle	Hearst-Argyle Television Inc.	59,795	2,807
San Francisco Chronicle	Hearst-Argyle Television Inc.	48,148	2,548
Fox	Fox Corporation	43,693	1,452
CNN	Time Warner Inc.	40,982	1,968
Boston Globe	New York Times Company	30,514	1,703
Miami Herald	McClatchy Company	25,534	1,062
Denver Post	MediaNews Group Inc.	21,719	1,246
ABC	The Walt Disney Company	20,557	887
The New York Times	New York Times Company	19,638	560
Time	Time Inc.	10,326	328
Chicago Tribune	Tribune Publishing Company	9,564	392
Los Angeles Times	Tribune Publishing Company	9,372	342
CBS	CBS Corporation	8,429	232
San Jose Mercury News	MediaNews Group Inc.	7,568	393
My San Antonio	Hearst-Argyle Television Inc.	6,948	510
Dallas Morning News	A. H. Belo Corporation	3,272	144
American Banker	Source Media Inc.	2,862	259
The Arizona Republic	Gannett Co. Inc.	2,568	209
Rochester Democrat and Chronicle	Gannett Co. Inc.	223	29
USA Today	Gannett Co. Inc.	13,157	383

economics experts familiar with various firm-specific events and corresponding market reactions. Second, through a proprietary sentiment analysis algorithm, the ESS window for each category is further adjusted based on a series of factors disclosed in the content of news articles, such as magnitudes (e.g., ratings), comparative values, and words that convey sentiment.

The use of the ESS to measure news sentiment has three advantages in our context. First, the ESS captures the differences in media reporting sentiment that, in many cases, will be discernible to readers. For example, in February 2019, Activision Blizzard announced a new layoff plan, which was reported differently by CNN and Fox News. The CNN headline exclaimed, ''Fortnite effect strikes again: Activision lays off 8% of its workforce,'' whereas Fox's headline noted, ''Activision to lay off 800 workers as video game sales drop.'' Given that the Fox headline provides context for the layoffs, audiences may perceive less negative sentiment from the Fox story than from CNN's coverage. Such nuanced differences, which can be difficult to measure using traditional text analysis tools, are captured by the ESS measure. In this case, the ESS is 13 for CNN (more negative) and 43 for Fox (less negative).

Second, the ESS measure is not assigned at the discretion of individual journalists but determined by outside independent experts, which helps ensure

that our measure is comparable across the different media outlets in our sample. Third, a news article's ESS is determined by the type of event to which the news article pertains and the content of the news article. Whereas media executives and editors may not have direct influence on a news article's content, they have discretion in deciding which types of events will be covered, consistent with our arguments. Given the advantages of ESS, prior research has shown that a firm's ESS can drastically influence the perceptions and reactions of audiences (e.g., Kolasinski, Reed, and Ringgenberg, 2013), including those of investors (Gao, Parsons, and Shen, 2018; Bushee, Cedergren, and Michels, 2020)—an idea central to our theory.

To capture the sentiment of each media outlet's coverage for each firm, we calculated the annual ESS average for all news articles about each firm reported by the outlet each year.[9] Since this annual ESS average captures coverage positivity, we subtracted the score from 100 to measure a firm's *Media coverage negativity* by a media outlet, and we scaled the score by 100 so that the score ranges from 0 to 1, where higher values indicate more negative media coverage. Table 2 provides examples of news headlines from different event types to illustrate the link among the news content and *Media coverage negativity* and the ESS. For example, as shown for earnings news in Panel A of Table 2, *Media coverage negativity* ranges from 0.12 to 0.86 (the ESS ranges from 14 to 88) for this event type, with each article's value determined by the sentiment of the reporting. The second headline (''Berkshire Hathaway profit down 9 pct'') received a value of 0.59 for *Media coverage negativity* (the sample mean plus one standard deviation) and a value of 41 for *ESS*. In contrast, the fourth headline (''Marriott first-quarter net income rises 3%'') received a value of 0.47 for *Media coverage negativity* (the sample mean) and a value of 53 for *ESS*. The fifth headline (''Nordstrom's 3rd-quarter profit rises 15 percent'') scored 0.35 for *Media coverage negativity* (sample mean minus one standard deviation) and 65 for *ESS*. The mean value of *Media coverage negativity* is 0.470 (i.e., an ESS of 53), suggesting that there is more positive news than negative news on average.

Independent Variable: Media–Rival Common Institutional Ownership

After identifying each focal firm's industry rivals, we identified and counted all institutional investors who have a blockholding stake in both an industry rival and a media company, capturing what we call media–rival common ownership. Following our theory, we required institutional investors to hold more than 5 percent of outstanding shares in (i.e., ''blockhold'') each entity (Dharwadkar et al., 2008; Bharath, Jayaraman, and Nagar, 2013; Bergh and Sharp, 2015; Kang, Luo, and Na, 2018; Cheng, Guldiken, and Shi, 2022). The median number of common blockholders for each firm is two, and the median number of rival firms blockheld by those investors is nine, making it plausible that executives could become aware of those investors and the rival firms in their portfolios.

[9] We also measured media coverage negativity at the parent media company level rather than at the media outlet level and conducted analyses at the firm–media company level. As shown in Model 1 of Table A2 in the Online Appendix, these analyses also supported our hypotheses.

Table 2. Examples of Media Coverage Negativity

Panel A. Examples of Earnings-Related News

Headline	Subject of News	ESS	Media Coverage Negativity
Bank of America profit falls 77%; UBS details failings	Bank of America Corp.	14	0.86
Berkshire Hathaway profit down 9 pct	Berkshire Hathaway Inc.	41	0.59
CVS Caremark 2Q profit slips 1 percent	CVS Caremark Corporation	49	0.51
Marriott first-quarter net income rises 3%	Marriott International Inc.	53	0.47
Nordstrom's 3rd-quarter profit rises 15 percent	Nordstrom Inc.	65	0.35
Starbucks Q4 profit up 86%, helped by instant coffee	Starbucks Corp.	88	0.12

Panel B. Examples of Product-Related News

Headline	Subject of News	ESS	Media Coverage Negativity
Kellogg recalls some Eggo waffles over Listeria fear	Kellogg Co.	29	0.71
Google Fiber pauses wired internet expansion, eyes wireless in Chicago	Alphabet Inc.	36	0.64
AT&T launches new DirecTV app that streams live TV, recorded shows	AT&T Inc.	64	0.36

Panel C. Examples of Executive-Related News

Headline	Subject of News	ESS	Media Coverage Negativity
CEO of Chesapeake Energy, Aubrey McClendon dies in car crash	Chesapeake Energy Corp.	31	0.69
Barnes & Noble ousts CEO after a year	Barnes & Noble Inc.	36	0.64
Disney COO Staggs, seen as next CEO, to step down	Walt Disney Co.	44	0.56
Pfizer names new executives to run units after Allergan deal	Pfizer Inc.	54	0.46

Panel D. Examples of Stock-Related News

Headline	Subject of News	ESS	Media Coverage Negativity
HollyFrontier stock drops on shrinking refining margins	Holly Corp.	40	0.60
USG shares jump following upgrade	USG Corp.	63	0.37

Panel E. Examples of Mergers and Acquisitions (M&A)–Related News

Headline	Subject of News	ESS	Media Coverage Negativity
Williams rejects ETE bid, considers possible sale of company	Williams Companies Inc.	18	0.82
Pfizer, Allergan to terminate merger	Pfizer Inc./Allergan Inc.	21	0.79
Wal-Mart completes $3 billion-plus purchase of Jet.com	Wal-Mart Stores Inc.	49	0.51
Staples and Office Depot finalize merger agreement extension	Staples Inc./Office Depot.	66	0.34
Shire completes acquisition of Dyax	Dyax Corp.	76	0.24

(continued)

Table 2. (continued)

Panel F. Examples of Business Contract–Related News

Headline	Subject of News	ESS	Media Coverage Negativity
Baker Hughes outlines cost cuts, as Halliburton deal dies	Halliburton Co.	31	0.69
Boeing seals nearly $17 billion deal with Iran	Boeing Co.	69	0.31

Panel G. Examples of Dividend-Related News

Headline	Subject of News	ESS	Media Coverage Negativity
National Oilwell Varco slashes dividend amid oil market turmoil	National Oilwell Varco Inc.	19	0.81
T-Mobile announces quarterly preferred stock dividend	T-Mobile US Inc.	50	0.50
Honeywell raises dividend 15%	Honeywell International Inc.	65	0.35
Walmart raises annual dividend to $2.00 per share, representing the 43rd consecutive year of dividend increases	Wal-Mart Stores Inc.	81	0.19

Panel H. Examples of Legal Issue–Related News

Headline	Subject of News	ESS	Media Coverage Negativity
Lawsuit accuses Domino's Pizza of ''rampant wage violations''	Domino's Pizza Inc.	22	0.78
Wal-Mart sues Visa in dispute over chip-enabled debit cards	Wal-Mart Stores Inc.	44	0.56
Prosecutors drop drug trafficking case against FedEx	FedEx Corp.	79	0.21

In measuring our independent variable, we excluded investors that simultaneously own the focal firm, its rivals, and a media company because these investors, by virtue of owning all three entities, have unclear incentives to influence media coverage of the focal firm.[10] Our independent variable, *Media–rival CIO* (common institutional ownership), equals

$$\frac{1}{N}\sum\left(\frac{\sum_k Ownership_{p,k}}{Ownership_p} \times \frac{\sum_k Ownership_{m,k}}{Ownership_m}\right) \quad (1)$$

where N denotes the total number of rival firms, k denotes the common blockholding institutional owner, p denotes the rival firm, and m denotes the media company owning the media outlet.

To identify rival firms, we used the TNIC-3 methodology and respective database (Shi, Zhang, and Hoskisson, 2017; Connelly et al., 2020). Hoberg and Phillips (2016) identified pairs of competitors by using a firm-by-firm product similarity score derived from analyzing the text of firms' product descriptions in their 10-K filings. Firms are legally required to report accurate descriptions of

[10] These investors may have incentives to influence media firms to increase negative coverage of focal firms as they have ownership in the rivals of the focal firms. At the same time, they may be motivated to reduce negative media coverage of the focal firms because they have ownership in these firms. As shown in Table A3 in the Online Appendix, our results are largely the same when we do not exclude these investors in calculating *Media–rival CIO*.

their key products in these 10-K filings. In a first step, Hoberg and Phillips (2016) developed a set of nouns that reflected product characteristics. They limited this list to nouns and proper nouns that appeared in more than 25 percent of all product descriptions, to avoid common words, and they omitted geographic words, including county, state, and country names, as well as the names of the top 50 cities in the United States and in the world. Next, to calculate the product similarity between firms *i* and *j*, they took the text in each firm's product description and constructed a binary vector summarizing its usage of English words. For each firm *i*, there will be a binary vector P_i, with each element taking a value of 1 if the associated word is used in the given firm's product description and 0 otherwise. The frequency vector V_i is then normalized to unit length, using the formula $V_i = \frac{P_i}{\sqrt{P_i * P_i}}$. The product similarity of firms *i* and *j* is measured as the dot product of their normalized vectors: $Product\ similarity_{i,j} = (V_i \times V_j)$.

The TNIC-3 considers two firms to be rivals if their pairwise similarity score exceeds 21.32 percent, so that the classification has the same coarseness as that using three-digit SIC codes. Specifically, as the likelihood of two randomly drawn firms from the Compustat universe being in the same three-digit SIC industry is 2.05 percent, the 21.32 percent threshold ensures that the likelihood of two randomly drawn firms being deemed rivals is also 2.05 percent. For any two firms included in the TNIC-3 database, their score indicates the amount by which the pairwise similarity score exceeds the 21.32 percent threshold. For example, if the actual pairwise score of Firm A and Firm B is 25 percent, the reported score in the TNIC-3 database would be 3.68 percent (= 25% – 21.32 percent).

