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Do Corporate Site Visits Affect the Informational Role of Independent Directors?

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Keywords: Independent director; site visit; corporate governance

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Abstract

This study examines the influence of corporate site visits on information acquisition and dissemination by independent directors (IDs). Employing two unique sources of data from Chinese listed firms based on the mandatory disclosure of IDs' (i) site visit activities and (ii) opinions about corporate decisions, we find that the acquisition of firm-specific information and the dissemination of such information to the market is greater among IDs who conduct visits than their counterparts without such visits. Moreover, this effect is more pronounced in firms with complex information environments, lower proprietary costs, and among IDs with greater internal information asymmetry, superior external information, and stronger incentives and abilities to perform their duties. Furthermore, the firm-specific information disseminated by IDs leads to stronger market reactions and improves stock price efficiency. Our study shows that site visits contribute to the informational role of IDs, and our evidence offers important corporate governance and regulatory implications.

Keywords: Independent directors; site visit; corporate governance

1. Introduction

We examine the influence of corporate site visits on the informational role of independent directors (IDs). The board of directors plays a crucial role in the governance of corporations (Anderson, Reeb, Upadhyay, & Zhao, 2011; Beavers & Mobbs, 2020; Dou, Sahgal, & Zhang, 2015; Fogel, Ma, & Morck, 2021; Renjie & Verwijmeren, 2020; von Meyerinck, Oesch, & Schmid, 2016). Prior studies suggest that IDs, who have fewer ties to the firm other than their directorship, are more suitable to perform this role because they can effectively monitor managers (Fama & Jensen, 1983). Thus, IDs can play a crucial role by providing advice to managers, improving the efficacy and effectiveness of boards, and mitigating agency costs (Adams, Hermalin, & Weisbach, 2010; Fama, 1980; Fama & Jensen, 1983). However, conclusions regarding the effectiveness of IDs are mixed (Adams & Ferreira, 2007; Agrawal & Knoeber, 2001; Nguyen & Nielsen, 2010; Weisbach, 1988). IDs may have weaker incentives to expend effort, higher information acquisition costs, and are more dependent on CEO information (e.g., Adams & Ferreira, 2007; Fama & Jensen, 1983; Kumar & Sivaramakrishnan, 2008). IDs' inferior information compared to corporate insiders can hinder their effectiveness in carrying out monitoring and advising duties, and the question of whether IDs can mitigate their information disadvantage has been a central premise of corporate finance research for decades (Armstrong, Core, & Guay, 2014; Duchin, Matsusaka, & Ozbas, 2010; Fama & Jensen, 1983; Jensen, 1993). This study investigates whether and how corporate site visits can affect IDs' firm-specific information acquisition and their dissemination of the information to the market.

To evaluate the impact of site visit activities on the acquisition and dissemination of firm-specific information by IDs, we take advantage of two unique data sources in China that are unavailable in other jurisdictions. First, Chinese-listed firms are required to disclose ID's corporate site visit activities on a mandatory basis. The China Securities Regulatory Commission (CSRC hereafter) issued a corporate governance regulation in 2004 that required firms to ensure that IDs have the same access to information as other directors by organizing site visits upon their request. The Shenzhen Stock Exchange (SZSE hereafter) has mandated since 2009 that listed firms disclose their ID's annual working reports, which require IDs to describe whether they have made any corporate site visits during the fiscal year¹. The Shanghai Stock Exchange (SHSE hereafter) made the same requirement in 2011². Second, Chinese-listed

¹ See http://www.szse.cn/disclosure/notice/general/t20100104_500329.html.

² See <https://www.66law.cn/tiaoli/62702.aspx>.

firms are required to disclose ID's opinions on corporate activities and decisions. In particular, the corporate governance regulations issued by CSRC in 2001 mandated IDs to issue their standalone opinions following meetings where the board makes decisions on material transactions, which provides IDs with opportunities to express their views and attitudes toward certain corporate decisions and convey firm-specific information to the public. Together, the intersection of data associated with mandatorily disclosed information on (i) IDs' corporate site visits and (ii) their opinions during board meetings on material transactions enables us to address our research question on whether IDs' site visit activities would affect the amount of firm-specific information disseminated through their opinions.

The prediction regarding how IDs' site visits influence their informational role is mixed. On the one hand, site visits enable IDs to effectively gain and share firm-specific information, mainly through direct, real-time engagement with management. This interaction facilitates in-depth understanding of corporate culture, morale, and strategy, allowing IDs to gather valuable 'soft information' and providing a competitive edge in knowledge (S. Cao et al., 2023; Chen et al., 2022; Cheng et al., 2019, 2016; Han et al., 2018; Quan et al., 2023). Moreover, the information gained during these visits, although not typically price-sensitive, can be integrated with other data to offer new insights into the firm, with the added benefit of being less prone to legal scrutiny than public statements (Holland & Doran, 1998; Roberts et al., 2006). On the other hand, several factors may undermine the informational role of IDs during site visits. CEOs possess the ability to shape the governance structure of their firms to favor directors less likely to provide strict monitoring (Adams & Ferreira, 2007; Fracassi & Tate, 2012; Hermalin & Weisbach, 1998; Cohen et al., 2012; Shivdasani & Yermack, 1999; Coles et al., 2014; Khanna et al., 2015). Directors may choose board positions for personal gain, potentially leading to collusion with CEOs and a neglect of shareholder interests, possibly resulting in the spread of misleading information or the withholding of negative news (Denis et al., 2014; Fahlenbrach et al., 2010, 2017; Masulis & Mobbs, 2014).

Using a sample of Chinese-listed firms from 2009 to 2017, we empirically test the effect of IDs' site-visiting activities on their informational role. To measure IDs' information acquisition and dissemination, we quantify the amount of firm-specific information expressed in IDs' opinions by employing a textual analysis method. Our main result shows that IDs' corporate site visits significantly increase the quantity of firm-specific information in the opinions they issue during the board meeting. On average, the quantity of firm-specific information disseminated by visiting IDs increases by approximately 7.70% relative to non-visiting IDs. We demonstrate that our baseline evidence is not driven by endogeneity concerns in

numerous ways. First, we use a two-stage least squares (2SLS) estimation to enhance the causal relationship between site visits and IDs' informational role by employing extreme weather (Weather) as our exogenous instrument for predicting firm visits. Second, we conduct two sets of placebo tests by randomly changing the year of all visiting IDs to the firms or randomly changing the firm in a year for all visiting IDs and then summarizing the distribution of coefficients of interest after hundreds of regressions. The result shows that firms or ID characteristics do not drive our main finding. Third, we further incorporate ID fixed effects to alleviate the concern that certain unobservable ID characteristics potentially drive our results. We still find significant results showing that site visits effectively improve the quantity of firm-specific information in IDs' opinions after controlling for unobserved ID factors.

We carry out two sets of additional analyses to examine (i) the cross-sectional variations in the effect we observe and (ii) the consequences of this effect on the capital market. In terms of cross-sectional variations, we show that the influence of corporate site visits on IDs' firm-specific information acquisition and dissemination is more pronounced when the information environment is more complex. In addition, the effect is stronger for IDs with internal information disadvantages but external information advantages and those with stronger incentives and a better ability to acquire new information. In terms of the consequences on the capital market, we find that more firm-specific information not only results in stronger market reactions to earnings announcements (i.e., earnings response coefficient) but also contributes to improved price efficiency and provides complementary information in addition to the site visits of analysts or other institutional investors.

Our study contributes to several strands of literature. First, we expand the ID literature by providing evidence that corporate site visits can serve as a vital mechanism for IDs to perform their duties and impart their information roles effectively. Prior studies have examined the monitoring function (e.g., Ajinkya et al. 2005; Armstrong et al. 2014; Karamanou and Vafeas 2005) and the advising function (Ke, Li, & Zhang, 2020) of board members. By taking advantage of the unique data sources from China, our study uniquely examines both functions within the context of IDs' informational role and shows that corporate site visits contribute to both functions by facilitating IDs' information acquisition and dissemination. More importantly, existing studies have also pointed out that the effectiveness of IDs is limited by their information asymmetry vis-à-vis corporate insiders, and the effectiveness of their functions can be impaired when they are only provided with insufficient information (Adams & Ferreira, 2007; Armstrong et al., 2014; Duchin et al., 2010; Fama & Jensen, 1983; Kumar & Sivaramakrishnan, 2008). Therefore,

questions regarding IDs' effectiveness and informational role remain unanswered as IDs' acquisition and dissemination of firm-specific information are largely unobservable in prior empirical research. Our evidence contributes to the literature by showing that corporate site visits can reduce IDs' information disadvantages and strengthen their informational role through IDs' active information acquisition during corporate site visits and information dissemination to investors. Furthermore, limited data availability has hindered recent empirical studies on how IDs fulfill their duties (e.g., Fahlenbrach, Low, & Stulz, 2017; W. Jiang et al., 2016; Ma & Khanna, 2015). Our study complements prior studies by investigating the granularity and uniqueness of the corporate site visit data and IDs' opinion reports in the Chinese setting and employing a more representative sample with much larger board decisions.

Second, we add to the recent literature on corporate site visits. Prior literature on corporate site visits primarily examines the impact of these visits on external governance channels, such as analysts and institutional investors (S. Cao et al., 2023; Cheng et al., 2019, 2016; Han et al., 2018; X. Jiang & Yuan, 2018; Quan et al., 2023). In contrast to these existing studies, our research demonstrates that corporate site visits can significantly influence the board of directors' effectiveness as an internal governance mechanism. In addition, our study also examines the contextual factors that affect the informativeness of IDs' opinions after their site visits. We find that factors such as the complexity of the firm's information environment, the IDs' advantage with external information, and their incentive and ability to acquire new information all contribute to the enhanced informativeness of opinions. This provides valuable insights into the conditions under which IDs' site visits are most effective in facilitating their informational role.

Third, our study contributes to the burgeoning textual analysis literature that explores firm-specific information in corporate filings and other disclosures. Unlike prior studies that draw their inference from external communication channels such as IPO prospectuses (Hanley & Hoberg, 2010), earnings conference calls (Davis, Ge, Matsumoto, & Zhang, 2015; Mayew, 2008; Mayew, Sharp, & Venkatachalam, 2013), and analyst reports (De Franco, Hope, Vyas, & Zhou, 2015; A. H. Huang, Zang, & Zheng, 2014), we focus on ID opinions issued during board meetings that can serve both as internal and external communication channels. Our textual analysis in the Chinese context also answers the call by Loughran and McDonald (2016) to explore the role of narratives in international settings. Although variations in institutional backgrounds and cultures can lead to different ways of expression, our results show that the textual analysis can be used to study important questions in the Chinese setting where information on IDs' opinions is publicly available.

Finally, our study also carries significant implications for governance and regulatory practices. By emphasizing the benefits of IDs' site-visiting activities and the value of the information contained in their opinions, our findings suggest that mandating the disclosure of such opinions could enhance IDs' effectiveness in fulfilling their duties. Our research also demonstrates that corporate site visits contribute to the information collection of IDs, underscoring the continued importance of human interaction as a means of collecting and acquiring information, even in an era dominated by technological advancements in information retrieval. Our findings imply that limitations on human mobility or face-to-face interactions, such as those experienced during the COVID-19 pandemic with isolation and quarantine measures, can undermine the efficacy and effectiveness of certain corporate governance mechanisms.

2. Literature review, institutional background, and hypothesis development

2.1. Prior literature on corporate site visits and ID

Despite the prevalence and importance of corporate site visits have been recognized and site visits are viewed as one of the most important information collection activities (Brown et al., 2015), the empirical evidence on corporate site visits has been scarce largely due to the lack of archival records of site visits in well-developed markets. The relevant literature that emerged recently takes advantage of the data disclosed by listed firms in China regarding site visits carried out by financial analysts and institutional investors (S. Cao et al., 2023; Cheng et al., 2019, 2016; Han et al., 2018; X. Jiang & Yuan, 2018; Quan et al., 2023). For instance, Cheng et al. (2016) investigate the influence of corporate site visits on analysts' forecast accuracy and find that analysts conducting site visits experience a greater improvement in forecast accuracy than other analysts. Similarly, Han et al. (2018) find that company visits provide analysts with an informational advantage in terms of analyst forecast accuracy. Jiang and Yuan (2018) document that institutional investors' site visits significantly strengthen corporate innovation.