There are several advantages of using the TNIC-3 rather than standard industry codes (e.g., SIC or NAICS) to identify competitors. First, as the TNIC-3 is based on product descriptions, it takes into consideration firms' level of business diversification, which is not possible with standard industry codes. Second, by updating each firm's competitors annually, the TNIC-3 is dynamic, just as the competitive relationships of modern firms are. Third, the TNIC-3 provides improved power to measure competition at the dyadic level rather than among generalized industry groupings, which suits the nature of our study. On average, we identified five rivals for each focal firm. For firms with *Media–rival CIO*, the mean of blockholding stakes in media firms is 0.212 and the mean of blockholding stakes in rival firms is 0.083.

Moderators

Product similarity. For Hypothesis 2a, we measured *Firm–rival product similarity* by using the TNIC-3 to calculate the average product similarity score between a firm and its rivals with *Media–rival CIO*.

Geographic market similarity. For Hypothesis 2b, we followed several steps to measure geographic market similarity. First, we obtained information on firms' geographic operations by using a computer algorithm to access and extract state names from firms' 10-K filings in the Securities and Exchange Commission's electronic filing system (EDGAR). Next, we computed the geographic market overlap ratio between a focal firm and each rival with *Media–rival CIO*, calculated as the number of states where both firms compete divided

by the total number of states where the focal firm competes. For instance, if Firm A operates in three states (e.g., California, Michigan, and Maryland) and a rival firm operates in four states (e.g., California, Delaware, Michigan, and Pennsylvania), the geographic market overlap ratio for Firm A is 2/3, which is the number of states where Firm A and its rival both operate divided by the total number of states where Firm A operates. We calculated *Firm–rival geographic market overlap* as the average geographic market overlap between a firm and its rivals with *Media–rival CIO*.

Investment horizon. For Hypothesis 3, we measured media–rival common blockholders' investment horizons based on their portfolio churn ratios (Qian et al., 2023), which capture the frequency of trading in their portfolios. As short-term investors tend to buy and sell stocks frequently, a large absolute change in the volume of each stock in the portfolio indicates the investor's magnitude of short-termism. We calculated the quarterly churn ratio for each media–rival common blockholder, using the following formula:

$$\text{Investor-level churn ratio} = \frac{\sum_j N_{j,k,q} \times P_{j,q} - N_{j,k,q-1} \times P_{j,q-1} - N_{j,k,q-1} \times \Delta P_{j,q}}{\sum_j \frac{(N_{j,k,q} \times P_{j,q} + N_{j,k,q-1} \times P_{j,q-1})}{2}}$$

where *j*, *k*, *q*, *N*, and *P* indicate stock, investor, year-quarter, the number of shares, and the price of shares, respectively. Next, we calculated the annual average churn ratio for each common blockholder. As a higher (lower) churn ratio indicates a higher frequency of trading and shorter (longer) investment horizon, we classified media–rival common owners as ''long-term'' (''short-term'') if their churn ratio is less than (greater than) the sample median.[11] We then calculated the *Media–rival CIO* for each group of investors as *Media–rival long-term CIO* and *Media–rival short-term CIO* and compared their coefficients, to test Hypothesis 3.

Media CEO equity compensation. For Hypothesis 4, we focused on the compensation of media CEOs given that CEOs are the most important decision makers in companies (Finkelstein, Hambrick, and Cannella, 2009). The example of Alden appointing its own president as the CEO of Tribune Publishing also demonstrates the importance of the CEO's role in the media. We measured CEO equity compensation of media companies by obtaining compensation data from ExecuComp. We measured *Media CEO equity compensation* as the ratio of the value of a CEO's annual awarded stocks and options to their total annual compensation.

Control Variables

As noted, our main independent variable, *Media–rival CIO*, excludes investors that simultaneously own shares in the focal firm, its rivals, and the media company. Yet, a media company's institutional investors might also own shares in the focal firm (but not in the firm's rivals), which may influence the coverage of

[11] The median of the churn ratio in our sample is 0.20 (or five quarters = 1/.020), and its 75th percentile value is 0.25 (or four quarters = 1/0.25). Our approach of using the median cutoff to identify long-term and short-term investors is consistent with existing research. Our results are similar when we use the 75th percentile value of the churn ratio as the cutoff.

that focal firm, leading us to control for this common ownership dyad by using media–firm CIO. We measured *Media–firm CIO* by first identifying each institutional investor that has a blockholding stake in a focal firm and in a media outlet's parent company and then calculating $\frac{\sum_k Ownership_{f,k}}{Ownership_f} \times \frac{\sum_k Ownership_{m,k}}{Ownership_m}$, where k denotes a common institutional investor, f denotes the focal firm, and m denotes the media outlet. As *Media–firm CIO* captures common ownership between a focal firm and a given media outlet, we did not need to use Equation (1) to take the average.

We also controlled for rival–firm CIO because the level of common ownership between a firm and its rivals can affect the firm's competitive dynamics (He and Huang, 2017). We measured *Rival–firm CIO* by identifying institutional investors that have a blockholding stake in a firm and its rivals and then calculating Equation (1), where m refers to the focal firm rather than the media outlet. Next, we controlled for ownership by different types of institutional investors, as they may exert distinct influence on firm decisions. We followed Bushee's (1998) classification and controlled for ownership by dedicated investors (*Dedicated ownership*) and transactional investors, which include both transient and quasi-index investors (*Transactional ownership*).[12] We also controlled for the size of investors' portfolios, measured by *Investor portfolio size* (i.e., a proxy of assets under management), since institutional investors with larger total holdings may have more resources with which to influence firm decision making. *Investor portfolio size* is defined as the average total portfolio value of all of a firm's institutional investors, in which total portfolio value is defined as the sum of the market capitalization of its stock shares in each firm (stock price multiplied by the total shares owned in the firm) held by an institutional investor (Borochin and Yang, 2017).

Securities analysts can play an important external governance role by uncovering and disseminating firm-specific information (Chen, Harford, and Lin, 2015), which may influence media coverage negativity. Thus, we controlled for *Analyst coverage*, measured as the natural logarithm of 1 plus the number of securities analysts following a firm.

Next, we controlled for *Firm size*, measured as the natural logarithm of total assets, because larger firms may draw more attention from the media (Jonkman et al., 2020). We also controlled for *Market-to-book ratio*, measured as the ratio of the market value of equities to the book value of equities, and *Return on assets* (*ROA*), measured as the ratio of the operating income before depreciation to total assets, as better-performing firms might receive more favorable media coverage (Dai, Parwada, and Zhang, 2015). We controlled for *Leverage*, measured as the ratio of total liabilities to total assets, because more highly leveraged firms may be perceived as having greater financial risk and thus be covered more negatively. We controlled for the number of lawsuits in which a firm is involved each year because being sued is known to provoke more negative coverage (Hadani, 2021). We obtained litigation data from the

[12] According to Bushee's (1998) classifications, institutional investors are classified based on two portfolio traits: portfolio investment horizon (i.e., churn ratio) and portfolio concentration. Specifically, institutional investors are classified as ''dedicated'' if their portfolios are long-term focused (i.e., low churn ratio) and highly concentrated; ''quasi-index'' if their portfolios are long-term focused and highly diversified; and ''transient'' if their portfolios are short-term focused (i.e., high churn ratio) and highly diversified.

Audit Analytics Litigation database, which covers all types of material legal cases issued against publicly traded firms, including shareholder suits, commercial contracts suits, labor suits, product liability suits, and others. *Litigation* equals the natural logarithm of 1 plus the number of lawsuits filed against a firm in a year (we took the log of this variable to address skewness).

We also controlled for the following industry characteristics since a focal firm's media coverage may be shaped by its industry rivals, and the industry is defined by the TNIC-3 industry classification. We controlled for *Industry market-to-book ratio*, measured as the average market-to-book ratio for industry rivals; *Industry ROA*, measured as the average ROA for industry rivals; *Industry analyst coverage*, measured as the natural logarithm of 1 plus the average number of securities analysts following for industry rivals; and *Industry litigation*, measured as the natural logarithm of 1 plus the average number of lawsuits filed against industry rivals. In addition, we controlled for the spillover effect of negative media coverage by including *Industry coverage negativity*, measured as the average media coverage negativity for industry rivals. Lastly, we controlled for *Industry concentration* by using the Herfindahl–Hirschman Index (HHI) of market shares held by industry firms.

Estimation Method

Our dependent variable, *Media coverage negativity*, is observable only when a firm is covered by a media outlet in a year. Since unobservable heterogeneity could drive whether a firm is covered by the media and media coverage negativity, we conducted two-stage Heckman selection regressions (Heckman, 1979).[13] In the first-stage regression, we estimated the likelihood that a firm is covered by a media outlet, using the following probit regression:

$$\begin{aligned} \textit{Covered firm}_{i,k,t} = \beta_0 + \beta_1 \textit{Local media coverage}_{i,k,t} + \sum \beta_j \textit{Control}_t \\ + \textit{Industry FE} + \textit{Year FE} \end{aligned}$$

where *i* and *k* denote the firm and media outlet, respectively. The dependent variable is *Covered firm*, which receives a value of 1 if firm *i* is covered by media outlet *k* in year *t* and 0 otherwise. The first-stage exclusion restriction is *Number of local media outlets*, defined as the natural logarithm of 1 plus the number of media outlets in the same state as that of the focal firm; these data are collected from RavenPack. When there are many local media outlets in the state where a firm is located, the firm is likely to receive media coverage because media outlets tend to cover local firms (Tang and Zhang, 2021). However, the number of local media outlets should not directly affect a firm's media coverage negativity because firm-specific events largely determine such negativity. Thus, the number of local media outlets should serve as a valid exclusion restriction.

We calculated the inverse Mills ratio from the first-stage probit regression and controlled for it in second-stage OLS models as follows:

[13] We found that firms with media coverage by RavenPack tend to be larger and are associated with higher ROA, higher leverage ratio, and more litigation. This attests to the importance of using the Heckman model to address the sample selection issue.

$$\begin{aligned} \textit{Media coverage negativity}_{i,k,t} = {} & \beta_0 + \beta_1 \textit{Media} - \textit{rival CIO}_{i,k,t-1} + \sum \beta_j \textit{Control}_t \\ & + \textit{Inverse Mills Ratio}_t + \textit{Pair FE} + \textit{Year FE} \\ & + \textit{Industry FE} \end{aligned}$$

where *i* denotes the firm and *k* denotes the media outlet. All ownership-related variables are averaged over the year to smooth out short-term fluctuations in ownership. In addition to firm–media pair fixed effects, we included industry and year fixed effects to account for unobservable heterogeneity across industries and time periods. To rule out the effect of outliers on the estimation, we winsorized all continuous variables at the 1 percent level.[14] Since news articles are reported at the firm–media outlet level and there may be reporting clusters in the total population that are not present in our sample (Abadie et al., 2017), we clustered standard errors at the firm–media level.[15]

RESULTS

Table 3 reports descriptive statistics for all variables. The mean variance inflation factor for all variables is 1.55, well below the threshold of 10 that is commonly cited as indicating multicollinearity concerns (Gujarati, 2003).

Table 4 reports the results of our hypothesis testing. Model 1 presents the first-stage results of the Heckman selection regressions. As we expected, the coefficient on the exclusion restriction, *Number of local media outlets*, is 0.092 and statistically significant ($p < 0.001$), showing that the number of local media outlets is positively associated with the likelihood that a firm is covered in the media. In Model 2, which reports the second-stage results, the coefficient for *Inverse Mills ratio* is negative and statistically significant. This implies that our sample faces an issue of negative selection, whereby the estimated effect of the influence of *Media–rival CIO* on *Media coverage negativity* would be underestimated if we had not addressed selection bias.[16]

Hypothesis 1 predicts that a focal firm will receive more negative coverage from media outlets that the institutional investors of the firm's rivals commonly own. The results in Model 2 show that the coefficient for *Media–rival CIO* is 1.426 ($p < 0.001$), supporting Hypothesis 1. In terms of economic significance, when *Media–rival CIO* increases from its mean to its mean plus one standard deviation, the negativity of media coverage rises by 7.7 percent. The examples in Table 2, which lists several different types of news coverage events, with illustrative headlines and their associated media coverage negativity values, can help put this result into context. In regard to earnings-related news in Panel A, a 7.7 percent increase in media coverage negativity equates roughly to a firm receiving coverage on a 1 percent decline in profit (CVS Caremark, media coverage negativity = 0.51) instead of a 3 percent increase in net income (Marriott, media

[14] Our results remain largely the same when we do not winsorize continuous variables. See Table A6.