While prior studies above highlight the importance of corporate site visits, the effect of site visits by IDs is largely unknown and neglected in prior research. Prior literature has pointed out that IDs play a significant role in monitoring managers and alleviating agency conflicts (e.g., Adams et al. 2010; Anderson et al. 2011; Dou et al. 2015; Falato et al. 2014; Fama 1980; Fama and Jensen 1983; Fogel et al. 2021; Renjie and Verwijmeren 2020) whereas there is also doubt regarding the effectiveness of carrying out monitoring and advising duties when they have limited information. On the one hand, some prior studies find that IDs can constrain management opportunistic decisions by affecting top executive compensation (Coles,

Daniel, & Naveen, 2008; Core, Holthausen, & Larcker, 1999; Faleye, Hoitash, & Hoitash, 2011), CEO turnovers (Borokhovich, Parrino, & Trapani, 1996; Knyazeva, Knyazeva, & Masulis, 2013; Weisbach, 1988), adoption of antitakeover defenses (Brickley, Coles, & Terry, 1994) or takeover premiums (Byrd & Hickman, 1992; Cotter, Shivdasani, & Zenner, 1997). Extant research also finds that board independence increases information transparency (Armstrong et al., 2014) and the quality of financial reporting (Intintoli, Kahle, & Zhao, 2018; Klein, 2002; Omer, Shelley, & Tice, 2019). Based on these studies, IDs effectively add value to their firms and improve firm performance (Y. Cao, Dhaliwal, Li, & Yang, 2014; Chang & Wu, 2020; J. J. Choi, Park, & Yoo, 2007; Fogel et al., 2021; H. H. Huang, Lobo, Wang, & Zhou, 2018; Nguyen & Nielsen, 2010; Renjie & Verwijmeren, 2020; von Meyerinck et al., 2016; C. Wang, Xie, & Zhu, 2015). On the other hand, some studies suggest that whether intensified monitoring by board members like IDs has a positive or negative impact on shareholder wealth is still unknown and may depend on various factors (Anderson et al., 2011; Alshali et al., 2023; Duchin et al., 2010; Faleye et al., 2011). In particular, some studies argue that IDs are only “rubber stamps” and there is no positive association between board independence and firm performance (Bhagat & Black, 2002; Hermalin & Weisbach, 1991) or even a negative association (Agrawal & Knoeber, 1996; Yermack, 1996). Recent studies also point out that the monitoring ability and effectiveness of IDs are considerably affected by their costs of information acquisition (Adams & Ferreira, 2007; Y. Cao et al., 2014; Duchin et al., 2010; Kumar & Sivaramakrishnan, 2008). Duchin et al. (2010) find that the effectiveness of outside directors depends on the cost of acquiring information about the firm: when the information acquisition cost is low, performance increases when outsiders are added to the board, and when the information acquisition cost is high, performance worsens when outsiders are added to the board.

2.2 ID regulations in China

The ID system in China was introduced in 2001 when the CSRC issued its “Guideline Opinion on the Establishment of an Independent Director System in Listed Companies” (Guideline, hereafter). The Guideline mandates that at least one-third of the board shall be IDs by June 30, 2003, and requires that IDs can only hold the post of IDs in five listed firms at maximum so that they can fulfill the duties effectively. In particular, the Guideline specifies that firms should publicly disclose IDs’ opinions on the

major events in standalone reports where IDs articulate their opinions and voting results³. Specifically, the standalone reports issued by IDs include information about the nature of the proposed transaction, an explanation of how IDs reach their decisions, and a conclusion on the potential impact of the proposed transaction on the interests of shareholders, especially minority shareholders. Hence, the disclosure of IDs' opinions on the major corporate events can serve as a channel for IDs to communicate with investors regarding how they monitor and protect shareholders' interests, thus providing outside investors with an important information source that combines a firm's information with its IDs' expertise and knowledge to assess major corporate events and transactions.

Besides, CSRC also has established numerous institutional designs to guarantee IDs' information access and communication. IDs have been given the autonomy to conduct corporate visits to investigate the operation and functioning of firms. Also, the Guideline mandates that firms should provide IDs with necessary working facilities and assistance by providing information, material, and documents to allow them to effectively perform their duties. More importantly, the CSRC issued an additional regulation "Certain Provisions on Strengthening the Protection of the Rights and Interests of Shareholders of Public Shares" (Provisions, hereafter) in 2004 to mandate that (1) firms should ensure that IDs enjoy the same access to information as other directors, provide relevant materials and information to IDs in a timely manner, regularly inform IDs of firms' operations, and organize site visits for IDs when requested; (2) IDs should understand the operation of the listed firm and take the initiative to investigate and obtain the information necessary for making decisions. In addition, the Provisions also require IDs to elaborate on the performance of their duties by submitting their annual working reports that summarize the activities of IDs' corporate site visits. In 2009, the SZSE began to require the submission and disclosure of these reports as a part of disclosures in listed firms' annual reports. In 2011, the SHSE made the same requirement along with detailed information on corporate site visits. Thus, these advanced regulations and disclosure practices in China provide substantial regulatory support to IDs for conducting corporate site visits, making China a unique setting for examining the informational role of IDs and providing us with an abundant dataset on corporate site visits.

³ According to the Guideline, an ID has to (1) be qualified to serve as a director pursuant to the Company Law and other regulations; (2) possess the independence required by the Guideline; (3) possess basic knowledge and skills relevant to the operations of the listed company and be familiar with relevant laws and administrative rules and regulations; (4) possess at least five years of work experience in law, economics, or other fields necessary for the proper exercise of his/her duties as independent director; and (5) possess other qualifications stipulated in the company's articles of association.

2.3 Hypothesis development

Based on the discussion above, the important question in the broader corporate governance literature regarding IDs' effectiveness and informational role remains unanswered because IDs' acquisition and dissemination of firm-specific information are largely unobservable in empirical research. The Chinese capital market offers a unique setting for investigating IDs' behavior because directors' opinions on material corporate decisions are required to be publicly disclosed. By issuing opinions on key corporate decisions in their reports during board meetings, IDs can justify their opinions in their reports with their knowledge and new information. We conjecture that site visits are an important and unique venue for IDs' information acquisition, which facilitates their information dissemination when they issue opinions in their reports. Unlike other information acquisition and gathering channels, site visits offer a unique opportunity for IDs to directly engage and interact with the firm's management team. This face-to-face interaction allows for real-time conversations, probing questions, and exploring specific areas of interest or concern. Since site visits enable IDs to witness the firm's operations and observe the facilities and processes firsthand, IDs can actively engage with relevant personnel, including managers and employees, seeking clarifications and delving deeper into critical aspects. The interactive nature of site visits fosters a conducive environment for managers to share additional and extemporaneous information that may not be readily available through other means. This spontaneity enables managers to promptly address specific concerns raised by IDs, facilitating a higher level of informativeness in the information exchanged. Accordingly, the quantity of firm-specific information will likely increase because visiting IDs tend to incorporate information obtained from site visits when issuing their opinion reports. Also, previous studies (Chen et al., 2022; Han et al., 2018) particularly highlight soft information as the main culprit for informativeness during site visits. Since soft information is subjective and contextual and often depends on face-to-face interaction, its collection relies more on site visit activities. Due to the highly interactive nature of site visits, direct communication with the visiting firm's managers and observation of on-site employees allows IDs to better assess the visiting firm's soft information. Hence, corporate site visits can facilitate soft information collection which helps visiting IDs better understand the firm from other dimensions, such as corporate culture, employee morale, and firm strategies. We expect IDs to acquire a significant amount of soft information through face-to-face communication with managers during corporate site visits, thus helping them better understand visiting firms and, therefore, benefiting their

informational role.

In contrast, several countervailing factors might instead aggravate the visiting IDs' informational role. Prior studies suggest that CEOs can shape the governance framework of their firms, often favoring the appointment of directors who are less likely to engage in stringent oversight (Adams & Ferreira, 2007; Fracassi & Tate, 2012; Hermalin & Weisbach, 1998). This notion aligns with empirical evidence suggesting that CEOs often try to influence board selections to their advantage (Cohen et al., 2012; Shivdasani & Yermack, 1999) and directors chosen by CEOs tend to exercise less rigorous monitoring (Coles et al., 2014; Norman et al., 2022; Khanna et al., 2015). Since directors, in turn, can be selective in terms of which board they are willing to serve on and prefer to sit on boards that benefit their personal gain (e.g., human and social capital, accumulation of seats on additional boards, and reputation) (Denis et al., 2014; Fahlenbrach et al., 2010, 2017; Masulis & Mobbs, 2014), directors who have pre-existing relationships or shared interests with CEOs may be more inclined to accept board positions. Therefore, these incentives can motivate self-selected directors to enter interlocking relationships with the CEO and align their interests with those of the CEO. By colluding with the CEO, self-selected directors obtain mutual benefits and prioritize maintaining harmonious relationships with CEOs over their fiduciary duties to shareholders. In such cases, visiting IDs who collude with the CEO may become a conduit to help disseminate misleading information that the CEO wants to convey to outsiders or may intentionally withhold or downplay negative information. Through selective dissemination of information that can mislead investors or suppression of negative news, IDs conducting site visits may prioritize the interests of both the CEO and themselves and provide less informative opinions, which significantly impedes their informational role as providers of critical information to the market. Consequently, IDs who conduct site visits may be less informative and are less effective in information dissemination.

In addition, since IDs act as both advisors and monitors of management, managers may face a trade-off when it comes to disclosing information to IDs. On the one hand, disclosing more firm-specific information enables IDs to fulfill their advisory responsibilities, and firms are likely to benefit from IDs' advice when they are provided with more detailed information during IDs' site visits. On the other hand, owing to the interactive nature of site visit activities, relinquishing a certain level of control over information disclosure, particularly through extemporaneous disclosures during site visits, introduces risks for both the firm and the manager (e.g., unintended disclosures of bad news). Previous literature suggests that managers are incentivized to refrain from disclosing negative news because such disclosures can have

adverse effects on the firm's stock price and the manager's reputation and compensation (Jensen, 1993; Jin & Myers, 2006; Kothari et al., 2009; Rogers & Van Buskirk, 2013; Roychowdhury & Sletten, 2012; Sletten, 2012). To mitigate these risks, managers can be reluctant to share information with directors and circumvent the interactive nature of certain corporate events and activities (Adams & Ferreira, 2007; Hollander et al., 2010; Lee, 2016; Mayew, 2008). Given that top executives are typically one of the important sources of information that IDs rely on to offer their advice (Adams & Ferreira, 2007; Chang & Wu, 2020; Intintoli et al., 2018), if managers only provide IDs with boilerplate information for window dressing, the extent to which visiting IDs can genuinely acquire new and material information from site visits is dubious.

Based on the competing predictions above, whether the quantity of firm-specific information in IDs' opinions is higher for visiting IDs than non-visiting IDs is ultimately an empirical question. To examine whether the quantity of firm-specific information in IDs' opinions increases through the information acquisition during site visits, we develop two competing hypotheses as follows:

H1a: Ceteris paribus, the quantity of firm-specific information in IDs' opinions is higher for visiting IDs than non-visiting IDs.

H1b: Ceteris paribus, the quantity of firm-specific information in IDs' opinions is lower for visiting IDs than non-visiting IDs.

3. Sample and methodology

3.1. Sample selection

Our sample over IDs' corporate site visits starts from 2009 onward because the SZSE mandated that public firms disclose the summary information about site visits in their annual working reports since 2009⁴. Shanghai Stock Exchange (SHSE) has required the same report since 2011⁵. Therefore, our sample period begins in 2009 for listed non-financial firms on the SZSE and 2011 for those on the SHSE. We manually collect the records of IDs' corporate site visits from the annual working reports of each ID. IDs' opinions and firms' financial and accounting information are from the CSMAR database. We obtain the personal

⁴ See http://www.szse.cn/disclosure/notice/general/t20100104_500329.html.

⁵ See <https://www.66law.cn/tiaoli/62702.aspx>.

information of IDs from the CNRDS database.

Our initial sample includes 303,750 observations at the firm-year-opinion level and 915,514 observations at the firm-year-opinion-ID level, representing 3,516 firms and 13,151 IDs from 2010 to 2018⁶. To conduct our empirical analyses, we further impose the following criteria for our sample selection: (1) we exclude the opinions with missing or garbled text; (2) we exclude firms in the financial industry; (3) we exclude firms with total assets or equity less than zero; (4) we exclude special treatment (ST) firms; (5) we exclude observations with missing variables; and (6) we finally exclude the observations with missing independent variables due to the absence of ID's opinion of the same type in the previous year to calculate the text dissimilarity measure. Our final sample includes 248,382 observations at the firm-year-opinion level, representing 3,005 firms and 11,667 IDs. The details of the sample selection process are presented in Panel A of Table 1.

In Panel B of Table 1, we summarize the sample distribution by type of corporate decisions in IDs' opinion and show that the most mentioned corporate decisions are about personnel changes in top management members and their remuneration, which is followed by annual reporting, related party transactions, and fundraising-related events⁷. In Panel C of Table 1, we show the distributions by year and find that disclosure of IDs' opinions generally increases over time regardless of IDs' site visit activities.⁸

[Insert Table 1 about here]

3.2. Research design

To examine the influence of IDs' corporate site visits on their acquisition and dissemination of firm-specific information in their opinions, we estimate the baseline regression model as follows:

$$DIS_{i,t+1,o} = \alpha + \beta_1 IDSV_{i,t,o} + Controls + Firm \& Year \& Type \text{ Fixed Effects} + \varepsilon_{i,t} \quad (1)$$

⁶ Because of our research design, the sample period on IDs' corporate site visits is lagged by one year compared to IDs' opinion on MCDs.

⁷ To ensure that a wide variety of corporate decisions are related to site visits, we manually check IDs' annual working reports to make sure that site visits enable IDs to access a wide range of corporate decisions. In Appendix 2 of the Supplementary Appendices, we provide examples of how site visits help IDs acquire various information concerning corporate decisions.

⁸ To enhance the understanding of site visit activities by IDs, we have included information on the frequency distribution of the site visits by various factors (e.g., cities, firm size, profitability, and ID ratio, etc.) in Supplementary Appendices. We thank the anonymous reviewer for the constructive suggestions.

where i refers to the firm, t refers to the year, and o refers to the opinion. The dependent variable, $DIS_{i,t+1,o}$, is the quantity of firm-specific information in IDs' opinions o of firm i in year $t+1$ that is measured by the text dissimilarity with an ID's previous opinion texts in the same type. Specifically, it is calculated by the Levenshtein edit distance between the opinion texts and that in the prior year corresponding to corporate decisions in the same type, divided by the total number of words in opinion texts. The Levenshtein distance is often called the "edit distance" and is defined as the minimum cost of transforming one string into another through a sequence of weighted edit operations in which the larger the Levenshtein distance, the more dissimilarity between the two strings. When IDs express their opinions on firms' major corporate decisions, it is common that IDs may merely copy their previous comments for corporate matters of the same type, which makes the words in opinions quite sticky. Thus, this measure captures the non-stickiness of IDs' opinions and is inspired by the measure of stickiness in Dyer et al. (2017). The independent variable is $IDSV_{i,t,o}$, which is either a dummy variable $IDSV[0,1]$ or a continuous variable $IDSV[\%]$. $IDSV[0,1]$ measures the existence of the IDs' corporate site visit at the opinion level and equals one if any ID expressing the opinion makes a site visit to the firm, and zero otherwise. $IDSV[\%]$ measures the intensity of the IDs' corporate site visits, which equals the proportion of IDs visiting the firm among all IDs expressing the opinion. We also control for firm-level characteristics such as size (SIZE), growth opportunity (MTB), profitability (ROA), age (AGE), whether the chair of the board and the CEO are the same person (DUAL), the ratio of IDs in the board (IDRRATIO), and management ownership (MANHLD). We also use dummies for ID-level characteristics such as the average age of the IDs (IDAGE), whether there are any female IDs (FEMALE), whether there are any IDs with a political background (FGO), overseas background (OVERSEA), academic background (ACADEMIC); and whether any ID holds a concurrent director position in other firms (OTHERCOP). We also control for independent directors' board meeting attendance (BMATT) to control for the potential confounding effect that corporate site visits and board meeting attendance could happen simultaneously. All variables are defined in Appendix 1 of Supplementary Appendices. In addition, we control for the firm, year, and event-type fixed effects in the model. β_1 measures the effect of IDs' corporate site visits on the quantity of firm-specific information in their opinions. If β_1 is positive, then it indicates that IDs who conduct site visits provide more firm-specific information in their opinions during the fiscal year.

3.3. Summary statistics

Table 2 presents the descriptive statistics and correlation matrix for the main variables. In Panel A of Table 2, we find that the mean of firm-specific information quantity is 47.22, indicating that the IDs disclose quite a small quantity of specific information when commenting on corporate decisions. Meanwhile, the mean values of $IDSV[0,1]$ and $IDSV[\%]$ are 0.66 and 0.62, respectively, indicating that more than 60% of the IDs in our sample have participated in a site visit, which reflects the prevalence of corporate site visits in China as an integral part of corporate governance. In Panel B of Table 2, our correlation matrix shows that the correlation between the dummy variable $IDSV[0,1]$ and DIS is positive and statistically significant, which lends preliminary support to the prediction that the IDs who conduct site visits are likely to provide more firm-specific information in their opinions. Similarly, $IDSV[\%]$ is also positively and significantly correlated with DIS , showing that corporate site visits facilitate IDs' informational role.

In addition, Table 2 also reports the summary statistics of other variables in our baseline regression. For instance, the average market-to-book ratio is 4.25. The average profitability is 4.00%, and the average management ownership is 9.00%. Most firms have board independence that is lower than 50%. All sample firms have board independence over 33.30% because of the CSRC's regulatory requirement that at least one-third of the directors be independent. For the ID-specific characteristics, their average age is around 53. The FEMALE dummy averages 0.42 which indicates each opinion has a nearly 50% chance of having a female ID on board. The possibility of having at least one ID who expresses their opinions on major decisions that have a political background (FGO), overseas background (OVERSEA), or academic background (ACADEMIC) averages 0.68, 0.22, and 0.90. The OTHERCOP dummy equals 0.73, indicating that over 70% of IDs hold a concurrent director position in other firms.

[Insert Table 2 about here]

4. Empirical results

4.1. Univariate tests

We start our empirical tests with univariate tests between visiting and non-visiting IDs regarding the firm-specific information in their opinions. Table 3 presents the results of univariate tests. As shown in the table, non-visiting IDs include 44.95% of the firm-specific incremental information in their opinions, while visiting IDs supply 48.41% of firm-specific incremental information in their opinions on average,

statistically higher than non-visiting IDs. Economically, the quantity of specific information disseminated by visiting IDs increases by approximately 7.70% relative to non-visiting IDs. The comparison of the medians is consistent with previous results.

Our findings are not only statistically but also economically significant. The estimated difference test on the mean shows that the quantity of firm-specific incremental information in the opinions regarding corporate decisions delivered by visiting IDs is 3.46 higher than those by non-visiting IDs. Similarly, the difference test on the median shows that the DIS in the opinions is 5.17 higher.

[Insert Table 3 about here]

4.2. Multivariate tests

Table 4 shows the regression results for model (1). Columns (1) and (4) show that the estimated coefficients for $IDSV[0,1]$ and $IDSV[\%]$ are 1.89 and 1.42 and are statistically significant at the 1% level. We also include the event-type fixed effect and control for various firms and ID characteristics in the following tests. Overall, we find the coefficients of $IDSV[0,1]$ and $IDSV[\%]$ are consistently positive and significant, which shows that visiting IDs provide more firm-specific information regarding the same type of corporate decisions compared to those provided by non-visiting IDs. Hence, our results suggest that corporate site visits facilitate IDs' information acquisition, allowing them to deliver better information dissemination through the increased quantity of firm-specific information in their disclosed opinions.

[Insert Table 4 about here]

4.3. Endogeneity

One major concern is that our results in Table 4 could be driven by potential endogeneity issues. For instance, the decision to visit a firm may be influenced by factors related to IDs' personal information (e.g., more devoted and informative IDs may tend to conduct site-visiting activities, or firms that are more transparent may attract more site visits by IDs). We use several approaches to alleviate the potential endogeneity concerns.

4.3.1. IV estimation

We first use the instrumental variable approach to identify the causal relationship between site visits and the quantity of firm-specific incremental information in IDs' opinions. We use an exogenous variable

of the extreme weather conditions (*Weather*) in the city where the firm is headquartered as an instrument for site visits. Weather affects the probability of site-visiting activities (*IDSV*) directly because traveling to cities during extreme conditions is more difficult. However, weather is unlikely to affect the quantity of firm-specific information in IDs' disclosed opinions. Following Han et al. (2018), we define a day as an extreme weather day ($ExtremeDay = 1$) if the lowest temperature is below $-10^{\circ}C$, if the highest temperature is above $38^{\circ}C$, if there is heavy rain (rainfall is greater than 50mm), or if there is a heavy snowstorm or a heavy wind (wind force greater than 5) on that day. *Weather* is defined as the percentage of days in a given year with extreme weather conditions in the city where the firm is headquartered as the following equation:

$$Weather_{c,t+1} = \sum ExtremeDay_{c,t} / TotalDay_{c,t} \quad (2)$$

In the first stage of the 2SLS regression, we regress the independent variables *IDSV*[0,1] and *IDSV*[%] on *Weather*. The regression results are reported in columns (1) and (3) of Table 5. In column (1), the coefficients for *Weather* are significantly negative for *IDSV*[0,1], suggesting extreme weather conditions significantly lower the propensity of IDs' site visits. Moreover, the Kleibergen-Paap rk LM statistic in the under-identification test is 18.27 and is statistically significant at the 1% level. Thus, we reject the null hypothesis that the IV (*Weather*) is not related to the endogenous variable (*IDSV*[0,1]); the Kleibergen-Paap rk Wald F in the Weak identification test is 17.14, which is larger than the critical values of 16.38. Thus, we also reject the null hypothesis that the IV (*Weather*) is weak. The result for *IDSV*[%] in column (3) is similar.

In the second stage of the 2SLS regression, the dependent variable is the quantity of firm-specific dissimilar information in IDs' opinions (*DIS*), and the independent variables are the predicted values of *IDSV*[0,1] and *IDSV*[%] from the first stage. The results reported in columns (2) and (4) of Table 5 show that the coefficients for *IDSV*[0,1]_{Pr} and *IDSV*[%]_{Pr} are significantly positive, which is consistent with our main result in Table 4. In summary, the 2SLS results from the instrumental variable approach establish that on-site investigation provides incremental information to visiting IDs and improves the quantity of firm-specific information in their disclosed opinions.

[Insert Table 5 about here]

4.3.2. Placebo test

To further enhance the casual inference of the relationship between IDs' corporate site visits and their informational role through their opinions, we also conduct placebo tests to ensure corporate site visits are the channel through which IDs' information acquisition and dissemination are affected. On the one hand, it can be argued that numerous omitted variables can potentially affect the propensity of IDs' site visits and information sharing. For instance, IDs' professional backgrounds, expertise, and social networks may lead them to conduct more corporate site visits and facilitate their information sharing by providing more firm-specific information. Thus, the relationship between IDs' site visits and informational role can be spurious, and we would observe similar results regardless of whether IDs conduct site visits. To alleviate the concern, we follow Leary and Roberts (2005) and conduct a placebo test to identify the IDs who have made a site visit during the sample period and randomly select a year during the sample period as the pseudo year for the site visit. We then re-estimate the baseline regression by replacing the actual years of the site visits with these pseudo years. We repeat this placebo estimation 500 times and compare the observed coefficients of the key variables $IDSV[0,1]$ and $IDSV[\%]$ in our baseline regression with those from randomized placebo samples.

In Panel A of Table 6, we report the mean and median of the coefficients for $IDSV[0,1]$ and $IDSV[\%]$. Our results show that the mean and median of the placebo estimates for the coefficients of $IDSV[0,1]$ are both 0.04, significantly smaller than the actual coefficient of 1.58 from our main regression result in Table 4. Similarly, we find the placebo estimates for the coefficients of $IDSV[\%]$ are 0.12 and 0.13 which are also significantly different from the actual coefficient of $IDSV[\%]$ of 1.18 in Table 4. Our results from the placebo test are also reflected in Figure 1. Figure 1(a) presents the histogram distribution of the coefficients for $IDSV[0,1]$ and $IDSV[\%]$ from the tests based on 500 simulated pseudo-site visits in comparison with the coefficients based on the actual site visits from Table 4. Specifically, the coefficients for $IDSV[0,1]$ and $IDSV[\%]$ in our baseline regression (1.58 and 1.18) are in the right tail of the histogram plot. Overall, the significant difference between the actual coefficients and the coefficients from the placebo test further supports our findings that compared to non-visiting IDs, IDs who conduct site visits provide more firm-specific information in their opinions.

On the other hand, the relationship in the main results can be driven by certain firm-related characteristics or events. For instance, firms might change their information disclosure strategy in a

specific year due to factors like shifts in internal accounting personnel or changes in the external business landscape. Such changes in information disclosure may alter the information available to IDs and motivate them to conduct site visits. We conduct another placebo test to alleviate this endogeneity concern. Specifically, we pick IDs who have made a site visit and randomly select a firm they served during the sample period as the site visit to the pseudo firm in a given visiting year. We then re-estimate our baseline regression by replacing the actual firms with these pseudo firms. We repeat this placebo estimation 500 times and compare the observed coefficients for the key variables $IDSV[0,1]$ and $IDSV[\%]$ in our baseline regression with those from randomized placebo samples.

In Panel B of Table 6, we find that the mean and median of the coefficients for $IDSV[0,1]$ and $IDSV[\%]$ are also significantly smaller than the estimated coefficients based on actual site visits. Specifically, the mean and median of $IDSV[0,1]$ from the placebo test are both 0.03, which are significantly different from the estimated coefficient of 1.58 in Table 4. For $IDSV[\%]$, the mean and median based on the placebo test are both 0.11 compared to the actual of 1.18. In addition, the t-statistics in Panel B show that most of the placebo estimates are statistically insignificant. In addition, Figure 1(b) shows that the coefficients for $IDSV[0,1]$ and $IDSV[\%]$ in our baseline regression (1.58 and 1.18) are in the right tail of the histogram plot, which suggests that the results between our baseline regression and placebo tests are significantly different.

The results from Table 6 and Figure 1 collectively mitigate the potential endogeneity problems related to IDs or firms' characteristics and indicate that the timing of IDs' site visits to firms fully supports the causal interpretation of our empirical evidence.

[Insert Table 6 about here]

[Insert Figure 1 about here]

4.3.3. Controlling for ID fixed effects

While our analyses based on the comparison between visiting IDs and non-visiting IDs show that visiting IDs provide more firm-specific information (DIS) than non-visiting IDs, it is still possible that certain unobservable omitted ID characteristics can bias our results, we therefore further include ID fixed effect in our model to control for time-invariant ID characteristics.

In untabulated results, we find the estimated coefficients for $IDSV$ are all positive and statistically significant at the 1% level across all models. This finding indicates that visiting IDs have more firm-

specific information than opinions expressed by non-visiting IDs. These results show that the firm-specific information in these opinions is more abundant when IDs conduct site visits to firms than when they do not visit one in the same year or those for the same firm but in the years they do not visit it. Overall, by employing ID fixed effects to consider omitted ID characteristics, we alleviate the concern that our results are biased owing to unobservable ID characteristics.