[15] Our results are robust when standard errors are clustered at the firm level or at the media outlet level.

[16] Our results remain largely the same when we do not control for the inverse Mills ratio. Regarding H1, the coefficient for *Media–rival CIO* is 1.386 ($p < 0.01$) when we do not control for the inverse Mills ratio, which becomes 1.426 ($p < 0.001$) after we control for the inverse Mills ratio, as shown in Model 2 of Table 4. See Table A7 for the complete results from models that do not include the inverse Mills ratio.

Table 3. Descriptive Statistics and Correlations*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Media coverage negativity	1.00																							
2 Firm–rival product similarity	−0.02	1.00																						
3 Firm–rival geographic market overlap	−0.01	0.58	1.00																					
4 Media–rival long-term CIO	0.00	0.53	0.69	1.00																				
5 Media–rival short-term CIO	−0.01	0.58	0.76	0.78	1.00																			
6 Media CEO equity compensation	0.05	0.13	0.16	0.14	0.10	1.00																		
7 Media–rival CIO	0.02	0.49	0.61	0.71	0.70	0.14	1.00																	
8 Media–firm CIO	−0.02	0.29	0.40	0.53	0.54	0.07	0.61	1.00																
9 Rival–firm CIO	0.02	0.07	0.11	0.14	0.12	0.12	0.12	0.20	1.00															
10 Dedicated ownership	0.02	−0.01	−0.01	−0.02	−0.02	−0.03	−0.03	−0.05	−0.03	1.00														
11 Transactional ownership	0.01	−0.09	−0.04	−0.05	−0.05	−0.03	−0.03	0.12	0.25	0.01	1.00													
12 Investor portfolio size	0.00	−0.06	−0.07	−0.05	−0.06	−0.02	−0.07	0.03	−0.02	0.07	0.31	1.00												
13 Analyst coverage	−0.01	−0.10	−0.08	−0.05	−0.07	−0.03	−0.05	0.07	0.14	−0.08	0.38	0.12	1.00											
14 Firm size	0.02	−0.06	−0.13	−0.07	−0.10	0.00	−0.08	0.02	0.04	−0.04	0.21	0.05	0.64	1.00										
15 Market-to-book ratio	−0.05	−0.01	0.02	0.02	0.02	0.01	0.03	0.04	0.03	−0.02	0.04	0.02	0.17	0.00	1.00									
16 ROA	−0.06	−0.18	−0.08	−0.07	−0.08	−0.03	−0.05	0.02	0.00	−0.09	0.21	0.03	0.25	0.23	0.05	1.00								
17 Leverage	0.04	0.07	−0.05	−0.01	−0.02	0.04	−0.02	0.00	0.00	0.05	−0.04	0.01	0.05	0.36	−0.03	−0.03	1.00							
18 Litigation	0.05	−0.10	−0.12	−0.10	−0.11	−0.05	−0.09	−0.05	−0.08	0.00	0.06	0.08	0.30	0.39	0.02	0.05	0.08	1.00						
19 Industry market-to-book ratio	−0.04	0.01	0.08	0.08	0.08	0.01	0.08	0.07	0.05	0.01	0.03	0.01	0.12	−0.08	0.34	0.01	−0.12	0.00	1.00					
20 Industry ROA	0.00	−0.15	−0.03	−0.05	−0.06	−0.04	−0.04	0.00	−0.05	−0.06	0.06	−0.02	0.04	0.17	−0.06	0.45	0.11	−0.01	−0.14	1.00				
21 Industry analyst coverage	0.00	−0.02	0.14	0.12	0.11	0.09	0.12	0.12	0.20	−0.07	0.11	0.02	0.30	0.12	0.12	0.18	−0.03	−0.03	0.27	0.27	1.00			
22 Industry litigation	0.03	−0.12	−0.11	−0.11	−0.11	−0.06	−0.09	−0.06	−0.03	0.01	0.02	0.07	0.13	0.11	0.02	0.08	−0.02	0.38	0.04	0.08	0.08	1.00		
23 Industry coverage negativity	0.16	−0.06	−0.04	−0.03	−0.04	0.16	−0.03	0.00	0.17	0.00	0.09	−0.01	0.06	0.07	−0.01	−0.01	0.07	−0.02	−0.04	0.03	0.11	0.01	1.00	
24 Industry concentration	−0.01	−0.13	−0.06	−0.05	−0.06	−0.01	−0.02	0.00	−0.06	−0.01	0.03	0.06	−0.01	−0.08	0.04	0.11	−0.09	−0.01	0.09	0.07	0.03	−0.05	−0.01	1.00
Mean	0.47	0.01	0.07	0.01	0.01	0.42	0.01	0.01	0.09	0.01	0.52	16.42	2.18	7.94	3.09	0.1	0.59	0.36	2.65	0.04	1.56	0.35	0.46	0.21
S.D.	0.12	0.02	0.17	0.01	0.02	0.19	0.03	0.03	0.10	0.03	0.28	2.67	0.93	2.24	5.12	0.13	0.25	0.66	2.48	0.16	0.61	0.31	0.02	0.25

* N = 109,965. The values of *Media–rival CIO*, *Media–firm CIO*, and *Rival–firm CIO* are multiplied by 10. The absolute value of correlations greater than |0.01| is statistically significant at $p < .05$.

Table 4. The Effects of Media–Rival CIO on Media Coverage Negativity (Two-Stage Heckman Selection)*

Variables	Model 1 Heckman	Model 2 H1	Model 3 H1	Model 4 H1	Model 5 H2a	Model 6 H2b	Model 7 H3	Model 8 H4
Media–rival CIO		1.426•••			1.599•••	1.369•••		1.100
		(0.225)			(0.343)	(0.392)		(0.836)
Rival ownership (Incentive)			0.103•••					
			(0.023)					
Media ownership (Power)				0.188•••				
				(0.027)				
Media–rival CIO × Firm–rival product similarity					18.443•			
					(7.697)			
Media–rival CIO × Firm–rival geographic market overlap						1.785•		
						(0.715)		
Media–rival long-term CIO							3.127•••	
							(0.492)	
Media–rival short-term CIO							–0.423	
							(0.321)	
Media–rival CIO × Media CEO equity compensation								3.980•
								(1.707)
Firm–rival product similarity					−0.138••			
					(0.043)			
Firm–rival geographic market overlap						−0.012••		
						(0.004)		
Media CEO equity compensation								0.016••
								(0.005)
Media–firm CIO		−0.152	–0.011	–0.050+	−0.068	−0.059	–0.015	–1.391•••
		(0.194)	(0.023)	(0.027)	(0.190)	(0.190)	(0.195)	(0.204)
Rival–firm CIO	0.007	−0.178••	–0.179••	–0.171••	−0.182••	−0.184••	–0.179••	–0.116
	(0.292)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.085)
Dedicated ownership	0.486•••	−0.063••	–0.063••	–0.065••	−0.063••	−0.063••	–0.067••	–0.070•
	(0.105)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.033)
Transactional ownership	0.049•••	0.013•••	0.013•••	0.013•••	0.013•••	0.013•••	0.012•••	0.016•••
	(0.013)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)
Investor portfolio size	0.029•••	−0.001••	–0.001••	–0.001••	−0.001••	−0.001••	–0.002••	–0.002••
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Analyst coverage	0.103•••	−0.003+	–0.004+	–0.004•	−0.003+	−0.003+	–0.004•	–0.004
	(0.005)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Firm size	0.167•••	0.004+	0.004+	0.004+	0.004•	0.004•	0.003	–0.000
	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)

(continued)

Table 4. (continued)

Variables	Model 1 Heckman	Model 2 H1	Model 3 H1	Model 4 H1	Model 5 H2a	Model 6 H2b	Model 7 H3	Model 8 H4
Market-to-book ratio	0.002•••	−0.001•••	−0.001•••	−0.001•••	−0.001•••	−0.001•••	−0.001•••	−0.001•••
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	−0.064•••	−0.094•••	−0.094•••	−0.094•••	−0.095•••	−0.094•••	−0.094•••	−0.096•••
	(0.009)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.009)
Leverage	0.040•••	−0.000	−0.000	−0.000	−0.000	−0.000	−0.000	0.005
	(0.009)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)
Litigation	0.191•••	0.001	0.001	0.001	0.002	0.002	0.000	−0.001
	(0.005)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Industry market-to-book ratio	−0.006•••	−0.000	−0.000	−0.000	−0.000	−0.000	0.000	−0.000
	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Industry ROA	0.069+	−0.002	−0.002	−0.002	−0.002	−0.002	−0.002	−0.012
	(0.037)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)
Industry analyst coverage	−0.030•	0.007•	0.007•	0.007•	0.007•	0.007•	0.007•	0.006
	(0.014)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
Industry litigation	−0.023+	−0.002	−0.002	−0.001	−0.002	−0.002	−0.001	−0.000
	(0.012)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Industry coverage negativity		0.914•••	0.914•••	0.914•••	0.912•••	0.915•••	0.915•••	0.944•••
		(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.044)
Industry concentration	0.116••	−0.009	−0.009	−0.008	−0.008	−0.008	−0.009	−0.012
	(0.036)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.011)
Inverse Mills ratio		−0.055•••	−0.056•••	−0.058•••	−0.054•••	−0.053•••	−0.064•••	−0.082•••
		(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.016)
Number of local media outlets	0.092•••							
	(0.005)							
Constant	−3.132•••	0.103•	0.105•	0.111•	0.101•	0.099•	0.128••	0.159••
	(0.054)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.053)
Observations	790,051	109,965	109,965	109,965	109,965	109,965	109,965	66,312
Test for the equality of coefficients (*p*-value)							0.000•••	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm–media FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted *R*-squared		0.099	0.099	0.099	0.099	0.099	0.099	0.111

+ $p < .10$; • $p < .05$; •• $p < .01$; ••• $p < .001$; two-tailed tests.

* Standard errors clustered by firm–media pairs are in parentheses. The drop in the number of observations in Model 8 is due to ExecuComp's limited coverage of media CEO equity compensation.

coverage negativity = 0.47) [0.47 + 7.7% × 0.47 = 0.51]. In regard to product-related news in Panel B, the 7.7 percent change is akin to receiving coverage on a dangerous product recall (Kellogg, media coverage negativity = 0.71) instead of a delayed expansion effort (Google, media coverage negativity = 0.64) [0.64 + 7.7% × 0.64 = 0.69, close to 0.71].

Furthermore, the coefficient for *Media–firm CIO* in Model 2 is negative but statistically not significant, suggesting that the media ownership of a focal firm's institutional investors might not influence that firm's coverage. The negative coefficient for *Rival–firm CIO* suggests that common ownership between a firm and its industry rivals may induce less negative media coverage. This makes sense, as prior studies have shown that common ownership can reduce interfirm rivalry and improve firm performance, which could plausibly give rise to better media coverage.