4.3.4. Controlling for site fixed effects

In this section, we further include site fixed effects in our model to control for time-invariant site features. We use the following equation:

$$DIS_{i,t+1,o} = \alpha + \beta_1 IDS_{V[\%]}_{i,t,o} + Controls + Site\ FE + Firm\ \&\ Year\ \&\ Type\ FE + \varepsilon_{i,t} \quad (3)$$

The model is still structured at the firm-year-opinion level as the main regression equation (1), where i refers to the firm, t refers to the year, and o refers to the opinion. The dependent variable, $DIS_{i,t+1,o}$, is the quantity of firm-specific information in IDs' opinions o of firm i in year $t+1$, measured by the text dissimilarity compared with previous opinion texts. The independent variable is the continuous variable $IDS_{V[\%]}$, which measures the intensity of the IDs' corporate site visits.⁹

To control for site fixed effects, we initially review all the IDs' annual working reports and manually collect the distinct site types reported. However, our analysis is constrained by the fact that these reports often omit detailed and individual site data, with only a minimal portion of the reports containing the necessary information to construct site fixed effects. This scarcity of data imposes severe restrictions on our ability to directly incorporate site fixed effects, hindering our capacity to accurately assess the true impact of site-specific factors on our outcome variables. Moreover, the limited number of distinct site types reported (e.g., headquarters, innovation centers, and production plants, etc.) further affects the potential explanatory power of including site fixed effects in our model. The lack of variation and diversity in reported site types means that even if site fixed effects were incorporated, the incremental gain in explanatory power could be potentially limited. To address these issues and improve the robustness of

⁹ We exclude the dummy variable $IDS_{V[0,1]}$. This is because in cases where IDs express an opinion after conducting a site visit to the firm, the dummy variable $IDS_{V[0,1]}$ would equal one, resulting in a lack of variation in the variable of interest in the equation.

our analysis, we manually collect the names of specific cities visited by each ID in the corresponding year and employ site-city fixed effects to serve as an alternative to the direct site fixed effects. This process enables us to identify 237 distinct cities visited by the IDs throughout the sample period and we incorporate these 237 city dummies into the regression equation. This approach considers that many IDs visit multiple cities each year and that IDs expressing opinions may visit different cities. By including dummy variables for each city, we aim to capture the site-specific information to the fullest extent possible. The results of the regression analysis can be found in Table 7.

In Table 7, we observe that in column (1), where city dummies are not included, the estimated coefficients for $IDSV[\%]$ are positive and statistically significant at the 10% level. In column (2), where city dummies are added to control for specific site characteristics, the estimated coefficients for $IDSV[\%]$ remain positive and become statistically significant at the 1% level. These findings indicate that the quantity of firm-specific information in these opinions is more substantial when more IDs conduct site visits to firms, particularly when accounting for the specific characteristics of the visited sites. Overall, by incorporating city dummy variables into our analysis, we address concerns about potential bias stemming from unobservable site characteristics, which allows us to better understand the relationship between IDs' site visits and the abundance of firm-specific information in their opinions while taking into account the unique characteristics of each visited site.

While using site-city fixed effects provides a means to serve as an alternative to the direct site fixed effects, it is not without its limitations and does not fully substitute for the detailed site-level analysis that would have been possible with more comprehensive data. Hence, we recognize that this limitation is one aspect of our result presented in Table 7. Specifically, the voluntary nature of the disclosure of specific site visits in directors' annual working reports, subject to the directors' self-selection choice, which restricts our analysis by the limited availability of detailed and comprehensive information regarding specific site visits. As such, it is plausible that our results in Table 7 may be influenced more by directors who actively engage in their information role may be more inclined to visit and disclose details about certain types of sites.

[Insert Table 7 about here]

4.4. Cross-sectional tests

Our results demonstrate that IDs benefit from site visits and increase the quantity of information in

their opinions when commenting on corporate decisions. In this subsection, we conduct a series of cross-sectional analyses to examine how the effect of site visits by IDs on their informational role may vary with firm or ID characteristics, including company complexity and its proprietary cost of specific information disclosure, IDs' internal and external information environment as well as their incentive and ability to acquire and deliver more specific information to investors.

4.4.1. Firm complexity

First, we examine the impact of firm complexity on the association between corporate site visits conducted by IDs and their informational role. Previous research has indicated that higher levels of business complexity hinder information processing and raise information acquisition costs (Barinov, Park, & Yildizhan, 2022; Chemmanur & Liu, 2011; Cohen & Lou, 2012). Considering the elevated expenses associated with information processing and the diminished role of information intermediation in complex firms (Barinov et al., 2022), the value of private information obtained by IDs through corporate site visits may be heightened.

To measure firm complexity, we follow Bushman et al. (2004) and measure firm complexity by the number of industries it operates in (COMPLEX). The greater the number of industries in which a firm is involved, the higher its level of complexity. We split our sample into two subsamples based on the median of the complexity index each year and consider a firm as complex if the firm has above-median complexity.

Panel A of Table 8 shows the results of the regressions for the two subsamples based on firm complexity. Specifically, we find the coefficients for $IDS_{SV}[0,1]$ and $IDS_{SV}[\%]$ are positive and significant at the 1% level for the subsample with high firm complexity in Columns (2) and (4), whereas the coefficients are insignificant for the low firm complexity in Columns (1) and (3). In addition, we further test whether the coefficients between the two subsamples are significantly different and find that the differences between the two coefficients are significant at the 5% level. Therefore, our result shows that the benefit of site visits for IDs is more pronounced for complex firms (e.g., conglomerates) than less complex firms (e.g., single-segment firms).

4.4.2. Firm proprietary cost

Second, we examine the impact of a firm's proprietary costs associated with information disclosure

on the relationship between corporate site visits conducted by IDs and their informational role. The concept of proprietary costs pertains to the decrease in firm value resulting from disclosing insiders' private information to the public or competitors. Existing literature reveals that companies restrict their voluntary disclosures concerning client identities or segment-specific details (Ellis, Fee, & Thomas, 2012; Li, Lin, & Zhang, 2018). IDs are supposed to protect shareholder interests and firm value by avoiding hostile competition triggered by proprietary information dissemination. Consequently, we hypothesize that the extent to which IDs incorporate firm-specific information obtained through corporate site visits into their opinions and public disclosures would be diminished for firms with higher proprietary costs.

To measure the firms' proprietary cost, we follow Zhou (2022) and measure firms' proprietary cost by the R&D intensity. R&D activities stimulate product innovation and technological change, and a firm's allocation of resources towards R&D reflects its level of engagement in innovative activities, which are commonly associated with substantial amounts of proprietary information. Consequently, firms that allocate greater expenditures to R&D are likely to encounter higher proprietary costs. (Albring, Bany, Dhaliwal, & Pereira, 2015; Ellis et al., 2012; I. Y. Wang, 2007). Specifically, we measure R&D intensity here as the R&D expenditure divided by total sales (R&D/SALES). We then split our sample into two subsamples based on the median of the R&D intensity measure each year and consider a firm having higher proprietary costs if the firm has above-median R&D intensity.

Panel B of Table 8 shows the results of the regressions for the two subsamples based on proprietary cost. Specifically, we find the coefficients for $IDSV[0,1]$ and $IDSV[\%]$ are positive and significant at the 1% and 5% levels for the subsamples with low proprietary costs in Columns (1) and (3), whereas the coefficient for $IDSV[0,1]$ is only significant at the 5% level and the coefficient for $IDSV[\%]$ is insignificant for the subsamples with high proprietary costs in Columns (2) and (4). Furthermore, the differences between the two coefficients are significant at the 1% and 10% levels. Therefore, our result shows that IDs are likely to incorporate the firm-specific information acquired during site visits in their opinions and make it public when firms are subject to lower proprietary costs.¹⁰

¹⁰ In our untabulated analysis, we also find that our results remain similar when repeating our main regression model with alternative proprietary costs measured by product market competition (Li et al., 2018). The results are provided in Appendix 4 of our Supplementary Appendices. We thank the anonymous reviewer for suggesting the proprietary cost test.

4.4.3. IDs' information asymmetry regarding internal information

Third, we anticipate that the impact of corporate site visits on the acquisition and dissemination of information by IDs will be more pronounced for those who lack alternative channels to obtain inside information or have limited accessibility to such information. Hence, we expect a stronger association between IDs' site visits and the amount of firm-specific information reflected in their opinions, particularly for IDs characterized by higher levels of information asymmetry regarding internal information.

To test the prediction, we gauge the information asymmetry of IDs concerning internal information by utilizing their average tenure (TENURE) within the firm. The underlying rationale is that IDs with longer tenures are likely to possess greater firm-specific knowledge and experience lower levels of information asymmetry in relation to management (Kim et al.,2014). Similarly, we split our sample into two subsamples based on the median of IDs' information asymmetry proxied by their average tenure.

In Panel C of Table 8, we find that the coefficients for IDSV[0,1] and IDSV[%] are all positive and significant at the 1% level for the subsample with low tenure in Columns (1) and (3), while the coefficients are insignificant for the subsample with high tenure in Columns (2) and (4). The significant differences between the two coefficients suggest that site visits have the potential to mitigate the information disadvantages faced by IDs and facilitate their efficiency in delivering new information to investors.

4.4.4. IDs' information superiority regarding external information

Fourth, we explore whether the informational value derived from site visits is contingent upon the extent of information possessed by IDs concerning the external business environment. Ke et al. (2020) suggest that directors' advising role often entails information transfer, and the information possessed by directors regarding the external operating environment can aid in their interpretation of the firm's internal information. When IDs possess a deeper understanding of a firm's external operating environment, they can effectively comprehend its operational activities and glean more valuable insights during site visits. Consequently, we anticipate that the positive impact of IDs' site visits on the quantity of firm-specific information will be more pronounced for IDs possessing superior information about the external business environment.

To test the prediction, we quantify the extent of IDs' superior external information by examining the number of structural holes they hold within the overall directors' network (STRUHOLES), as research

suggests that a higher number of structural holes corresponds to a greater number of channels through which external environmental information can be accessed (Zaheer & Bell, 2005).

In Panel D of Table 8, the coefficient for $IDSV[0,1]$ is insignificant for the subsample with low structural holes in Column (1), while Column (2) shows that the coefficient is positive and significant at the 1% level for the subsample of high structural holes. We find that the difference between the two coefficients is significant at least the 1% level, suggesting that IDs with better knowledge about the external operating environment can acquire and produce more firm-specific information via site visits. Consistently, we also find similar results in Columns (3) and (4) for $IDSV[0\%]$, which confirms the influence of IDs' information about the external operating environment on the relationship between IDs' site visits and their informational role.

4.4.5. IDs' reputation incentive

Next, we explore whether the positive effect of site visits on information acquisition and dissemination by IDs depends on their reputation incentives to perform their duties. Prior studies show that a positive reputation can enhance the value of directors' human capital and open up opportunities for additional appointments (Fama, 1980; Fos & Tsoutsoura, 2014; W. Jiang et al., 2016; Masulis & Mobbs, 2014). In China, reputation is the main factor affecting IDs' motivation to perform their duties (Jiang et al., 2016). To uphold a favorable reputation, IDs with stronger reputation incentives are more likely to engage in diligent information acquisition through site visits and communicate firm-specific information to investors through their opinions. Consequently, the relationship between IDs' site visits and the quantity of firm-specific information reflected in their opinions is expected to be more pronounced for IDs with greater reputation incentives.

To test the prediction, we follow Jiang et al. (2016) and measure IDs' reputation incentives by the number of articles containing the director's name and primary employer in the top six Chinese newspapers by distribution volume from year $t-3$ to year $t-1$, where year t is the year of the opinion on a corporate decision. IDs with high media coverage are likely to care more about their reputation and thus have a higher incentive to perform their duties. We split our sample into two subsamples based on whether IDs have been covered by negative news and then compare the baseline regression results with those of the two subsamples. Overall, our results in Panel E of Table 8 suggest that the benefit of corporate site visits on IDs' informational role is more pronounced for IDs with stronger reputation incentives.

4.4.6. IDs' ability

Finally, we examine the influence of IDs' ability to uncover and interpret firm-specific information on the relationship between IDs' site visits and the contents of the firm-specific information in IDs' opinions. As private information is complex and requires professional skills and knowledge, we expect IDs with expertise to be more capable of capturing private information during site visits and transferring it through their opinions.

To test the prediction, we measure IDs' resumption ability by examining whether any IDs possess a Ph.D. degree (PHD) because a Ph.D. background in production, R&D, design, or finance and accounting is more capable of identifying and analyzing information related to the firm. We split our sample into two subsamples based on whether any IDs have a Ph.D. degree and then compare the results of the two subsamples. The regression results are reported in Panel F of Table 8.

Column (1) shows that the coefficient for $IDSV[0,1]$ is insignificant for the subsample without a Ph.D. degree, while Column (2) shows that the coefficient is positive and significant at the 1% level for the subsample with a Ph.D. degree. The Chow test shows that the coefficient difference is significant at the 1% level. The results are consistent in Columns (3) and (4) for $IDSV[0\%]$. Therefore, IDs with higher resumption ability are more likely to acquire private information via site visits and deliver it to investors via opinions.

[Insert Table 8 about here]

4.5. Additional analyses

4.5.1. Investors' responses to firm-specific information in IDs' opinions

Our findings thus far indicate that IDs benefit from corporate site visits, resulting in a greater provision of firm-specific information in their opinions. To assess the extent to which investors in the stock market incorporate the firm-specific information presented in IDs' opinions, we examine investors' responses to such information and predict a heightened level of responsiveness from investors.

Following prior studies (S. K. Choi & Jeter, 1992; Teoh & Wong, 1993), we measure the market's responsiveness using earnings response coefficients (ERC) for earnings announcements. We then investigate whether the market reaction to the same unit of earnings announcements is larger when such announcements are accompanied by IDs' opinions with greater firm-specific information. Specifically, we

estimate the prediction using the following regression model:

$$CAR_{i,t,o} = \alpha + \beta_1 DIS_{i,t,o} \times SUE_{i,t,o} + \beta_2 DIS_{i,t,o} + \beta_3 SUE_{i,t,o} + Controls + Firm \& Year \& Type$$

$$FE + \varepsilon_{i,t} \tag{4}$$

where CAR is a five-day market reaction variable: (1) CAR_madj[-2,2] that is defined as the five-day cumulative abnormal stock return in the market-adjusted model during the [-2,+2] announcement window; (2) CAR_mkt[-2,2] that is defined as the five-day cumulative abnormal stock return in the market model during the [-2,+2] announcement window. The pre-event window for the market model to estimate the abnormal announcement period return is from day t-120 to day t-30, where t is the announcement date of the opinion. The earnings news variable is represented by the standardized unexpected earnings (SUE) in the quarterly (or annual) report that is announced on the same day as the opinion. The SUE is the difference between the actual earnings per share for quarter t (EPS_t) minus the earnings per share for quarter t-1 (EPS_{t-1}) divided by the closing stock price on the second trading day after quarter t-1's earnings announcement. The sample size is smaller than in the main regressions as we focus on opinions accompanied by a quarterly (or annual) report announced on the same day. The variable of interest is the interaction term SUE×DIS. The estimated coefficient for this variable captures the incremental effect of the opinions' informativeness on the ERC.

Table 9 presents the regression results¹¹. Consistent with prior literature, the market reaction is positively associated with SUE, and the coefficients are 1.22 and 0.47, respectively. Notably, the market exhibits a stronger response to SUE when accompanied by an opinion containing more firm-specific information than opinions with less firm-specific information. This is supported by the statistically significant positive coefficients for the interaction term SUE×DIS that is statistically significant in Columns (2) and (4). Overall, the results in Table 9 demonstrate that investors react positively to the firm-specific information conveyed in IDs' opinions, enhancing the market's responsiveness to firms' earnings announcements.

[Insert Table 9 about here]

¹¹ We also use the ratio of specific words (FSW) to measure firm-specific information in IDs' opinions and the results are consistent.

4.5.2. Firm-specific information in IDs' opinions and price efficiency

Previous research has also established the significance of site visits for acquiring information by other market participants, including analysts and institutional investors (S. Cao et al., 2023; Cheng et al., 2019, 2016; Han et al., 2018; X. Jiang & Yuan, 2018). The site visits by these intermediaries can increase the efficiency of the stock price, as they play a significant role in digging and disseminating private information to investors. Although our findings indicate a rise in the amount of firm-specific information presented in IDs' opinions following site visits, leading to increased responsiveness from investors, it is important to acknowledge the potential confounding effect of site visits by other parties, such as analysts and institutional investors. While our findings show that the quantity of firm-specific information in IDs' opinions increases after site visits and investors' responsiveness increases, it is important to acknowledge the potential confounding effect of site visits by other parties, such as analysts and institutional investors. As a result, disentangling the specific impact of IDs' site visits from the influence of site visits by other visiting entities (e.g., analysts and institutional investors, etc.) becomes a challenging issue, as it is difficult to ascertain whether the observed effects stem solely from IDs' site visits or the information acquired and disseminated by other visitors.

To examine whether the influence of IDs' site visits on information dissemination and price efficiency is incremental to the effect of site visits conducted by other visitors, we construct a continuous variable for the intensity of institutional site visits (INSTISV). We then estimate the following regression to investigate the effect of site visits by IDs on the efficiency of stock prices after controlling for the effect of site visits by other institutions:

$$IDIOSYN_{i,t+1} = \alpha + \beta_1 DIS_Firm_{i,t+1} \times IDSV_Firm_{i,t} + \beta_2 DIS_Firm_{i,t+1} + \beta_3 IDSV_Firm_{i,t} + \beta_4 INSTISV_{i,t} + Controls + Firm \& Year FE + \varepsilon_{i,t} \quad (5)$$

where the efficiency is measured as stock price idiosyncronicity (IDIOSYN) calculated by following Jin and Myers (2006). The unit of analysis in this model is firm-year observations. DIS_Firm refers to the mean of DIS of all opinions in a given year for a firm. IDSV_Firm refers to a firm-year dummy, which equals one if any IDs conduct site visits in a given year and zero otherwise. We also add control variables

used in Chan and Hameed (2006). The variable of interest is the interaction term $DIS_Firm \times IDSV_Firm$. The estimated coefficient for this variable captures the incremental effect of the information in the opinions on the price efficiency after a site visit.

Table 10 presents the regression results. In Column (1), we first regress stock price idiosyncronicity (IDIOSYN) on INSTISV. In Column (2), we then regress stock price idiosyncronicity (IDIOSYN) on DIS_Firm as the main independent variable, and in Column (3), we show the regression following Equation (5). Consistent with prior literature, Column (1) shows that site visits by analysts and other intermediaries are important for acquiring information and help the stock price absorb more idiosyncratic information. Column (2) shows that the coefficients for DIS_Firm are positive and statistically significant at the 1% level after controlling for institutional site visits. This significance level indicates that IDs play a complementary informational role compared to other intermediaries¹². Moreover, Column (3) shows that the coefficients for the interaction term $DIS_Firm \times IDSV_Firm$ are significantly positive¹³. The coefficient indicates that IDs acquire and transfer more firm-specific information to investors after site visits, and this information is complementary and incremental to what analysts acquire during their site visits. Overall, the results in Table 10 suggest that the firm-specific information in IDs' opinions disseminates new and valuable knowledge to the market, improving stock price efficiency.

[Insert Table 10 about here]

4.6. Robustness tests: Alternative measure of firm-specific information

To ensure the robustness of our main result, we conduct further analyses by employing alternative measures of firm-specific information. We employ the ratio of specific words (FSW) as the alternative measure, which is measured as the number of specific words divided by the total number of words in IDs' opinion text (Bushman, Williams, & Wittenberg-Moerman, 2017; Dyer, Lang, & Stice-Lawrence, 2017; Lang & Stice-Lawrence, 2015; Levenshtein, 1966). Specific words are the entities (i.e., number, people, organizations, dollar amounts, percentages, dates, or times) identified by the Stanford Named Entity Recognizer (NER) tool. The regression results are reported in Table 11.

¹² To further clarify this finding, we alternatively split the samples into two subsamples based on the intensity of institutional site visits and re-run the regression in Column (2). We find that the coefficients for DIS_Firm are significantly positive for both subsamples with low and high intensities.

¹³ We alternatively use the ratio of specific words (FSW) to measure firm-specific information in IDs' opinions and find that the results are consistent.

The results in Panel A of Table 11 show that the coefficients for $IDSV[0,1]$ and $IDSV[\%]$ are all significantly positive. In Panel B, we further control for ID fixed effect and find the coefficients for $IDSV$ remain significantly positive. Therefore, our main result is robust to the alternative measure of firm-specific information and shows that corporate site visits help IDs acquire more firm-specific information and facilitate their information dissemination.

[Insert Table 11 about here]

4.7 Frequency Distribution of Site-Visiting Activities by Various Factors

To further facilitate a better understanding of the characteristics of the chosen sites and contribute to the relevant literature, we have also investigated the information on the frequency distribution of the site visits by various influential factors and characteristics. First, we identify the most frequently visited cities by IDs during the observed sample period and find that all cities in the top 10 list are categorized as either first-tier or new first-tier cities in China, with Shanghai emerging as the city with the highest number of visits. Second, we also find that a small percentage of sites were visited only once by IDs, while the majority experienced multiple visits, with the most common frequency being three visits within a year.

Further examination also considers how the site-visiting frequency varies with firm attributes and characteristics of IDs. It is observed that larger firms experience more frequent site visits, potentially due to their complex nature. Conversely, firms with lower profitability see an increased frequency of visits, suggesting that IDs are more proactive in carrying out site visit activities when firms are performing less well. The correlation between the proportion of IDs on a board and the frequency of site visits appears inconclusive and the gender of IDs does not seem to play a role in determining the frequency of visits.

Overall, the primary objective of the statistical comparisons is to underscore specific features and trends of the sites visited by IDs so that more comprehensive insights can be provided into the dynamics of site visits within the context of Chinese firms. Figures related to the discussion above are provided in Appendix 3 our Supplementary Appendices.

5. Conclusion

In this study, we investigate whether corporate site visits facilitate the informational role of IDs. Specifically, we examine whether IDs who conduct site visits provide a greater quantity of firm-specific

information in their opinions on significant corporate decisions. The granularity and uniqueness of the corporate site visit data available in the Chinese setting, coupled with the archival records of IDs' opinions on key corporate decisions, provide us with an opportunity to shed light on the mixed views surrounding the effectiveness and efficacy of IDs. By leveraging these rich data sources, our study delves into a comprehensive analysis of IDs' informational role through information acquisition and dissemination by conducting on-site investigations. Our empirical findings provide compelling evidence that IDs who conduct site visits offer more informative opinions than those who do not visit sites, suggesting that site-visiting activities facilitate IDs' monitoring and advising functions by disseminating firm-specific information to investors through active information acquisition during corporate site visits. Moreover, the extent to which site visits enhance the informativeness of opinions is more pronounced in firms with complex information environments, when firms are subject to lower proprietary costs, when IDs face a disadvantage in accessing internal information but possess advantages in obtaining external information, and when IDs possess strong incentives and capabilities to acquire new information for monitoring firms. In addition, our study reveals that a higher level of firm-specific information in IDs' opinions contributes to a stronger market reaction from investors and improves stock price efficiency, suggesting that IDs' opinions contain valuable and complementary information compared to site visits conducted by other site-visiting entities (e.g., analysts and institutional investors, etc.). Overall, our findings underscore the significance of corporate site visits in facilitating the informational role of IDs and highlight the positive impact of such visits on the dissemination of firm-specific information and the subsequent reactions in the capital market.

Our study yields significant managerial and regulatory implications. First, it underscores the importance of corporate site visits and highlights the value of direct human interaction as a means of information collection. Given the benefits of site visits, regulators are advised to continue prioritizing site visits as an integral part of the modern corporate governance system in the post-pandemic era to enable IDs to effectively fulfill their responsibilities. Second, our study highlights the informational role of IDs through site visits and demonstrates that local information advantages significantly enhance IDs' information acquisition and dissemination, thereby mitigating the information disadvantage faced by non-local IDs. In light of this, regulators and policymakers are advised to intensify their efforts to design effective regulations that encourage firms to lower the costs associated with information acquisition during site visits and promote the disclosure of corporate site visit activities. Due to the limited data on the

variety of site types in IDs' annual working reports, it is beyond the scope of this study to delve deeper into which specific sites may provide richer firm-specific information and thereby enable visiting IDs to more effectively perform their information monitoring role. This limitation, therefore, points to a gap in the literature that future research could aim to fill once more detailed data becomes available. Thus, future research directions could focus on examining how different specific site characteristics influence the information role of visiting IDs and determining which types of sites contain richer firm-specific information, pending the acquisition of more detailed data. Finally, despite being conducted in the specific context of China with its unique institutional setting, our study offers implications for managers and policymakers in well-developed markets where archival records of site visits are lacking. Establishing regulations and policies that facilitate outsiders' access to information through site visits and promote related disclosures can be a constructive approach to enhancing the effectiveness of corporate governance.

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I. Table 1 Sample selection and sample distribution

This table presents the sample selection procedure and sample distribution. Panel A presents the specific sample selection procedure; it shows the sample consists of 248,382 firm-year-opinions of 3,005 firms from 11,667 IDs covering 2010 - 2018. Panel B presents the sample distribution by type of corporate decisions, and Panel C presents the sample distribution by year.

Panel A Sample Selection				
	Firm-year- opinion obs.	Firm-year- opinion- ID obs.	Firm obs.	ID obs.
All IDs' opinions of A-share listed firms during 2010 - 2018	303,750	915,514	3,516	13,151
minus:				
IDs' opinions with empty or garbled text	79	241	0	0
firms in the financial industry	5,143	18,698	86	279
firms with total assets or equity <0	1,551	4,361	1	57
firms with special listing status	6,379	18,673	4	137
firms with missing control variables	12,559	39,059	33	214
firms with missing independent variables	29,657	88,768	387	797
Final sample	248,382	745,714	3,005	11,667

Panel B Sample Distribution by Event Type of Corporate Decisions			
Event Type	By IDs with site visits	By IDs without site visits	# of Obs.
Personnel Changes	17,006	10,295	27,301
Remuneration of Directors and Managers	14,639	5,998	20,637
Annual Reporting	16,087	8,686	24,773
Related Party Transactions	21,050	14,381	35,431
Collateral and Guarantees	27,421	14,205	41,626
Project Investment	3,746	1,741	5,487
Auditing	15,466	7,829	23,295
Shareholding Changes	1,254	847	2,101
Fund Raising	22,883	9,188	32,071
Assets Changes	2,547	1,357	3,904
Others	20,759	10,997	31,756
Total	162,858	85,524	248,382

Panel C Sample Distribution by Year			
Year	By IDs with site visits	By IDs without site visits	# of Obs.
2010	3,509	2,748	6,257
2011	7,129	4,484	11,613
2012	11,475	6,448	17,923
2013	17,107	9,152	26,259
2014	19,843	10,379	30,222
2015	24,022	12,612	36,634
2016	26,889	14,810	41,699
2017	30,966	16,681	47,647
2018	21,918	8,210	30,128
Total	162,858	85,524	248,382