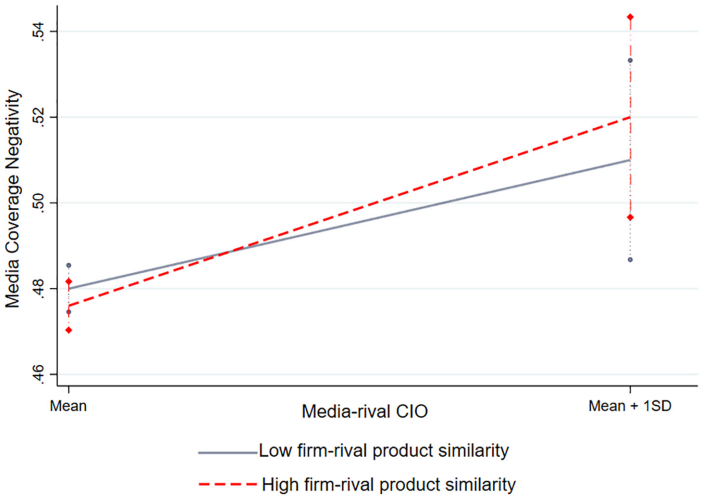
Our independent variable, *Media–rival CIO*, multiplies common owners' total ownership stakes in rival firms by their ownership stake in the media company. To separate common owners' incentive and power to influence media reporting, we examine the individual effect of the ownership in rival firms, labeled *Rival ownership (Incentive)*, and the ownership in media companies, labeled *Media ownership (Power).* In Model 3, we include *Rival ownership (Incentive)*, defined as the average ownership held by common blockholders in rival firms, and find that its coefficient is 0.103 ($p < 0.001$). Similarly, in Model 4, we include *Media ownership (Power)*, defined as the average ownership held by common blockholders in media companies, and find that its coefficient is 0.188 ($p < 0.001$). These findings suggest that both the incentives and power of common owners play important roles in shaping the media coverage of firms.

Hypothesis 2a contends that the negative media coverage a focal firm receives from media outlets that the institutional investors commonly own with the firm's rivals increases when the firm and its rivals have higher product similarity. In Model 5, the coefficient for the interaction between *Media–rival CIO* and *Firm–rival product similarity* is 18.443 ($p < 0.05$), consistent with Hypothesis 2a. Hypothesis 2b posits a similar relationship with regard to greater geographic market overlap. As shown in Model 6, the coefficient for the interaction between *Media–rival CIO* and *Firm–rival geographic market overlap* is 1.785 ($p < 0.05$), supporting Hypothesis 2b. We plot the moderating effects of product similarity and geographic market overlap in Figures 2 and 3, respectively, in which the high (low) value for each moderator is defined as the mean plus one standard deviation (zero).[17] Figure 2 shows that for firms with high product similarity and low product similarity, as *Media–rival CIO* increases by one standard deviation from its mean, *Media coverage negativity* increases correspondingly, but the increase is more dramatic when product similarity is high. Figure 3 indicates a similar relationship with regard to high and low geographic overlap.[18]

[17] We used a value of zero to denote the low level of these two moderators because the value of the mean minus one standard deviation for both moderators is negative, which is beyond the feasible range.

[18] We also tested the moderating effect of product similarity and geographic overlap by measuring these moderators as dummies, whereby *High firm–rival product similarity (High firm–rival geographic market overlap)* takes a value of 1 when a firm's product similarity (geographic market overlap) with its rivals is greater than the sample mean plus one standard deviation and 0 otherwise. As shown in Table A5, we continued to find support for H2a and H2b, using these alternative measures.

Figure 2. Moderating Effect of Firm–Rival Product Similarity*



* All figures include 95 percent confidence intervals, indicated by the vertical lines at the low and high levels of the *x*-axis.

Hypothesis 3 suggests that the positive relationship between media–rival common ownership and media coverage negativity of a focal firm is stronger when common owners have longer investment horizons. As shown in Model 7, the coefficient for *Media–rival long-term CIO* is 3.127 ($p < 0.001$), and the coefficient for *Media–rival short-term CIO* is negative and non-significant. Supporting Hypothesis 3, the difference between these two coefficients is significant ($p < 0.001$). Figure 4 depicts this moderating effect and shows that while there is almost no change in media coverage negativity as *Media–rival short-term CIO* increases by one standard deviation from its mean, media coverage negativity does rise sharply with an equivalent change in *Media–rival long-term CIO*.

Hypothesis 4 proposes that the effect of media–rival common ownership on a focal firm's media coverage negativity will be stronger when the media company's CEO has a higher level of equity-based compensation. As shown in Model 8, the coefficient for the interaction between *Media–rival CIO* and *Media CEO equity compensation* is 3.980 ($p < 0.05$), consistent with Hypothesis 4. The interaction is plotted in Figure 5, in which a high (low) level of *Media CEO equity compensation* equals the mean plus (minus) one standard deviation. When *Media–rival CIO* increases by one standard deviation from its mean, the corresponding increase in media coverage negativity is larger when media CEO equity compensation assumes a high value than when it assumes a low value.

Robustness Checks

Instrumental variable regressions. Our independent and dependent variables might be simultaneously driven by unobservable heterogeneity (e.g., rivals' unobservable ties with media outlets), introducing an omitted variable

Figure 3. Moderating Effect of Firm–Rival Geographic Market Overlap

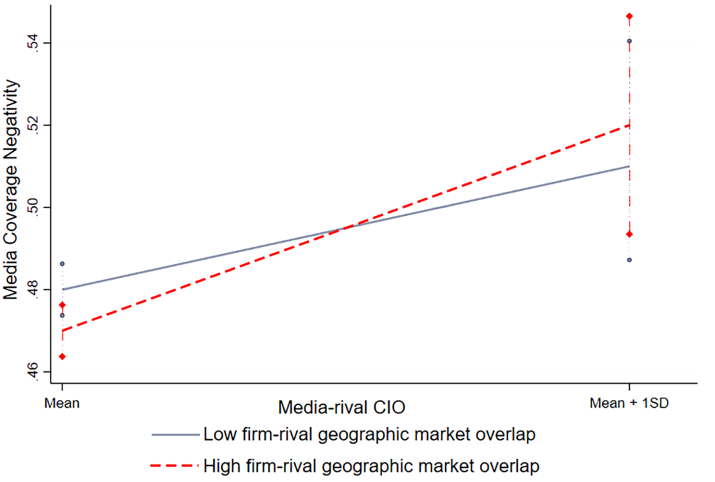
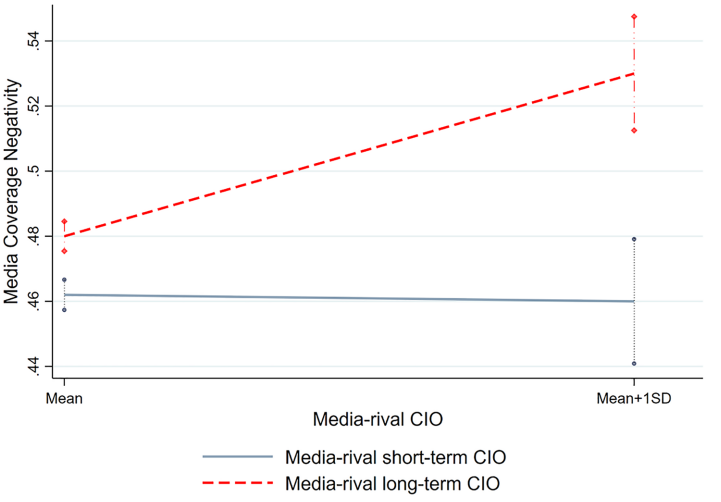
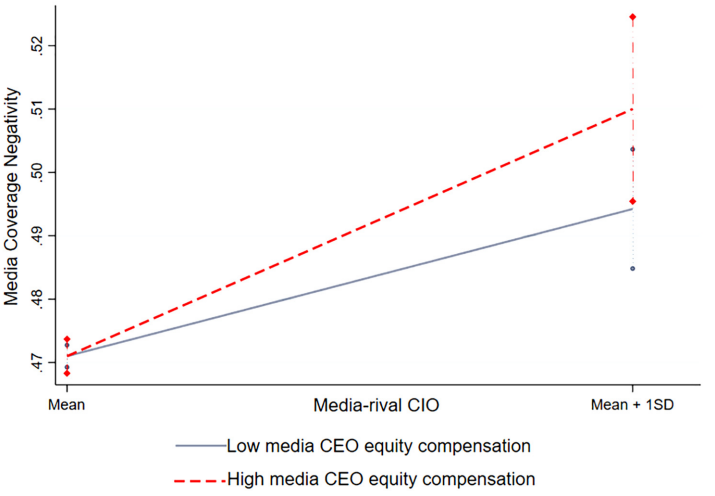


Figure 4. Moderating Effect of Common Owners' Investment Horizon



bias. To alleviate this concern, we conducted two-stage least squares (2SLS) regressions, using two instruments. The first instrument we identified is *Lagged media–rival CIO*, which equals *Media–rival CIO* in year *t*–2. Our approach follows prior studies that have used lagged measures as instruments for endogenous variables (e.g., Kale, Reis, and Venkateswaran, 2009; Tan and Netessine, 2014; Connelly, Lee et al., 2019). A blockholder's current ownership is what grants them influence over corporate decision making (Edmans, 2009); blockholders tend to hold on to their stakes for multiple years, so ownership is correlated over time. Accordingly, *Media–rival CIO* in year *t*–2 is likely to be positively related to *Media–rival CIO* in year *t*–1 but may not directly influence *Media coverage negativity* in year *t* (i.e., for a total two-year gap between the time of the investor's holding and media coverage).

Figure 5. Moderating Effect of Media CEOs' Equity Compensation



The second instrument we identified is the *Number of portfolio firms*, which is measured as the average number of portfolio firms owned by institutional investors that have blockholding stakes in both rival firms and a media outlet. The number of portfolio firms is likely positively associated with *Media–rival CIO*, as institutional investors with broader holdings are more likely to invest in both rival firms and a given media outlet. Yet, the number of portfolio firms is unlikely to directly influence the negativity of media coverage. From a theoretical perspective, both variables should satisfy the relevance and exogeneity criteria for valid instruments.

Table 5 displays the results from the models used to run the 2SLS regressions. As shown in Model 1, which reports the first-stage results, the coefficient estimates for *Lagged media–rival CIO* and *Number of portfolio firms* are both positive and statistically significant ($p < 0.001$), indicating that these variables are significant predictors of *Media–rival CIO*. The Cragg-Donald Wald *F*-statistic is statistically significant ($p < 0.001$), and the Sargan statistic is statistically not significant ($p = 0.356$), indicating that the instruments can be considered relevant and exogenous. Model 2 reports results from the second-stage regression, in which the predicted values of *Media–rival CIO* from the first-stage regression are used as the main predictor variable. Supporting our theory, the coefficient for *Media–rival CIO* is 1.244 ($p < 0.05$).

Exogenous changes in media–rival common ownership. We further tested the causal relation of our findings by using mergers and acquisitions (M&As) between institutional investment firms, to exploit exogenous changes in media–rival common ownership. Prior studies have established that institutional investment firms merge with or acquire one another primarily due to one of two factors: (1) changes in financial industry regulations that allow for consolidation or (2) changes in the strategic objectives of the investment firms

Table 5. Instrumental Variable Regressions, Differences-in-Differences, and Earnings Events Only*