II. Table 2 Descriptive statistics

This table presents the summary statistics of the full sample and the correlation matrix. Panel A presents the summary statistics. Panel B presents Pearson's correlations for the quantity of firm-specific information in opinions (DIS) and two measures of corporate site visits (IDSV[0,1] and IDSV[%]). All variables are defined in Appendix I of Supplementary Appendices. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Panel A Summary Statistics								
Variables	No.	Mean	Median	Std.	Quantiles			
					1%	25%	75%	99%
DIS	248,382	47.22	30.92	32.55	9.86	18.58	82.53	99.79
IDSV[0,1]	248,382	0.66	1.00	0.48	0.00	0.00	1.00	1.00
IDSV[%]	248,382	0.62	1.00	0.46	0.00	0.00	1.00	1.00
SIZE	248,382	21.99	21.83	1.20	19.83	21.11	22.68	25.60
MTB	248,382	4.25	3.27	3.28	0.80	2.13	5.18	19.43
ROA	248,382	0.04	0.04	0.05	-0.13	0.02	0.07	0.18
LEV	248,382	0.41	0.40	0.21	0.05	0.24	0.58	0.87
AGE	248,382	15.27	15.00	5.65	3.00	11.00	19.00	29.00
DUAL	248,382	0.30	0.00	0.46	0.00	0.00	1.00	1.00
IDRRATIO	248,382	0.38	0.33	0.05	0.33	0.33	0.43	0.57
MANHLD	248,382	0.09	0.00	0.15	0.00	0.00	0.10	0.63
IDAGE	248,382	52.70	52.33	5.72	40.50	48.67	56.33	67.33
FEMALE	248,382	0.42	0.00	0.49	0.00	0.00	1.00	1.00
FGO	248,382	0.68	1.00	0.47	0.00	0.00	1.00	1.00
OVERSEA	248,382	0.22	0.00	0.41	0.00	0.00	0.00	1.00
ACADEMIC	248,382	0.90	1.00	0.30	0.00	1.00	1.00	1.00
OTHERCOP	248,382	0.73	1.00	0.44	0.00	0.00	1.00	1.00
BMATT	248,382	2.03	2.30	0.84	0.00	1.95	2.57	3.26

Panel B Correlation Matrix			
	DIS	IDSV[0,1]	IDSV[%]
DIS	1		
IDSV[0,1]	0.05***	1	
IDSV[%]	0.06***	0.96***	1

III. Table 3 Univariate tests

This table presents the univariate tests. The difference test of the mean is conducted with a two-sample t-test, and the difference test of the median is conducted by a two-sample Wilcoxon rank-sum (Mann-Whitney) test. All variables are defined in Appendix I of Supplementary Appendices. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Variables	IDSV[0,1]=1		IDSV[0,1]=0		Difference Test	
	Mean	Median	Mean	Median	Mean	Median
DIS	48.41	32.86	44.95	27.69	3.46***	5.17***
Obs.	162,858		85,524		248,382	

IV. Table 4 Multivariate tests

This table presents the results of an OLS estimate of the relation between IDs' corporate site visits and the firm-specific information in IDs' opinions. IDs' corporate site visits are measured alternatively as (1) the existence of IDs' corporate site visits (IDSV[0,1]) and (2) the intensity of the IDs' corporate site visits (IDSV[%]). We measure the quantity of firm-specific information in IDs' opinion text by calculating its dissimilarity with the previous text (DIS) (i.e., the Levenshtein edit distance between an ID's opinion text and that in the prior year corresponding to corporate decisions in the same type, divided by the total number of words in opinion text). All variables are defined in Appendix I of Supplementary Appendices. The t-statistics are clustered at the firm level and are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Variables	(1) DIS	(2) DIS	(3) DIS	(4) DIS	(5) DIS	(6) DIS
IDSV[0,1]	1.89*** (4.53)	1.70*** (4.17)	1.58*** (3.86)			
IDSV[%]				1.42*** (3.48)	1.24*** (3.10)	1.18*** (2.92)
SIZE			-1.77*** (-4.18)			-1.78*** (-4.21)
MTB			-0.37*** (-5.26)			-0.37*** (-5.29)
ROA			-1.37 (-0.38)			-1.43 (-0.40)
LEV			3.58** (2.46)			3.59** (2.47)
AGE			-0.86 (-1.19)			-0.85 (-1.17)
DUAL			-0.73 (-1.53)			-0.73 (-1.54)
IDRRATIO			-3.85 (-1.07)			-3.90 (-1.08)
MANHLD			0.44 (0.22)			0.46 (0.24)
IDAGE			0.01 (0.25)			0.01 (0.25)
FEMALE			0.34 (0.98)			0.33 (0.97)
FGO			1.64*** (5.29)			1.64*** (5.29)
OVERSEA			0.09 (0.23)			0.10 (0.26)
ACADEMIC			2.00*** (4.03)			2.03*** (4.09)
OTHERCOP			0.95*** (2.81)			0.95*** (2.81)
BMATT			0.12 (0.75)			0.15 (0.90)
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Type FE	NO	YES	YES	NO	YES	YES
Obs.	248,382	248,382	248,382	248,382	248,382	248,382
Adj R2	0.11	0.18	0.18	0.11	0.18	0.18

V. Table 5 Instrumental variable tests

This table presents the results of the IV approach that tests the relation between IDs' corporate site visits and firm-specific information in IDs' opinions by using extreme weather (Weather) as an exogenous instrument variable. Columns (1) and (3) present the first-stage results; Columns (2) and (4) present the second-stage results. IDs' corporate site visits are measured alternatively as (1) the existence of IDs' corporate site visits (IDSV[0,1]) and (2) the intensity of IDs' corporate site visits (IDSV[%]). We measure the quantity of firm-specific information in IDs' opinion text by calculating its dissimilarity with the previous text (DIS) (i.e., the Levenshtein edit distance between an ID's opinion text and that in the prior year corresponding to corporate decisions in the same type, divided by the total number of words in opinion text). All variables are defined in Appendix I of Supplementary Appendices. The t-statistics are clustered at the firm level and are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Variables	(1) First-stage IDSV[0,1]	(2) Second-stage DIS	(3) First-stage IDSV[%]	(4) Second-stage DIS
IV(Weather)	-0.30*** (-4.14)		-1.04*** (-14.92)	
IDSV[0,1]_Pr		38.05*** (3.18)		
IDSV[%]_Pr				10.85*** (4.25)
SIZE	-0.01 (-0.91)	-1.40** (-2.24)	-0.01 (-0.65)	-1.74*** (-4.02)
MTB	-0.00** (-2.11)	-0.24** (-2.36)	-0.00* (-1.74)	-0.35*** (-4.84)
ROA	-0.06 (-0.61)	1.05 (0.21)	-0.02 (-0.17)	-1.04 (-0.29)
LEV	0.00 (0.08)	3.41 (1.59)	-0.01 (-0.13)	3.60** (2.39)
AGE	-0.00 (-0.54)	-0.59 (-0.74)	-0.02 (-1.13)	-0.66 (-0.91)
DUAL	-0.00 (-0.42)	-0.50 (-0.75)	-0.00 (-0.16)	-0.69 (-1.43)
IDRRATIO	-0.10 (-1.02)	-0.52 (-0.10)	-0.13 (-1.23)	-3.12 (-0.86)
MANHLD	0.00 (0.04)	0.40 (0.14)	-0.02 (-0.29)	0.64 (0.31)
IDAGE	0.00*** (2.63)	-0.07 (-1.42)	0.00*** (3.81)	-0.02 (-0.61)
FEMALE	-0.01 (-0.88)	0.60 (1.27)	-0.01 (-0.88)	0.38 (1.09)
FGO	-0.00 (-0.28)	1.71*** (4.22)	-0.01 (-0.62)	1.68*** (5.34)
OVERSEA	-0.00 (-0.38)	0.24 (0.45)	-0.01 (-1.25)	0.23 (0.58)
ACADEMIC	0.02 (1.32)	1.40* (1.96)	-0.00 (-0.09)	2.06*** (4.05)
OTHERCOP	0.00 (0.18)	0.85* (1.83)	-0.00 (-0.11)	0.93*** (2.72)
BMATT	0.04*** (7.56)	-1.23** (-2.45)	0.03*** (6.21)	-0.13 (-0.73)
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Type FE	YES	YES	YES	YES
Underidentification test		18.27(0.00)		142.56(0.00)

(Kleibergen-Paap rk LM statistic)		
Weak identification test		
(Kleibergen-Paap rk Wald F statistic)	17.14	222.67
Obs.	248,380	248,380
Adj R2	0.17	0.17

VI. Table 6 Placebo tests

This table presents the results from placebo tests. The sample period is 2009-2017. The unit of analysis is the IDs' opinions of corporate decisions. Panel A presents the results of the placebo test of a random year for a site visit of the same firm. Panel B presents the results of a placebo test on a randomized site visit for a firm for the same year. Column (1) in Panel A and Panel B reports the coefficient estimates for $IDSV[0,1]$ and $IDSV[\%]$ using the actual date of IDs' site visit in firms. In Panel A, firstly, we randomly change the year of on-site visit on the firm as the (pseudo) on-site visit year for the IDs who have conducted on-site visits on the corresponding firm within the sample period and re-estimate the main regression. Secondly, we do this process 500 times, and Panel A reports the distribution of the coefficients for $IDSV[0,1]$ and $IDSV[\%]$. The corresponding histogram of the coefficient distribution is reported in Figure 1 (a). Firstly, in Panel B, we randomly change the firm of on-site visits in the year as the (pseudo) on-site visit firm for the IDs who have conducted on-site visits in the corresponding year within the sample period and re-estimate the main regression. Secondly, we do this process 500 times, and Panel B reports the distribution of the coefficients for $IDSV[0,1]$ and $IDSV[\%]$. The corresponding histogram of the coefficient distribution is reported in Figure 1 (b). All variables are defined in Appendix I of Supplementary Appendices. The t-statistics are clustered at the firm level and are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

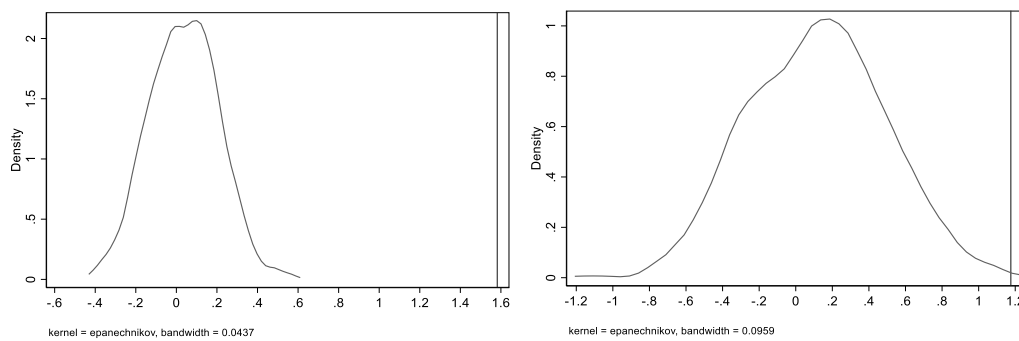
Panel A Placebo Test: Randomized IDSV Year for Same Firm										
	Actual IDSV	Mean	Std	Min	p1	p25	p50	p75	p99	Max
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$IDSV[0,1]$	1.58 (3.86)	0.04 (0.22)	0.17 (0.97)	-0.39 (-2.27)	-0.34 (-1.96)	-0.08 (-0.47)	0.04 (0.25)	0.15 (0.86)	0.45 (2.54)	0.58 (3.33)
$IDSV[\%]$	1.18 (2.92)	0.12 (0.29)	0.37 (0.93)	-1.11 (-2.79)	-0.67 (-1.74)	-0.17 (-0.42)	0.13 (0.33)	0.37 (0.94)	0.98 (2.45)	1.14 (2.88)

Panel B Placebo Test: Randomized IDSV Firm for Same Year										
	Actual IDSV	Mean	Std	Min	p1	p25	p50	p75	p99	Max
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$IDSV[0,1]$	1.58 (3.86)	0.03 (0.18)	0.14 (0.89)	-0.38 (-2.33)	-0.28 (-1.76)	-0.07 (-0.44)	0.03 (0.18)	0.12 (0.78)	0.37 (2.37)	0.56 (3.37)
$IDSV[\%]$	1.18 (2.92)	0.11 (0.29)	0.36 (0.97)	-0.99 (-2.69)	-0.87 (-2.27)	-0.12 (-0.31)	0.11 (0.29)	0.35 (0.94)	0.97 (2.59)	1.21 (3.17)

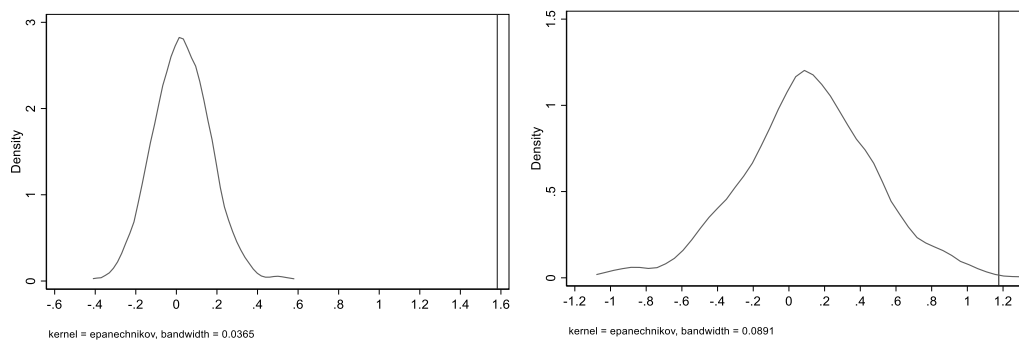
Figure 1. Histogram distribution of regression coefficients from placebo tests

This figure presents the histogram distribution of the regression coefficients from placebo tests. The sample period is 2010-2018. The unit of analysis is the IDs' opinions on corporate decisions. Figure (a) shows the histogram distribution of the regression coefficients of a randomized year of the site visit for the same firm. Figure (b) shows the histogram distribution of the regression coefficients of a randomized firm of the site visit for the same year. Figures on the left are for coefficient $IDSV[0,1]$ and on the right for $IDSV[\%]$. Firstly, in Figure (a), we randomly change the year of on-site visits on the firm as the (pseudo) on-site visit year for the IDs who have conducted on-site visits on the corresponding firm within the sample period and re-estimate the main regression. Secondly, we do this process 500 times and plot the histogram distribution of regression coefficients for $IDSV[0,1]$ and $IDSV[\%]$. In Figure (b), firstly, we randomly change the firm of on-site visits in the year as the (pseudo) on-site visit firm for the IDs who have conducted on-site visits in the corresponding year within the sample period and re-estimate the main regression. Secondly, we repeat this process 500 times and plot the histogram distribution of regression coefficients for $IDSV[0,1]$ and $IDSV[\%]$. The corresponding histogram distribution of the regression coefficients is reported in VI. Table 6.