Variables	Model 1 2SLS First-Stage	Model 2 2SLS Second-Stage	Model 3 DID 1% Cutoff	Model 4 DID 2% Cutoff	Model 5 OLS Earnings Events
Media–rival CIO		1.244•			1.143•
		(0.490)			(0.517)
Ownership impact × Post			0.091•	0.136•	
			(0.037)	(0.062)	
Ownership impact			0.078	26.360•	
			(0.072)	(10.637)	
Post			–0.002	0.004	
			(0.002)	(0.010)	
Media–firm CIO	26.527•••	–0.078			0.308
	(0.291)	(0.260)			(0.358)
Rival–firm CIO	− 0.379•••	–0.179••	–0.488•	–0.469	− 0.551•••
	(0.092)	(0.064)	(0.246)	(0.375)	(0.133)
Dedicated ownership	0.024	–0.063••	0.122+	0.049	0.034
	(0.033)	(0.023)	(0.067)	(0.092)	(0.053)
Transactional ownership	− 0.009•	0.013•••	0.004	–0.013	0.029•••
	(0.004)	(0.003)	(0.006)	(0.009)	(0.006)
Investor portfolio size	–0.002••	–0.001••	0.001	0.001	− 0.001
	(0.001)	(0.000)	(0.001)	(0.003)	(0.001)
Analyst coverage	− 0.011•••	–0.003+	0.001	0.012+	− 0.006+
	(0.003)	(0.002)	(0.004)	(0.006)	(0.003)
Firm size	− 0.017•••	0.004+	0.002	–0.012	0.004
	(0.003)	(0.002)	(0.005)	(0.007)	(0.005)
Market-to-book ratio	− 0.001•	–0.001•••	–0.000	–0.000	− 0.001•••
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	0.006	–0.094•••	–0.094•••	–0.056••	− 0.274•••
	(0.009)	(0.006)	(0.018)	(0.020)	(0.018)
Leverage	0.006	–0.000	–0.033••	–0.032•	0.006
	(0.006)	(0.004)	(0.013)	(0.015)	(0.011)
Litigation	− 0.014•••	0.001	0.009••	0.008•	0.002
	(0.003)	(0.002)	(0.003)	(0.004)	(0.003)
Industry market-to-book ratio	0.002•••	–0.000	–0.001	0.004	0.003•••
	(0.000)	(0.000)	(0.002)	(0.003)	(0.001)
Industry ROA	0.016	–0.002	0.055•	0.088••	0.049••
	(0.011)	(0.008)	(0.024)	(0.030)	(0.016)
Industry analyst coverage	− 0.002	0.007•	–0.005	–0.016	− 0.003
	(0.004)	(0.003)	(0.016)	(0.026)	(0.006)
Industry litigation	0.007•	–0.002	0.001	–0.002	− 0.010+
	(0.004)	(0.002)	(0.011)	(0.017)	(0.005)
Industry coverage negativity	0.004	0.914•••	1.090•••	1.044•••	0.824•••
	(0.045)	(0.031)	(0.128)	(0.235)	(0.015)
Industry concentration	0.010	–0.009	–0.020	0.124•	− 0.044•••
	(0.011)	(0.008)	(0.044)	(0.055)	(0.012)
Inverse Mills ratio	− 0.104•••	–0.054•••			− 0.077•
	(0.009)	(0.014)			(0.031)
Lagged media–rival CIO	16.570•••				
	(0.414)				
Number of portfolio firms	0.142•••				
	(0.001)				
Earnings surprise					− 1.425•••
					(0.064)

(continued)

Table 5. (continued)

Variables	Model 1 2SLS First-Stage	Model 2 2SLS Second-Stage	Model 3 DID 1% Cutoff	Model 4 DID 2% Cutoff	Model 5 OLS Earnings Events
Constant	0.461•••	0.136	–0.034	–0.442+	0.220••
	(0.120)	(0.084)	(0.073)	(0.242)	(0.085)
Observations	109,965	109,965	16,698	4,561	88,343
Cragg-Donald Wald *F*-statistic (*p*-value)	0.000•••	—	—	—	—
Sargan statistic (*p*-value)	—	0.356	—	—	—
Adjusted *R*-squared	—	—	0.224	0.087	0.155

+ $p < .10$; • $p < .05$; •• $p < .01$; ••• $p < .001$.
* All models include year fixed effects, industry fixed effects, and firm–media fixed effects. Standard errors are clustered by firm–media pairs and reported in parentheses. All tests are two-tailed.

(e.g., improving operating efficiencies) (Berger, Demsetz, and Strahan, 1999; Houston, James, and Ryngaert, 2001).[19] Accordingly, M&As between institutional investment firms are unlikely to influence portfolio firms directly or to be shaped by financial institutions' own investment strategies, which helps create exogenous changes in media–rival common ownership. Following one of these M&As, the portfolio of the acquiring institutional investment firm typically experiences an increase in the number of holdings, even if the remaining entity eventually liquidates part of the other brokerage's holdings (Keim and Madhavan, 1997; Madhavan and Cheng, 1997). The increase in the number of holdings will then often result in an increase in media–rival common ownership.

We first identified investment brokerage M&As by matching the names of the entities in these deals reported in the SDC M&A database to the names of institutional investors disclosed in Thomson Reuters 13F Holdings, resulting in the identification of 88 such M&As between 2007 and 2019. Next, we identified rival firms that experience an exogenous increase in our focal independent variable, *Media–rival CIO*, by finding the two merged investment brokerages that own significant shares in the rival firm and a media company in the quarter preceding the M&A announcement date. Since only 12 firms met these conditions when we used a 5 percent ownership cutoff, we required that both investment brokerages in an M&A own at least 1 percent of the outstanding shares in the rival firm and in the media company (our results are also similar if we use a 2 percent cutoff).

As a focal firm will likely have multiple rivals that experience exogenous increases in ownership, we computed an impact score for each firm–media pair to assess the total impact of the exogenous increases in *Media–rival CIO*

[19] An institutional investment firm might potentially acquire another institutional investment firm in an effort to boost the target's ability to influence the media. If so, M&As of institutional investment firms may not be exogenous to our dependent variable. To alleviate this concern, we compared the average media ownership of acquiring institutional investment firms and the average media ownership of target institutional investment firms. If the acquiring institutional investment firms are attempting to gain media power through M&As, they should choose targets with higher media ownership. We found that this is not the case: acquirers and targets do not differ in terms of their media ownership (the *p*-value for a *t*-test comparing the difference is 0.28).

following each M&A. *Ownership impact* equals the ratio of the number of rival firms that experience exogenous increases in *Media–rival CIO* to the total number of rivals. A higher portion of rivals with exogenous increases in *Media–rival CIO* indicates a stronger total impact of M&As among investment brokerages. For instance, suppose that Firm A and Firm B both have five rivals. If only one of Firm A's rivals experiences an increase in *Media–rival CIO* but four of Firm B's rivals experience an increase in *Media–rival CIO*, then the total effect of the exogenous increase in *Media–rival CIO* is likely stronger for Firm B than for Firm A. As we are interested in the effect of *Media–rival CIO*, we excluded focal firm observations that also experience an exogenous increase in *Media–firm CIO*. Our final sample consists of 1,393 focal firms with eight media companies affected by six investment brokerage M&As. We calculated changes in media coverage negativity two years before and two years after each M&A, using the following equation:

$$\begin{aligned} \textit{Media coverage negativity}_{i,k,t} = {} & \beta_0 + \beta_1\, \textit{Ownership impact}_{i,k,t} * \textit{Post}_{i,k,t} \\ & + \textit{Ownership impact}_{i,k,t} + \textit{Post}_{i,k,t} + \sum \beta_j \textit{Control}_t \\ & + \textit{Pair FE} + \textit{Year FE} + \textit{Industry FE} + \varepsilon \end{aligned}$$

where *i* denotes the firm and *k* denotes the media outlet, and *Post* equals 0 in the years preceding an M&A and 1 in the years afterward. We included all prior controls except for *Media–firm CIO*, since we excluded all cases with increases in media–firm common ownership after an investment brokerage M&A. As shown in Model 3 of Table 5, using the 1 percent ownership threshold, the estimate of the interaction term between *Ownership impact* and *Post* is 0.091 ($p < 0.05$). As shown in Model 4, the results are similar when we use a 2 percent cutoff ($\beta = 0.136$, $p < 0.05$). Consistent with our prior findings, the results show that an exogenous increase in media–rival common ownership increases the negativity of a firm's media coverage.

Alternative thresholds for block ownership. To help ensure that the institutional investors in our sample have sufficient incentives and power to influence media coverage, our main analyses use a 5 percent threshold to define *Media–rival CIO*. We further probed the robustness of our main findings by measuring *Media–rival CIO* using 1, 2, and 3 percent cutoffs. As Table A4 reports, we continued to find strong support for our theory.

Alternative measure of media coverage negativity. Our dependent variable is based on the average ESS of all news reported by a media outlet, which captures the overall sentiment of the media outlet's coverage. Approximately one-fifth of news articles in our sample contain neutral news (i.e., in which the ESS equals 50), which is common in articles that cover less consequential events, such as dividend issuances. Following recent studies (Piotroski, Wong, and Zhang, 2017; You, Zhang, and Zhang, 2018), we excluded articles containing neutral news and recalculated *Media coverage negativity*. In untabulated results (available upon request), we found that our main results continue to hold.

Supplementary Analyses

Media coverage negativity for the same type of event. Although the ESS accounts for variation in the sentiment across different types of events, the type of event being covered may still influence media sentiment. Therefore, we retested our arguments by fixing the analyses on one specific type of event: earnings announcements. Earnings announcements represent a suitable event type for three reasons. First, as earnings are volatile but firm-specific, there is sufficient variation in RavenPack's ESS to allow for meaningful empirical analyses. For example, following Chevron's second-quarter earnings announcement in 2012, *The New York Times* published an article titled "Chevron's Profit Slips on Weaker Oil Prices" (ESS = 28), whereas CNBC's report on the same day and on the same event was titled "Chevron Earnings Top Views, Despite Lower Oil Prices" (ESS = 58). Second, earnings announcements are among the most material events to investors (e.g., Pfarrer, Pollock, and Rindova, 2010), making them a suitable test of our theory. Third, because we can obtain information on firms' actual reported earnings, we can include a control to separate the degree of media coverage bias from the actual earnings. Specifically, to control for the information content of a firm's announced earnings, we included *Earnings surprise*, measured as the difference between reported earnings and the most recent median consensus analyst forecast (reported in I/B/E/S) scaled by stock price (Guo, Sengul, and Yu, 2020).

We examined how *Media–rival CIO* influences media coverage negativity in earnings-related news, using the following regression:

$$\begin{aligned} \textit{Media coverage negativity}_{i,k,t} = {} & \beta_0 + \beta_1 \textit{Media} - \textit{rival CIO}_{k,t-1} + \textit{Earnings suprise}_i \\ & + \sum \beta_j \textit{Control}_t + \textit{Pair FE} + \textit{Year FE} + \textit{Industry FE} + \varepsilon \end{aligned}$$

where *i* denotes the quarterly earnings announcement event and *k* denotes the media outlet. Considering the time sensitivity of earnings announcement coverage, we included news articles reported within five days before the earnings announcement date and calculated the average media coverage negativity for each media outlet. As Model 5 of Table 5 shows, the estimated coefficient of *Media–rival CIO* is 1.143 ($p < 0.05$), which aligns with our main findings: firms' earnings announcements are covered more negatively by media outlets that are owned by the institutional investors of rival firms.

Firm value and performance as the dependent variable. Following prior research (Graf-Vlachy et al., 2020), we have argued that negative media coverage can be detrimental to a firm's competitiveness and performance, which is the primary reason that common owners decide to use a competitive media strategy. To further probe this logic, we constructed two variables to proxy firms' market-based and accounting-based financial performance: *Stock return*, measured as the annual buy-and-hold stock return, and *Return on assets* (*ROA*), measured in the same way described in the discussion of our control variables above. We created a new firm-year panel dataset and conducted firm fixed-effects regressions to test whether increases in media coverage negativity are associated with decreases in firm performance. For these models, we included all prior control variables except *ROA*.

As shown in Model 1 of Table 6, where *Stock return* is the dependent variable, the coefficient for *Media coverage negativity* is −0.802 and statistically significant ($p < 0.001$). Similarly, in Model 2, where *ROA* is the dependent variable, the coefficient for *Media coverage negativity* is −0.062 and significant ($p < 0.001$). In terms of economic significance, we find that a one standard deviation increase in media coverage negativity from its mean value is associated with a 0.070 decrease in the annual buy-and-hold return and a 0.005 decrease in ROA. As the average value of market capitalization in our sample is $6,123 million and the average value of total assets is $9,128 million (~$9.1 billion), this corresponds to a $428.61 million decrease in market value (0.070 × $6,123 million = $428.61 million) and a $45.64 million decrease in net income

Table 6. Associations Between Media Coverage Negativity and Firm Performance*

Variables	Model 1 Stock Return	Model 2 ROA
Media coverage negativity	−0.802•••	−0.062•••
	(0.040)	(0.006)
Rival–firm CIO	−1.341••	−0.305•••
	(0.461)	(0.087)
Dedicated ownership	0.815•••	−0.125••
	(0.189)	(0.036)
Transactional ownership	−0.263•••	0.005
	(0.023)	(0.004)
Investor portfolio size	−0.007•	0.000
	(0.003)	(0.001)
Analyst coverage	−0.081•••	0.011•••
	(0.012)	(0.002)
Firm size	−0.033•••	−0.004•••
	(0.008)	(0.001)
Leverage	−0.046•••	0.024•••
	(0.012)	(0.004)
Litigation	−0.164•••	−0.095••
	(0.038)	(0.011)
Industry market-to-book ratio	0.017•••	0.002•••
	(0.003)	(0.000)
Industry ROA	0.267•••	0.188•••
	(0.055)	(0.018)
Industry analyst coverage	−0.040•	−0.013•••
	(0.016)	(0.003)
Industry litigation	0.066•••	0.005
	(0.018)	(0.003)
Industry coverage negativity	−1.357•••	−0.237•••
	(0.270)	(0.045)
Industry concentration	−0.033	0.009+
	(0.035)	(0.006)
Constant	1.911•••	0.088••
	(0.154)	(0.034)
Observations	25,610	27,552
Year FE	Yes	Yes
Firm FE	Yes	Yes
Adjusted *R*-squared	0.170	0.789

+ $p < .10$; • $p < .05$; •• $p < .01$; ••• $p < .001$.
* Standard errors are clustered by firms and reported in parentheses. Both tests are two-tailed.