(a) Randomized IDs site visit year for the same firm



(b) Randomized IDs site visit firm for the same year



VII. Table 7 Controlling for sites fixed effects

This table presents the results of a multivariate regression of a small sample with site fixed effects. Each ID may conduct site visits in different cities within a year, thus, we include site fixed effects by adding a city dummy for each site. The site information is hand-collected by reading all the IDs' annual working reports, and the small sample here is limited to IDs' opinions that all the IDs expressing it have disclosed the specific visited city, which makes it feasible to control all the sites dummy. Firm-specific information in IDs' opinions here is measured as text dissimilarity with previous independent opinion text (DIS). IDs' corporate site visits are measured as the intensity of IDs' corporate site visits at the independent-opinion level (IDSV[%]). All variables are defined in Appendix I of Supplementary Appendices. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Variables	(1) DIS	(2) DIS
IDSV[%]	21.50* (1.92)	31.26*** (3.85)
SIZE	-5.53* (-1.77)	-9.40*** (-2.69)
MTB	0.24 (0.44)	-0.44 (-0.86)
ROA	64.17 (1.61)	105.48** (2.53)
LEV	-30.24** (-2.10)	-9.55 (-0.57)
AGE	-9.49 (-1.09)	-8.95 (-0.78)
DUAL	-5.58 (-1.64)	-4.29 (-1.52)
IDRRATIO	-60.28 (-1.45)	-5.95 (-0.15)
MANHLD	-0.02 (-0.72)	-0.04 (-1.38)
IDAGE	0.02 (0.47)	-0.01 (-0.17)
FEMALE	0.66 (0.48)	0.48 (0.35)
FGO	1.21 (1.20)	1.01 (1.01)
OVERSEA	-1.04 (-0.83)	-1.45 (-1.17)
ACADEMIC	-0.17 (-0.17)	0.30 (0.30)
OTHERCOP	1.61* (1.71)	1.36 (1.50)
BMATT	-0.49 (-0.50)	-1.30 (-1.21)
Firm FE	YES	YES
Year FE	YES	YES
Type FE	YES	YES
Site FE	NO	YES
Obs.	6,109	6,109
Adj R2	0.19	0.21

VIII. Table 8 Cross-sectional tests

This table presents the results of cross-sectional analyses on the relation between IDs' corporate site visits and firm-specific information in IDs' opinions. IDs' corporate site visits are measured alternatively as (1) the existence of IDs' corporate site visits (IDSV[0,1]) and (2) the intensity of IDs' corporate site visits (IDSV[%]). We measure the quantity of firm-specific information in IDs' opinion text by calculating its dissimilarity with the previous text (DIS) (i.e., the Levenshtein edit distance between an ID's opinion text and that in the prior year corresponding to corporate decisions in the same type, divided by the total number of words in opinion text). If a firm has a value of the splitting variable above the median each year, we put it in the high group, otherwise in the low group. Panel A tests the effect of firm business complexity on the relation, where firm complexity is measured as the number of industries the firms covered. Panel B tests the effect of firms' proprietary cost of specific-information disclosure on the relation, where firms' proprietary cost is measured as the R&D intensity, i.e., the R&D expenditure divided by the total sales. Panel C tests the effect of IDs' information asymmetry regarding internal information on the relation, where IDs' information asymmetry is measured by their average tenure in the firm. Panel D tests the effect of IDs' information superiority regarding external information on the relation, where IDs' information superiority is measured as the number of structural holes held by IDs in directors' networks. Panel E tests the effect of IDs' reputation incentive on the relation, where IDs' reputation incentive is measured as the number of news containing the director's name and primary employer from year t-3 to year t-1, where year t is the year of opinions on corporate decisions. Panel F tests the effect of IDs' resumption ability on the relation, IDs' resumption ability is measured as the educational background, namely whether the IDs have Ph.D. degrees. If any one of the IDs has a Ph.D. degree, we put it in the high group, otherwise in the low group. All variables are defined in Appendix I of Supplementary Appendices. The t-statistics are clustered at the firm level and are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Panel A Firms' Business Complexity				
	COMPLEX		COMPLEX	
	Low	High	Low	High
Variables	(1)	(2)	(3)	(4)
	DIS	DIS	DIS	DIS
IDSV[0,1]	0.03 (0.03)	2.71*** (3.16)		
IDSV[%]			0.04 (0.04)	2.60*** (3.02)
Difference Test	P-value = 0.02**		P-value = 0.01**	
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Type FE	YES	YES	YES	YES
Obs.	125,720	122,662	125,720	122,662
Adj R ²	0.16	0.16	0.16	0.16
Panel B Firms' Proprietary Cost				
	R&D INTENSITY		R&D INTENSITY	
	Low	High	Low	High
Variables	(1)	(2)	(3)	(4)
	DIS	DIS	DIS	DIS
IDSV[0,1]	2.31*** (3.35)	1.06** (1.99)		
IDSV[%]			1.54** (2.32)	0.82 (1.53)
Difference Test	P-value = 0.00***		P-value = 0.07*	
Controls	YES	YES	YES	YES

Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Type FE	YES	YES	YES	YES
Obs.	123,248	125,134	123,248	125,134
Adj R ²	0.20	0.19	0.20	0.19

Panel C IDs' Information Asymmetry regarding Internal Information: years of service

Variables	TENURE		TENURE	
	Low	High	Low	High
	(1)	(2)	(3)	(4)
	DIS	DIS	DIS	DIS
IDSV[0,1]	1.87*** (3.40)	0.09 (0.12)		
IDSV[%]			1.48*** (2.75)	-0.33 (-0.47)
Difference Test	P-value = 0.00***		P-value = 0.00***	
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Type FE	YES	YES	YES	YES
Obs.	147,113	101,269	147,113	101,269
Adj R ²	0.19	0.20	0.19	0.20

Panel D IDs' Information Superiority

Variables	STRUHOLES		STRUHOLES	
	Low	High	Low	High
	(1)	(2)	(3)	(4)
	DIS	DIS	DIS	DIS
IDSV[0,1]	0.63 (1.01)	2.37*** (4.06)		
IDSV[%]			0.62 (1.00)	1.60*** (2.78)
Difference Test	P-value = 0.00***		P-value = 0.03**	
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Type FE	YES	YES	YES	YES
Obs.	123,452	124,930	123,452	124,930
Adj R ²	0.20	0.18	0.20	0.18

Panel E IDs' Reputation Incentive

Variables	NEWS		NEWS	
	Low	High	Low	High
	(1)	(2)	(3)	(4)
	DIS	DIS	DIS	DIS
IDSV[0,1]	0.23 (0.28)	1.46*** (2.95)		
IDSV[%]			0.23 (0.28)	0.97** (2.02)
Difference Test	P-value = 0.03**		P-value = 0.19	

Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Type FE	YES	YES	YES	YES
Obs.	87,063	161,319	87,063	161,319
Adj R ²	0.20	0.19	0.20	0.19
Panel F IDs' Ability				
	PHD		PHD	
	Low	High	Low	High
	(1)	(2)	(3)	(4)
Variables	DIS	DIS	DIS	DIS
IDSV[0,1]	0.89 (1.58)	2.72*** (4.22)		
IDSV[%]			0.47 (0.85)	2.31*** (3.60)
Difference Test	P-value = 0.00***		P-value = 0.00***	
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Type FE	YES	YES	YES	YES
Obs.	140,755	107,627	140,755	107,627
Adj R ²	0.18	0.20	0.18	0.20

IX. Table 9 Investors' response to firm-specific information in IDs' opinions

This table presents the results of an OLS estimate that tests investors' response to the quantity of firm-specific information in IDs' opinions. The market reaction variables are (1) CAR_madj[-2,2], defined as the five-day cumulative abnormal stock return of the market-adjusted model during the [-2,+2] announcement window; (2) CAR_mkt[-2,2], defined as the five-day cumulative abnormal stock return of market model during the [-2,+2] announcement window. The pre-event window for the market-adjusted model to estimate the abnormal announcement period return is from day t-120 to day t-30, where t is the announcement date of independent opinions. The earnings news variable is represented by the standardized unexpected earnings (SUE) in the quarterly (or annual) report announced on the same day as independent opinions. The SUE is the difference between actual earnings per share in quarter t (EPSt) minus earnings per share in quarter t-1 (EPSt-1), divided by the closing stock price on the second trading day after quarter t-1's earnings announcement. We measure the quantity of firm-specific information in IDs' opinion text by calculating its dissimilarity with the previous text (DIS) (i.e., the Levenshtein edit distance between an ID's opinion text and that in the prior year corresponding to corporate decisions in the same type, divided by the total number of words in opinion text). The sample size is smaller than the main regressions as we focus on IDs' opinions accompanied by a quarterly (or annual) report announced on the same day. All variables are defined in Appendix I of Supplementary Appendices. The t-statistics are clustered at the firm level and are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Variables	(1) CAR_madj[-2,2]	(2) CAR_madj[-2,2]	(3) CAR_mkt[-2,2]	(4) CAR_mkt[-2,2]
DIS×SUE		0.01** (2.02)		0.01* (1.93)
DIS		-0.05*** (-3.14)		-0.05*** (-2.93)
SUE	1.22** (2.38)	0.75*** (2.67)	0.47*** (2.81)	0.01 (0.02)
SIZE	-9.31*** (-3.33)	-9.43*** (-12.45)	-8.45*** (-9.79)	-8.56*** (-11.14)
MTB	-2.23*** (-4.32)	-2.23*** (-16.10)	-3.23*** (-20.01)	-3.23*** (-22.95)
ROA	57.23 (1.59)	57.22*** (7.12)	56.60*** (5.17)	56.59*** (6.94)
LEV	9.06 (0.91)	9.07*** (3.10)	14.36*** (4.43)	14.36*** (4.83)
AGE	2.83 (0.77)	2.83* (1.92)	2.60** (2.05)	2.61* (1.74)
DUAL	0.22 (0.07)	0.19 (0.21)	0.88 (0.88)	0.86 (0.92)
IDRRATIO	14.75 (0.56)	14.64** (1.99)	19.21** (2.46)	19.12** (2.56)
MANHLD	1.45 (0.11)	1.63 (0.43)	-16.46*** (-3.87)	-16.30*** (-4.20)
IDAGE	0.02 (0.10)	0.02 (0.32)	0.08 (1.13)	0.08 (1.20)
FEMALE	0.67 (0.31)	0.65 (0.98)	1.09 (1.56)	1.08 (1.59)
FGO	-1.77 (-0.84)	-1.76*** (-2.69)	-0.85 (-1.24)	-0.84 (-1.26)
OVERSEA	0.47 (0.19)	0.48 (0.63)	0.31 (0.39)	0.32 (0.42)
ACADEMIC	-2.20 (-0.65)	-2.19* (-1.91)	-1.44 (-1.23)	-1.43 (-1.23)
OTHERCOP	0.46	0.46	0.40	0.39

	(0.22)	(0.65)	(0.56)	(0.54)
BMATT	0.84	0.83**	1.06***	1.05***
	(0.69)	(2.32)	(2.77)	(2.90)
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Type FE	YES	YES	YES	YES
Obs.	95,057	95,057	95,057	95,057
Adj R2	0.21	0.21	0.20	0.20

X. Table 10 Firm-specific information in IDs' opinions and stock price efficiency

This table presents the results of testing the relation between the quantity of firm-specific information in IDs' opinions and the efficiency of the stock price. Stock price idiosyncronicity (IDIOSYN) is defined following Jin and Myers (2006). We measure the quantity of firm-specific information in IDs' opinion text by calculating its dissimilarity with the previous text (DIS) (i.e., the Levenshtein edit distance between an ID's opinion text and that in the prior year corresponding to corporate decisions in the same type, divided by the total number of words in opinion text). The table tests the effect of firm-specific information quantity in IDs' opinions on stock price idiosyncronicity on firm-year level. We control for intensity of institutional site visits (INSTISV), the number of analysts following (ANALYST), stock trading volume (VOLUME), and other firm characteristics such as size (SIZE), market to book ratio (MTB), profitability (ROA), leverage (LEV) that follow Chan and Hameed (2006). All variables are defined in Appendix I of Supplementary Appendices. The t-statistics are clustered at the firm level and are reported in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Variables	(1) IDIOSYN	(2) IDIOSYN	(3) IDIOSYN
DIS_Firm×IDSV_Firm			0.01* (1.79)
DIS_Firm		0.01*** (3.70)	0.01 (1.32)
IDSV_Firm			-0.02 (-0.72)
INSTISV	0.10* (1.82)	0.10* (1.74)	0.10* (1.66)
ANALYST	-0.08*** (-6.12)	-0.08*** (-6.07)	-0.07*** (-5.96)
VOLUME	0.28*** (22.95)	0.28*** (18.60)	0.28*** (14.01)
SIZE	-0.21*** (-8.34)	-0.22*** (-7.72)	-0.22*** (-7.84)
MTB	-0.02*** (-3.96)	-0.02*** (-3.55)	-0.02*** (-3.00)
ROA	-1.63*** (-6.59)	-1.62*** (-6.33)	-1.63*** (-6.05)
LEV	0.36*** (3.81)	0.36*** (3.68)	0.36*** (2.95)
Firm FE	YES	YES	YES
Year FE	YES	YES	YES
Obs.	15,518	15,518	15,518
Adj R2	0.45	0.45	0.45