(0.005 × $9,128 million = $45.64 million). Though correlational in nature, these findings are consistent with our arguments: more negative media coverage could harm a firm's financial performance.

DISCUSSION

Our study sheds new light on the hidden forces that shape industry competitive dynamics. In addition to affecting companies' direct competitive actions (a well-documented finding in prior research), common ownership alters the media coverage of companies in ways that affect their competitive prospects and future performance. By leveraging the media to achieve their competition-based objectives, common owners are likely to more effectively evade the scrutiny to which they have been subjected in recent years.

Noting the rise of institutional ownership of media companies and drawing on research showing the media's importance in shaping firm competitiveness, we theorized and found that a focal firm's media coverage is more negative when its rivals' institutional investors hold shares in the media providing the coverage. Furthermore, given that the economic payoffs increase when the coverage of intense rivals is modified, we found that the focal firm's media coverage is even more negative when the firm has higher product similarity and geographic market overlap with the rival firms in the common owner's portfolio. We also found that the coverage a focal firm receives is more negative when its rivals' common owners of the media have longer investment horizons. Finally, we found that media executives' own economic incentives amplify our main relationship, such that the coverage a focal firm receives is more negative from commonly owned media outlets in which media CEOs receive higher stock-based compensation. These findings offer multiple theoretical and practical insights, which we now discuss.

Theoretical Implications

Research on competitive dynamics. A key contribution of our study is to expose the hidden forces in today's competitive markets. Clearly, outsiders can have a vested interest in elevating the competitive prospects of some firms over others. For example, governments can benefit by propping up local firms over foreign rivals, just as common owners can profit by coordinating firms' competitive moves. But such direct channels also have limitations: governments can draw criticism for unfairly subsidizing firms, and common owners can be penalized for violating antitrust regulations. Therefore, to keep these moves under the radar and evade detection, such outsiders may leverage more-indirect channels to bolster a given firm's competitive prospects over those of its rivals, working as an invisible hand by reshaping the competitive landscape in favor of their chosen corporate beneficiaries. Unlike Adam Smith's invisible hand, explained so eloquently in *The Wealth of Nations*, which is described as making society better off in the aggregate by allowing markets to freely run their course, the invisible hand we envision makes only some better off—and that privilege comes at the expense of others.

Our study begins to reveal part of this new invisible hand, but what might the rest of it look like? While our research context is common ownership in the media, such investors may use other channels to achieve their competitive

agendas. For example, common owners might seek to control industry suppliers to reduce the supply costs for their portfolio firms while simultaneously raising the same supply costs for those firms' rivals. Moreover, it is important to explore the channels through which common owners achieve their influence, such as using board ties in their portfolio firms (e.g., Alden Global Capital's president, Heath Freeman, sitting on the board of Tribune Publishing). Beyond common owners, other outsiders may profit by using indirect channels to alter an industry's competitive dynamics. For example, Zhu and Westphal (2011) found bias in securities analysts' investment recommendations of the companies they cover, but might securities analysts also use their brokerage positions to elevate the competitive prospects of some firms more discreetly over others? With a careful research design, it might be possible to uncover whether analysts occasionally guarantee positive investment recommendations to a firm in exchange for the firm undertaking competitive moves that undermine other firms that the analyst's investment bank has an interest in bringing down (e.g., where a large short position is held).

With many parts of the invisible hand left to explore, researchers will benefit from recent methodological advancements that enable new ways to study the hidden forces underlying competitive markets. Machine learning is a type of artificial intelligence in which a set of statistical algorithms use data to learn to detect patterns and predict outcomes increasingly accurately over time. The formidable advantage of this approach is that machine learning can form predictions without the algorithms being explicitly programmed to do so. In our study, we started with a theory of the unique incentives and power shared by large common owners, and we collected data to run regressions that tested relationships between predetermined measures. With machine learning, scholars could assemble big data databases and allow algorithms to find otherwise undetectable patterns that ''emerge naturally in the data'' (Miric, Jia, and Huang, 2023: 494), which can be used to build inductive theory (Shrestha et al., 2021). Additionally, machine learning allows researchers to work with high-dimensional data, such as image, audio, and text (Gentzkow, Kelly, and Taddy, 2019). Such data constitute promising sources with which to detect hidden forms of influence, especially as more of these data are digitized and made publicly available (Choudhury, Starr, and Agarwal, 2020).

Research on investor influence and common institutional ownership. As common ownership has become the norm among institutional investors, scholars have exerted considerable effort to unpack how this structural change in the investment industry is shaping corporate practices and priorities (DesJardine, Grewal, and Viswanathan, 2022; DesJardine, Zhang, and Shi, 2023). The general conclusion is that by owning multiple firms in the same industry, investors with common ownership occupy an advantageous position from which they can coordinate firms' actions to their own avail. Goranova, Dharwadkar, and Brandes (2010) provided compelling evidence showing that acquiring firms pay higher acquisition premiums for target firms when the acquirers' investors also own shares in those targets. Other scholars have shown that common ownership can limit intra-industry competition by coordinating price fixing (Azar, Schmalz, and Tecu, 2018) and mitigate direct competition by fostering competitive action dissimilarity between firms (Connelly, Lee et al., 2019). Our findings extend these studies to show that common

ownership in media companies can benefit investors by slanting the media against the rivals of an investor's portfolio firms.

Our focus on common ownership between industries also provides a new way of conceptualizing common ownership. Most prior research has considered common ownership within industries, defining such ownership as owning two peer firms in the same industry (He and Huang, 2017; Connelly, Lee et al., 2019; Park et al., 2019). Taking a different view, we defined common ownership as cases in which an investor owns one firm in the media industry and another firm in a non-media industry, and explored how the investors' stake in the media industry can be leveraged to profit portfolio firms in another industry. Accounting for cross-industry common ownership raises new questions about other effects that common owners might have on organizational outcomes. For instance, might common owners strategically invest in real-estate holdings companies to help secure privileged land deals for retail firms in their portfolios? Or might they buy into legal firms to provide privileged access to the best lawyers for other more-contentious firms in their portfolios? Or might they buy into certification agencies to secure better ratings for other firms they own? While provocative, these questions highlight the many ways in which our study can spark further investigation into the consequences of cross-industry common ownership, an important but understudied phenomenon.

Research on the antecedents and implications of the media. Our study reveals a new driver of media coverage. Given the potential strategic importance of media coverage for companies, numerous studies have unpacked the various factors that explain changes in a firm's media coverage. These factors have largely focused on executive-level, firm-level, media-level, and governmental drivers, with research showing that media coverage of firms can be influenced by CEOs' ingratiation tactics and social skills (Shani and Westphal, 2016), firms' prior performance (Dai, Parwada, and Zhang, 2015) and investor relations expertise (Bushee and Miller, 2012), media companies' prior evaluations of firms (Pollock, Rindova, and Maggitti, 2008), and government control (Besley and Prat, 2006). Yet, as a few communication studies and our interviewees suggested, the owners of media companies can have a profound influence on their operations and strategies (Picard, 2011). Nonetheless, these two streams of research have largely developed independently. Our work bridges these domains by showing that institutional ownership in the media can have a consequential effect by biasing media coverage.

Related, our study sheds new light on the strategic value of the media. Prior research has highlighted the benefits that favorable media coverage can create for recipient firms, leading the media to be labeled as an important strategic asset (Deephouse, 2000; Pollock and Rindova, 2003). Research in this vein largely shows that firms seek to manage their media coverage to attain legitimacy and build stronger reputations, which ultimately lead to performance benefits. Our study extends this view of the media as a strategic asset, showing the value these holdings can bestow on investors who own the media and their fortunate corporate beneficiaries.

Our findings also help explain why investors have demonstrated such immense interest in owning media companies in recent years. For example, The McClatchy Company, one of the largest and most respected news publishers in the United States, filed for bankruptcy in 2020 and was subsequently purchased by New Jersey–based investor Chatham Asset

Management. Prior to Chatham's undisclosed winning bid, however, multiple other investors had vied for the media company, leading a judge to block another last-minute offer by a different investor and prompting Alden Global Capital to issue a statement that it ''was prepared to top *any* other bid'' (Tracy, 2020). While Alden and other investors ultimately lost the bid for McClatchy, in light of our findings their eagerness to own the bankrupt media company should not be overlooked. Even with the loss of McClatchy, Alden controls many newspapers through its MediaNews Group and has the potential to influence others through its controlling stake in Tribune Publishing. These media investments alone may produce direct returns, but given the financial troubles rippling across the media industry, one should wonder why investors are so eager to amass media holdings. By unpacking the strategic appeal of this industry to investors with common ownership positions, we provide a new rationale for these investments.

Practical Implications

Findings from our study have important practical implications. Policymakers have devoted much attention to understanding antitrust concerns associated with common ownership in industry rivals (OECD, 2017). Given that the media serve as an important information intermediary in societies (Bednar, 2012) and that press freedom is among the most fundamental pillars of many democracies, our study calls for policymakers to more closely scrutinize the social and competitive trade-offs of permitting common ownership in the media.

Our study calls for more regulatory attention to the conversations that occur in private meetings between investors and executives, beyond those that occur in the media industry. Commentators have suggested that ''In theory, investors should gain little from a face-to-face encounter with an executive'' (Kwoh, 2012), reasoning that securities laws like Reg FD prohibit any single privileged investor from gaining an upper hand by procuring private information from executives. Given such regulations, one should wonder why investors continue to demand regular meetings with executives, especially given the high costs that all parties incur. As current regulations limit the information flow only from executives to investors, our study suggests that it would be prudent for regulators to consider how information and influence may flow in the other direction, from investors to executives.

Our findings also have implications for managers. Acknowledging the important financing role of institutional investors, some executives have bemoaned the pressure that investors can place on their business. Yet, our results imply that institutional ownership—especially by powerful blockholders—can be advantageous when those investors also own media companies, whose executives may cater to similar pressure. While managers in companies without such influential investors may avoid intensive monitoring and pressure by institutional investors, they also risk having the media tilted against them. Our results thus suggest that managers might benefit from seeking institutional investors that could help them gain access to the media as a strategic asset.

Future Research Directions

Our overarching theory is that sufficiently incentivized and powerful outsiders, depending on their economic interests, will use indirect channels to elevate

some firms over others. Beyond studying common ownership in the media, scholars may further probe this theory by examining the channels used by other outsiders, such as judges, politicians, activists, and securities analysts. Sytch and Kim (2021) showed that companies can strategically use shared educational and professional affiliations between lawyers and judges to influence legal outcomes, alluding to biases among judges. Although U.S. federal judges are required to recuse themselves if they have a financial stake in a litigant company, they can rule on cases related to the rivals of companies in which they invest. Applying our theoretical framework, future research can investigate whether federal judges' equity ownership biases their judicial rulings against companies that are rivals of the firms in their investment portfolios.

Next, scholars have widely acknowledged that different types of investors have differential priorities, tactics, and influence (Connelly et al., 2010). Given their aggressive orientation (DesJardine and Durand, 2020), and as our examples involving Alden Global Capital suggest, hedge funds may be especially active in leveraging the media as a strategic tool. By comparison, pension funds that adopt a more stakeholder-oriented agenda might avoid biasing the media to improve their financial returns. Wealthy individuals, such as Salesforce CEO and founder Marc Benioff, who acquired the media outlet *Time* in 2019, may fall somewhere in between. Future research could elaborate on our findings by exploring how these relationships change depending on the type of investor owning the media. Related, as we obtained ownership data for only public media companies, our study focuses solely on these media companies. Future research can investigate whether the influence that we have documented applies to private, family-owned media companies.

We have offered a new conceptualization of common ownership wherein the same investors own shares of companies in different industries. As mentioned, this raises additional questions about how else investors might build ownership positions in adjacent industries to support the businesses of firms in other industries. For example, investors that invest heavily in retail chains—or any companies with substantial commercial or industrial real-estate needs—might amass holdings in large landowners so they can help secure more favorable real-estate deals for other companies in their portfolio.

Conclusion

Some parties undoubtedly will have a vested interest in seeing particular firms outperform their rivals. Noting the rapid rise of institutional ownership in the media and the strategic utility of owning media companies, we crafted a novel dataset that allowed us to examine how common owners' media ownership alters the media coverage of other firms. By doing so, we were able to begin to outline an otherwise invisible force that is shaping industry competition. But much remains unexplored. By uncovering how investors covertly use the media to their own benefit, we hope to inspire future research not only on the economic forces that can affect media coverage but, more important, on the invisible hands that impact the competitive marketplaces and organizations we know.

Acknowledgments

We thank Associate Editor Maxim Sytch and the team of reviewers for their insightful editorial guidance that helped develop this research. We thank seminar participants at

the University of Groningen and CEIBS for their valuable feedback. Mark DesJardine gratefully acknowledges support from the Wharton ESG Initiative.

REFERENCES

Abadie, A., S. Athey, G. W. Imbens, and J. Wooldridge
2017 ''When should you adjust standard errors for clustering?'' National Bureau of Economic Research Working Paper 24003.

Ahern, K. R., and D. Sosyura
2015 ''Rumor has it: Sensationalism in financial media.'' Review of Financial Studies, 28: 2050–2093.

Astvansh, V., Y.-Y. Wang, and W. Shi
2022 ''The effects of the news media on a firm's voluntary product recalls.'' Production and Operations Management, 31: 4223–4244.

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

Beattie, G., R. Durante, B. Knight, and A. Sen
2021 ''Advertising spending and media bias: Evidence from news coverage of car safety recalls.'' Management Science, 67: 698–719.

Becht, M., J. R. Franks, and H. F. Wagner
2021 ''The benefits of access: Evidence from private meetings with portfolio firms.'' European Corporate Governance Institute–Finance Working Paper, 751. Brussels, Belgium: ECGI.

Bednar, M. K.
2012 ''Watchdog or lapdog? A behavioral view of the media as a corporate governance mechanism.'' Academy of Management Journal, 55: 131–150.

Bednar, M. K., S. Boivie, and N. R. Prince
2013 ''Burr under the saddle: How media coverage influences strategic change.'' Organization Science, 24: 910–925.

Berger, A. N., R. S. Demsetz, and P. E. Strahan
1999 ''The consolidation of the financial services industry: Causes, consequences, and implications for the future.'' Journal of Banking & Finance, 23: 135–194.

Berger, J., A. T. Sorensen, and S. J. Rasmussen
2010 ''Positive effects of negative publicity: When negative reviews increase sales.'' Marketing Science, 29: 815–827.

Bergh, D. D., and B. M. Sharp
2015 ''How far do owners reach into the divestiture process? Blockholders and the choice between spin-off and sell-off.'' Journal of Management, 41: 1155–1183.

Besley, T., and A. Prat
2006 ''Handcuffs for the grabbing hand? Media capture and government accountability.'' American Economic Review, 96: 720–736.

Bharath, S. T., S. Jayaraman, and V. Nagar
2013 ''Exit as governance: An empirical analysis.'' Journal of Finance, 68: 2515–2547.

Blasco, A., P. Pin, and F. Sobbrio
2016 ''Paying positive to go negative: Advertisers' competition and media reports.'' European Economic Review, 83: 243–261.
Borochin, P., and J. Yang
2017 ''The effects of institutional investor objectives on firm valuation and governance.'' Journal of Financial Economics, 126: 171–199.
Brown, L. D., A. C. Call, M. B. Clement, and N. Y. Sharp
2019 ''Managing the narrative: Investor relations officers and corporate disclosure.'' Journal of Accounting and Economics, 67: 58–79.
Bushee, B. J.
1998 ''The influence of institutional investors on myopic R&D investment behavior.'' The Accounting Review, 73: 305–333.
Bushee, B., M. Cedergren, and J. Michels
2020 ''Does the media help or hurt retail investors during the IPO quiet period?'' Journal of Accounting and Economics, 69: 101261.
Bushee, B. J., and G. S. Miller
2012 ''Investor relations, firm visibility, and investor following.'' Accounting Review, 87: 867–897.
Cao, S., V. W. Fang, and L. G. Lei
2021 ''Negative peer disclosure.'' Journal of Financial Economics, 140: 815–837.
Chen, M.-J.
1996 ''Competitor analysis and interfirm rivalry: Toward a theoretical integration.'' Academy of Management Review, 21: 100–134.
Chen, M.-J., and D. Miller
2012 ''Competitive dynamics: Themes, trends, and a prospective research platform.'' Academy of Management Annals, 6: 135–210.
Chen, T., J. Harford, and C. Lin
2015 ''Do analysts matter for governance? Evidence from natural experiments.'' Journal of Financial Economics, 115: 383–410.
Cheng, X., O. Guldiken, and W. Shi
2022 ''Geographic concentration of institutional blockholders and workplace safety violations.'' Journal of Business Ethics, doi.org/10.1007/s10551-022-05249-0.
Choudhury, P., E. Starr, and R. Agarwal
2020 ''Machine learning and human capital complementarities: Experimental evidence on bias mitigation.'' Strategic Management Journal, 41: 1381–1411.
Coffee, J. C.
2021 ''The future of disclosure: ESG, common ownership, and systematic risk.'' Columbia Business Law Review: 602–650.
Coles, J. L., and C. K. Hoi
2003 ''New evidence on the market for directors: Board membership and Pennsylvania Senate Bill 1310.'' Journal of Finance, 58: 197–230.
Condon, M.
2020 ''Externalities and the common owner.'' Washington Law Review, 95(1): 1–81.
Connelly, B. L., R. E. Hoskisson, L. Tihanyi, and S. T. Certo
2010 ''Ownership as a form of corporate governance.'' Journal of Management Studies, 47: 1561–1589.
Connelly, B. L., K. B. Lee, L. Tihanyi, S. T. Certo, and J. L. Johnson
2019 ''Something in common: Competitive dissimilarity and performance of rivals with common shareholders.'' Academy of Management Journal, 62: 1–21.
Connelly, B. L., Q. J. Li, W. Shi, and K. Lee
2020 ''CEO dismissal: Consequences for the strategic risk taking of competitor CEOs.'' Strategic Management Journal, 41: 2092–2125.

Connelly, B. L., W. Shi, R. E. Hoskisson, and B. R. Koka
2019 ''Shareholder influence on joint venture exploration.'' Journal of Management, 45: 3178–3203.
Connelly, B. L., L. Tihanyi, D. J. Ketchen, Jr., C. M. Carnes, and W. J. Ferrier
2017 ''Competitive repertoire complexity: Governance antecedents and performance outcomes.'' Strategic Management Journal, 38: 1151–1173.
Core, J. E., W. Guay, and D. F. Larcker
2008 ''The power of the pen and executive compensation.'' Journal of Financial Economics, 88: 1–25.
Cranberg, G., R. P. Bezanson, and J. Soloski
2001 Taking Stock: Journalism and the Publicly Traded Newspaper Company. Ames, IA: Iowa State University Press.
Cunningham, L. A.
2020 Quality Shareholders: How the Best Managers Attract and Keep Them. New York: Columbia University Press.
Dai, L., J. T. Parwada, and B. Zhang
2015 ''The governance effect of the media's news dissemination role: Evidence from insider trading.'' Journal of Accounting Research, 53: 331–366.
David, P., R. Kochhar, and E. Levitas
1998 ''The effect of institutional investors on the level and mix of CEO compensation.'' Academy of Management Journal, 41: 200–208.
Deephouse, D. L.
2000 ''Media reputation as a strategic resource: An integration of mass communication and resource-based theories.'' Journal of Management, 26: 1091–1112.
DesJardine, M., and R. Durand
2020 ''Disentangling the effects of hedge fund activism on firm financial and social performance.'' Strategic Management Journal, 41: 1054–1082.
DesJardine, M., J. Grewal, and K. Viswanathan
2022 ''A rising tide lifts all boats: The effects of common ownership on corporate social responsibility. '' Organization Science, doi.org/10.1287/orsc.2022.1620.
DesJardine, M. R., M. Zhang, and W. Shi
2023 ''How shareholders impact stakeholder interests: A review and map for future research.'' Journal of Management, 49: 400–429.
Dharwadkar, R., M. Goranova, P. Brandes, and R. Khan
2008 ''Institutional ownership and monitoring effectiveness: It's not just how much but what else you own.''Organization Science, 19: 419–440.
Dougal, C., J. Engelberg, D. Garcia, and C. A. Parsons
2012 ''Journalists and the stock market.'' Review of Financial Studies, 25: 639–679.
Durand, R., and J. P. Vergne
2015 ''Asset divestment as a response to media attacks in stigmatized industries.'' Strategic Management Journal, 36: 1205–1223.
Edmans, A.
2009 ''Blockholder trading, market efficiency, and managerial myopia.'' Journal of Finance, 64: 2481–2513.
Edmans, A., and C. G. Holderness
2017 ''Blockholders: A survey of theory and evidence.'' Handbook of the Economics of Corporate Governance, 1: 541–636.
Edmonds, R.
2004 ''News staffing, news budgets and news capacity.'' Newspaper Research Journal, 25: 98–109.
Elhauge, E.
2015 ''Horizontal shareholding.'' Harvard Law Review, 129: 1267–1317.

Ellman, M., and F. Germano
2009 ''What do the papers sell? A model of advertising and media bias.'' Economic Journal, 119: 680–704.
Engelberg, J. E., and C. A. Parsons
2011 ''The causal impact of media in financial markets.'' Journal of Finance, 66: 67–97.
Federal Trade Commission
2018 ''Hearings on competition and consumer protection in the 21st century.'' FTC Hearing #8: Common Ownership, Dec. 6. https://www.ftc.gov/news-events/events-calendar/ftc-hearing-8-competition-consumer-protection-21st-century.
Fich, E. M., and A. Shivdasani
2007 ''Financial fraud, director reputation, and shareholder wealth.'' Journal of Financial Economics, 86: 306–336.
Finkelstein, S., D. C. Hambrick, and A. A. Cannella
2009 Strategic Leadership: Theory and Research on Executives, Top Management Teams, and Boards. Oxford, UK: Oxford University Press.
Fos, V., and M. Tsoutsoura
2014 ''Shareholder democracy in play: Career consequences of proxy contests.'' Journal of Financial Economics, 114: 316–340.
Gao, P., C. A. Parsons, and J. Shen
2018 ''Global relation between financial distress and equity returns.'' Review of Financial Studies, 31: 239–277.
Gentzkow, M., B. Kelly, and M. Taddy
2019 ''Text as data.'' Journal of Economic Literature, 57: 535–574.
Gentzkow, M., and J. M. Shapiro
2008 ''Competition and truth in the market for news.'' Journal of Economic Perspectives, 22: 133–154.
Gleason, C. A., N. T. Jenkins, and W. B. Johnson
2008 ''The contagion effects of accounting restatements.'' Accounting Review, 83: 83–110.
Goranova, M., R. Dharwadkar, and P. Brandes
2010 ''Owners on both sides of the deal: Mergers and acquisitions and overlapping institutional ownership.'' Strategic Management Journal, 31: 1114–1135.
Graf-Vlachy, L., A. G. Oliver, R. Banfield, A. König, and J. Bundy
2020 ''Media coverage of firms: Background, integration, and directions for future research.'' Journal of Management, 46: 36–69.
Gujarati, D. N.
2003 Basic Econometrics. New York: McGraw-Hill.
Guo, W., M. Sengul, and T. Yu
2020 ''Rivals' negative earnings surprises, language signals, and firms' competitive actions.'' Academy of Management Journal, 63: 637–659.
Gurun, U. G., and A. W. Butler
2012 ''Don't believe the hype: Local media slant, local advertising, and firm value.'' Journal of Finance, 67: 561–597.
Hadani, M.
2021 ''The reputational costs of corporate litigation: Long-term media reputation damages to firms' involvement in litigation.'' Corporate Reputation Review, 24: 234–246.
Hambrick, D. C., T. S. Cho, and M.-J. Chen
1996 ''The influence of top management team heterogeneity on firms' competitive moves.'' Administrative Science Quarterly, 41: 659–684.
Haveman, H. A., and L. Nonnemaker
2000 ''Competition in multiple geographic markets: The impact on growth and market entry.'' Administrative Science Quarterly, 45: 232–267.

He, J. J., and J. Huang
2017 ''Product market competition in a world of cross-ownership: Evidence from institutional blockholdings.'' Review of Financial Studies, 30: 2674–2718.
He, J. J., J. Huang, and S. Zhao
2019 ''Internalizing governance externalities: The role of institutional cross-ownership.'' Journal of Financial Economics, 134: 400–418.
Heckman, J. J.
1979 ''Sample selection bias as a specification error.'' Econometrica, 47: 153–161.
Hersel, M. C.
2022 ''Fighting with the fourth estate: A theoretical framework of organization–media rivalry for narrative control following a transgression.'' Academy of Management Review, 47: 425–447.
Hirschman, A. O.
1970 Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States. Cambridge, MA: Harvard University Press.
Hoberg, G., and G. Phillips
2016 ''Text-based network industries and endogenous product differentiation.'' Journal of Political Economy, 124: 1423–1465.
Houston, J. F., C. M. James, and M. D. Ryngaert
2001 ''Where do merger gains come from? Bank mergers from the perspective of insiders and outsiders.'' Journal of Financial Economics, 60: 285–331.
Hsieh, K.-Y., W. Tsai, and M.-J. Chen
2015 ''If they can do it, why not us? Competitors as reference points for justifying escalation of commitment.'' Academy of Management Journal, 58: 38–58.
Impullitti, G.
2010 ''International competition and US R&D subsidies: A quantitative welfare analysis.'' International Economic Review, 51: 1127–1158.
Inkpen, A. C., and A. K. Sundaram
2022 ''The endurance of shareholder value maximization as the preferred corporate objective.'' Journal of Management Studies, 59: 555–568.
Jonkman, J. G., M. Boukes, R. Vliegenthart, and P. Verhoeven
2020 ''Buffering negative news: Individual-level effects of company visibility, tone, and pre-existing attitudes on corporate reputation.'' Mass Communication and Society, 23: 272–296.
Jonsson, S., H. R. Greve, and T. J. A. S. Q. Fujiwara-Greve
2009 ''Undeserved loss: The spread of legitimacy loss to innocent organizations in response to reported corporate deviance.'' Administrative Science Quarterly, 54: 195–228.
Kale, J. R., E. Reis, and A. Venkateswaran
2009 ''Rank-order tournaments and incentive alignment: The effect on firm performance.'' Journal of Finance, 64: 1479–1512.
Kang, J.-K., J. Luo, and H. S. Na
2018 ''Are institutional investors with multiple blockholdings effective monitors?'' Journal of Financial Economics, 128: 576–602.
Kaniel, R., and R. Parham
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., and A. Madhavan
1997 ''Transactions costs and investment style: An inter-exchange analysis of institutional equity trades.'' Journal of Financial Economics, 46: 265–292.
Koch, A., M. Panayides, and S. Thomas
2021 ''Common ownership and competition in product markets.'' Journal of Financial Economics, 139: 109–137.

Kolasinski, A. C., A. V. Reed, and M. C. Ringgenberg
2013 ''A multiple lender approach to understanding supply and search in the equity lending market.'' Journal of Finance, 68: 559–595.
Kwoh, L.
2012 ''Investors demand CEO face time: Bosses must juggle more meetings with investors, leaving less time to run their companies.'' The Wall Street Journal, Nov. 29. https://www.wsj.com/articles/SB10001424127887324784404578145242728424164
Lamin, A., and S. Zaheer
2012 ''Wall Street vs. Main Street: Firm strategies for defending legitimacy and their impact on different stakeholders.'' Organization Science, 23: 47–66.
Lazer, D. M., M. A. Baum, Y. Benkler, A. J. Berinsky, K. M. Greenhill, F. Menczer, and M. J. Metzger, et al.
2018 ''The science of fake news.'' Science, 359: 1094–1096.
Lewellen, K., and M. Lowry
2021 ''Does common ownership really increase firm coordination?'' Journal of Financial Economics, 141: 322–344.
Ma, L., Y. Tang, and J. P. Gomez
2019 ''Portfolio manager compensation in the US mutual fund industry.'' Journal of Finance, 74: 587–638.
Madhavan, A., and M. Cheng
1997 ''In search of liquidity: Block trades in the upstairs and downstairs markets.'' Review of Financial Studies, 10: 175–203.
Madsen, J., and M. Niessner
2019 ''Is investor attention for sale? The role of advertising in financial markets.'' Journal of Accounting Research, 57: 763–795.
McDonnell, M.-H., and B. King
2013 ''Keeping up appearances: Reputational threat and impression management after social movement boycotts.'' Administrative Science Quarterly, 58: 387–419.
Miric, M., N. Jia, and K. G. Huang
2023 ''Using supervised machine learning for large-scale classification in management research: The case for identifying artificial intelligence patents.'' Strategic Management Journal, 44: 491–519.
Naumovska, I., and D. Lavie
2021 ''When an industry peer is accused of financial misconduct: Stigma versus competition effects on non-accused firms.'' Administrative Science Quarterly, 66: 1130–1172.
Naumovska, I., and E. J. Zajac
2022 ''How inductive and deductive generalization shape the guilt-by-association phenomenon among firms: Theory and evidence.'' Organization Science, 33: 373–392.
Oram, S. S.
2016 41 Tips for Effective Investor Relations: How You Can Navigate Successfully through IR. North Haven, CT:SOS Communications.
Organization for Economic Cooperation and Development (OECD)
2017 ''Common ownership by institutional investors and its impact on competition.'' Paris: OECD.
Park, J., J. Sani, N. Shroff, and H. White
2019 ''Disclosure incentives when competing firms have common ownership.'' Journal of Accounting and Economics, 67: 387–415.
Paruchuri, S., and V. F. Misangyi
2015 ''Investor perceptions of financial misconduct: The heterogeneous contamination of bystander firms.'' Academy of Management Journal, 58: 169–194.
Petrova, M.
2008 ''Inequality and media capture.'' Journal of Public Economics, 92: 183–212.

Pfarrer, M. D., T. G. Pollock, and V. P. Rindova
2010 ''A tale of two assets: The effects of firm reputation and celebrity on earnings surprises and investors' reactions.'' Academy of Management Journal, 53: 1131–1152.
Picard, R. G.
1994 ''Institutional ownership of publicly traded US newspaper companies.'' Journal of Media Economics, 7: 49–64.
Picard, R. G.
2011 The Economics and Financing of Media Companies. New York: Fordham University Press.
Piotroski, J. D., T. Wong, and T. Zhang
2017 ''Political bias in corporate news: The role of conglomeration reform in China.'' Journal of Law and Economics, 60: 173–207.
Pirinsky, C., and Q. Wang
2006 ''Does corporate headquarters location matter for stock returns?'' Journal of Finance, 61: 1991–2015.
Pollock, T. G., and V. P. Rindova
2003 ''Media legitimation effects in the market for initial public offerings.'' Academy of Management Journal, 46: 631–642.
Pollock, T. G., V. P. Rindova, and P. G. Maggitti
2008 ''Market watch: Information and availability cascades among the media and investors in the USIPO market.'' Academy of Management Journal, 51: 335–358.
Porter, M. E.
1980 Competitive Strategy: Techniques for Analyzing Industries and Competitors. New York: Free Press.
Qian, C., D. Crilly, Y. Lin, K. Zhang, and R. Zhang
2023 ''Short-selling pressure and workplace safety: Curbing short-termism through stakeholder interdependencies.'' Organization Science, 34: 358–379.
Rees, L. L., and B. J. Twedt
2022 ''Political bias in the media's coverage of firms' earnings announcements.'' Accounting Review, 97: 389–411.
Reuter, J., and E. Zitzewitz
2006 ''Do ads influence editors? Advertising and bias in the financial media.'' Quarterly Journal of Economics, 121: 197–227.
Rohlinger, D., and J. M. Proffitt
2017 ''How much does ownership matter? Deliberative discourse in local media coverage of the Terri Schiavo case.'' Journalism, 18: 1274–1291.
Shani, G., and J. Westphal
2016 ''Persona non grata? Determinants and consequences of social distancing from journalists who engage in negative coverage of firm leadership.'' Academy of Management Journal, 59: 302–329.
Shi, W., B. L. Connelly, and R. E. Hoskisson
2017 ''External corporate governance and financial fraud: Cognitive evaluation theory insights on agency theory prescriptions.'' Strategic Management Journal, 38: 1268–1286.
Shi, W., Y. Zhang, Y., and R. E. Hoskisson
2017 ''Ripple effects of CEO awards: Investigating the acquisition activities of superstar CEOs' competitors.'' Strategic Management Journal, 38: 2080–2102.
Shi, W., D. Wajda, and R. V. Aguilera
2022 ''Interorganizational spillover: A review and a proposal for future research.'' Journal of Management, 48: 185–210.
Shrestha, Y. R., V. F. He, P. Puranam, and G. von Krogh
2021 ''Algorithm supported induction for building theory: How can we use prediction models to theorize?'' Organization Science, 32: 856–880.

Solomon, D., and E. Soltes
2015 ''What are we meeting for? The consequences of private meetings with investors.'' Journal of Law and Economics, 58: 325–355.
Stephen, A. T., and J. Galak
2012 ''The effects of traditional and social earned media on sales: A study of a microlending marketplace.'' Journal of Marketing Research, 49: 624–639.
Sytch, M., and Y. H. Kim
2021 ''Quo vadis? From the schoolyard to the courtroom.'' Administrative Science Quarterly, 66: 177–219.
Tan, T. F., and S. Netessine
2014 ''When does the devil make work? An empirical study of the impact of workload on worker productivity.'' Management Science, 60: 1574–1593.
Tang, G., and X. Zhang
2021 ''Media attention to locations and the cross-section of stock returns.'' Accounting & Finance, 61: 2301–2336.
Tetlock, P. C.
2011 ''All the news that's fit to reprint: Do investors react to stale information?'' Review of Financial Studies, 24: 1481–1512.
Tracy, M.
2020 ''Chatham Hedge Fund has the winning bid for McClatchy Newspapers.'' The New York Times, July 12. https://www.nytimes.com/2020/07/12/business/media/hedge-fund-mcclatchy-newspapers.html.
Westphal, J. D., and M. K. Bednar
2008 ''The pacification of institutional investors.'' Administrative Science Quarterly, 53: 29–72.
Westphal, J. D., and D. L. Deephouse
2011 ''Avoiding bad press: Interpersonal influence in relations between CEOs and journalists and the consequences for press reporting about firms and their leadership.'' Organization Science, 22: 1061–1086.
You, J., B. Zhang, and L. Zhang
2018 ''Who captures the power of the pen?'' Review of Financial Studies, 31: 43–96.
Zhu, D. H., and J. D. Westphal
2011 ''Misperceiving the beliefs of others: How pluralistic ignorance contributes to the persistence of positive security analyst reactions to the adoption of stock repurchase plans.'' Organization Science, 22: 869–886.