XI. Table 11 Alternative measurement of firm-specific information

This table presents the results of a multivariate regression that uses an alternative measurement of firm-specific information in IDs' opinions. Panel A presents the results based on firm-year-independent -opinion observations. Panel B presents the results based on firm-year-opinion-ID observations. Firm-specific information in IDs' opinions here is measured as the number of specific words divided by the total number of words in IDs' opinion text (FSW). IDs' corporate site visits in Panel A are measured alternatively as (1) the existence of IDs' corporate site visits at the independent-opinion level (IDSV[0,1]) and (2) the intensity of IDs' corporate site visits at the independent-opinion level (IDSV[%]). IDs' corporate site visits in Panel B are measured as the existence of corporate site visits (IDSV). All variables are defined in Appendix I of Supplementary Appendices. *, **, *** denote statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Panel A Multivariate Tests: based on Firm-year-opinion observations						
Variables	(1) FSW	(2) FSW	(3) FSW	(4) FSW	(5) FSW	(6) FSW
IDSV[0,1]	0.45*** (2.71)	0.37** (2.41)	0.39** (2.53)			
IDSV[%]				0.42** (2.54)	0.35** (2.27)	0.36** (2.37)
Controls	NO	NO	YES	NO	NO	YES
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Type FE	NO	YES	YES	NO	YES	YES
Obs.	248,382	248,382	248,382	248,382	248,382	248,382
Adj R2	0.06	0.15	0.15	0.06	0.15	0.15
Panel B Multivariate Tests: based on Firm-year-opinion-ID observations						
Variables	(1) FSW	(2) FSW	(3) FSW			
IDSV	0.32*** (4.73)	0.27*** (4.25)	0.35*** (4.44)			
Controls	YES	YES	YES			
Firm FE	YES	YES	YES			
Year FE	YES	YES	YES			
ID FE	NO	NO	YES			
Type FE	NO	YES	YES			
Obs.	745,714	745,714	745,714			
Adj R2	0.07	0.16	0.16			

Supplementary Appendices

Do Corporate Site Visits Affect the Informational Role of Independent Directors?

This section provides supplementary information and additional analyses as described below:

Appendix 1: Variable definitions

Appendix 2. Various types of corporate decisions related to site visits

Appendix 3. Frequency distribution of site visits

Appendix 4. Alternative proprietary cost proxy

Appendix 1. Variable definitions

IDs corporate site visit variables	
IDSV	IDs' corporate site visit, a dummy at the independent director level, equals one if the ID takes a corporate site visit in the firm and zero otherwise.
IDSV[0,1]	IDs' corporate site visit existence, a dummy at IDs' opinion level, equals one if any ID expressing the opinion takes a corporate site visit in the firm, and zero otherwise.
IDSV[%]	IDs' corporate site visit intensity, a continuous variable at IDs' opinion level, equals the proportion of IDs taking a corporate site visit in the firm among all IDs expressing the opinion.
IDs' opinion text variables	
DIS	Firm-specific information quantity in IDs' opinion text, measured as the text dissimilarity with previous opinion text, i.e., the Levenshtein edit distance between the text of opinion in one year and the text in the prior year that corresponds to corporate decisions of the same type, divided by the total number of words in opinion text, the range of text similarity is [0,1), Levenshtein edit distance is calculated by SAS. This ratio is multiplied by 100.
FSW	Firm-specific information quantity in IDs' opinion text, measured as the number of specific words divided by the total number of words in IDs' opinion text following prior studies (Bushman et al., 2017; Dyer et al., 2017; Lang & Stice-Lawrence, 2015). This ratio is multiplied by 1000. The number of entities (number, people, organizations, dollar amounts, percentages, dates, or times) identified by the Stanford Named Entity Recognizer (NER) tool. We firstly use the Named Entity Recognition (NER) technique and specifically the Stanford NER tool with a Chinese module to extract specific entity names following Dyer et al. (2017) and secondly exclude the specific entity word that is shared by the corresponding corporate decisions, or the prior year opinions of same event type, or the IDs' opinions of other firms in the same year. Website to get the NER module (with Chinese jar): https://stanfordnlp.github.io/CoreNLP/index.html#download .
Control variables	
SIZE	Firm size, equals the natural logarithm of total assets.
MTB	Market to book ratio, equals market value divided by total assets in the book.
ROA	Profitability, equals total net income divided by total assets.
LEV	Leverage, equals total liability divided by total assets.
AGE	Firm age, equals the difference between the current year and the founding year of the firm.
DUAL	Duality, equals one if COB (chair of the board) and CEO are the same person, and zero otherwise.
IDRRATIO	The ratio of IDs in the board, equals the number of IDs divided by the total number of directors of the firm.
MANHLD	Management ownership, equals all shares held by the management divided by total shares in the firm.
IDAGE	ID's age. For firm-year-opinion observations, equals the average age of all IDs expressing the opinion. For firm-year-opinion-ID observations, equals the age of the IDs expressing the opinion.
FEMALE	Female ID dummy. For firm-year-opinion observations, equals one if any ID expressing the opinion is a female, and zero otherwise. For firm-year-opinion-ID observations, it equals one if the ID is female and zero otherwise.
FGO	Political background dummy. For firm-year-opinion observations, it equals one if any ID expressing the opinion has a political background and zero otherwise. For firm-year-opinion-ID observations, it equals one if the ID has a political background and zero otherwise. Specifically, political background means

	relevant experience in any current or former government department.
OVERSEA	Overseas background dummy. For firm-year-opinion observations, it equals one if any ID expressing the opinion has an overseas background and zero otherwise. For firm-year-opinion-ID observations, it equals one if the ID has an overseas background and zero otherwise. Specifically, an overseas background means a relevant experience of working abroad or studying abroad.
ACADEMIC	Academic background dummy. For firm-year-opinion observations, it equals one if any ID expressing the opinion has an academic background and zero otherwise. For firm-year-opinion-ID observations, it equals one if the ID has an academic background and zero otherwise. Specifically, an academic background means any relevant teaching or research experience in current or former universities, research institutions, and industry associations.
OTHERCOP	Concurrent position dummy. For firm-year-opinion observations, it equals one if any ID holds a concurrent director position in other firms and zero otherwise. For firm-year-opinion-ID observations, it equals one if the ID holds a concurrent director position in other firms and zero otherwise.
BMATT	Independent directors' board meeting attendance rate, equals the average of the attendance ratio of all independent directors on the board, which is the number of board meetings each independent director attends scaled by the number of board meetings required during a year.

Appendix 2. Various types of corporate decisions related to site visits

Site visits provide IDs with opportunities to focus on gathering firsthand information and insights to evaluate specific aspects of the firms' operations. During site visits, IDs may visit the firm's investment projects, manufacturing facilities, or production sites to observe operations. Therefore, certain types of corporate decisions related to site visits, such as Project Investment and Assets Change, can be more intuitive when it comes to site visits. However, it does not preclude IDs from investigating the firms' other decision-making during their site visits. Regardless of the specific types of corporate decisions that IDs investigate during their site visits, the superiority of on-site investigations to other types of investigations is its interactive nature, which enables visiting IDs to gain firsthand knowledge, soft information, and insights through on-site investigations. Since firms' corporate decisions can be intertwined with each other, IDs can better evaluate risks, identify opportunities, and contribute to corporate decision-making through their advising and monitoring by observing operations, meeting employees, and assessing certain key aspects of business activities during site visits. For instance, on-site investigations of firms' investment projects, manufacturing facilities, or production sites (i.e., corporate decisions related to Project Investment and Assets Change) may also provide opportunities for IDs to assess the firm's compliance with safety regulations (e.g., employee workplace safety, toxic working environment, factory ethical standards) and evaluate production processes (e.g., inventory procurement and management), which may also relate to the firm's CSR reporting under "Annual Reporting" and auditing issues under "Auditing".

To ensure that a wide variety of corporate decisions can be related to site visits, we manually check IDs' annual working reports to make sure that site visits enable IDs to access a wide range of corporate decisions and provide a number of examples of how site visits help IDs acquire various information concerning corporate decisions. For instance, in the ID annual working report of Shenzhen Topway Video Communication

(stock code: 002238)¹⁴, the ID reports his on-site investigation of the firm. Specifically, during the site visit, it was reported that the ID surveyed the manager of the firm's human resources (HR) department to understand the firm's senior human resources decisions, particularly regarding top executives' compensation and payroll issues, and to make relevant suggestions for further improvement on these issues. In addition, the report also disclosed that the ID also visited Shenzhen Radio and Television Group, the controlling shareholder of the firm, to make a report on the firm's overall development strategy that he believed was highly conducive to his better understanding of the firm and its shareholders, which ultimately helped him to undertake his advising and monitoring role better. Therefore, the case suggests that decisions regarding "Personnel Changes" and "Remuneration of Directors and Managers" are also highly related to site visits. Panel B of Table 1 of our study also reflects these two types of corporate decisions.

Also, in the ID annual working report of WLD Electric (stock code: 002180)¹⁵, the ID reported that he conducted an on-site investigation of the firm to thoroughly investigate its production and operational conditions, as well as its financial position of the firm. Specifically, during his site visits, the ID communicated directly with the senior management, the audit committee, and certified public accounts regarding the company's annual report issues. In particular, the ID clearly highlighted how he exercised his role as an ID during site visits by gathering information regarding the firm's financial operations, transactions, progress of investment projects, and relevant financial data to stay informed about the firm's financial position as well as the production and operation conditions of the firm.

Moreover, the ID of Tianjin Printronics Circuit Corp (stock code: 002134)¹⁶

¹⁴ For details of the firm's independent directors' annual report, please visit:

<http://www.cninfo.com.cn/new/disclosure/detail?stockCode=002238&announcementId=57753615&orgId=9900004647&announcementTime=2010-03-31>

¹⁵ For details of the firm's independent directors' annual working report, please visit:

<http://www.cninfo.com.cn/new/disclosure/detail?stockCode=002180&announcementId=51788977&orgId=9900003822&announcementTime=2009-04-25>

¹⁶ For details of the firm's independent directors' annual working report, please visit:

reported how site visits facilitate his advising and monitoring role in the preparation and disclosure of the company's annual report. Particularly, to understand and grasp the arrangement and progress of the audit work of the firm's annual report, he made on-site inspections to scrutinize the relevant information in the preparation and disclosure of the firm's annual report. During his site visits, he also met with the accountant of the annual audit and communicated effectively with the accountant on the issues identified during the audit process to ensure that the audit report fully reflected the true financial position of the firm. Therefore, based on the cases above, corporate decisions, such as "Annual Reporting", "Related Party Transactions", "Auditing" and "Fund Raising" also can be closely linked to on-site visits, as indicated in Panel B of Table 1 in our revised manuscript.

In the ID annual working report of Fujian Zhonghe (stock code: 002070)¹⁷, the ID also reported that he made numerous on-site visits to the firm to discuss and communicate with the management team regarding the production and operation, the improvement of internal control systems, the implementation of resolutions of the board of directors, and financial management, related party transactions, guarantees as well as the progress of investment projects and other related matters. Hence, site visits can also facilitate the independent directors' information acquisition on "Related Party Transactions", "Collateral and Guarantees", and "Project Investment", and so on.

Overall, in the process of our manual check on IDs' annual working reports, there are a large number of examples indicating that site visits can be related to a variety of corporate decisions. It is believed that site visits can benefit IDs' information acquisition of various types of corporate decisions, as listed in Panel B of Table 1.

<http://www.cninfo.com.cn/new/disclosure/detail?stockCode=002134&announcementId=50642497&orgId=9900002821&announcementTime=2009-03-28>.

¹⁷ For details of the firm's independent directors' annual working report, please visit:

<http://www.cninfo.com.cn/new/disclosure/detail?stockCode=002070&announcementId=50274045&orgId=9900000841&announcementTime=2009-03-18>.

Appendix 3. Frequency distribution of site visits

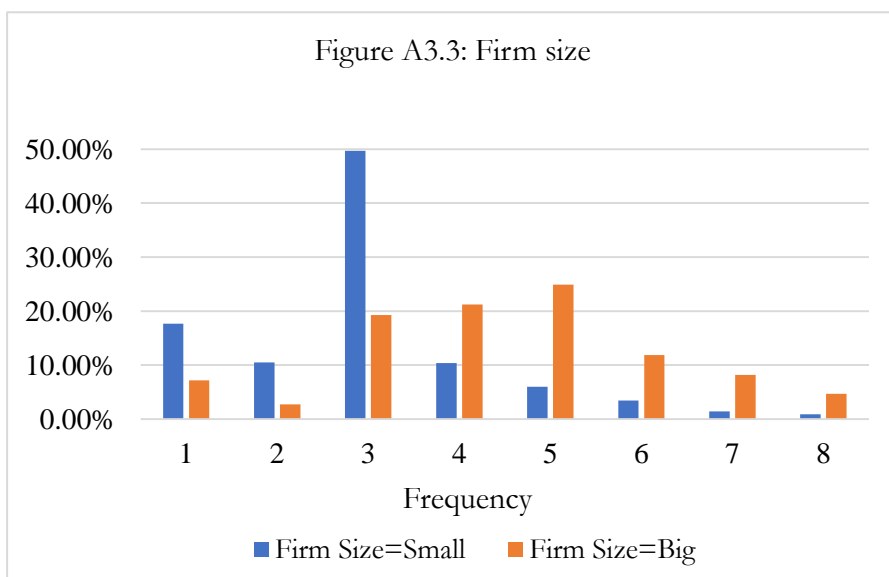
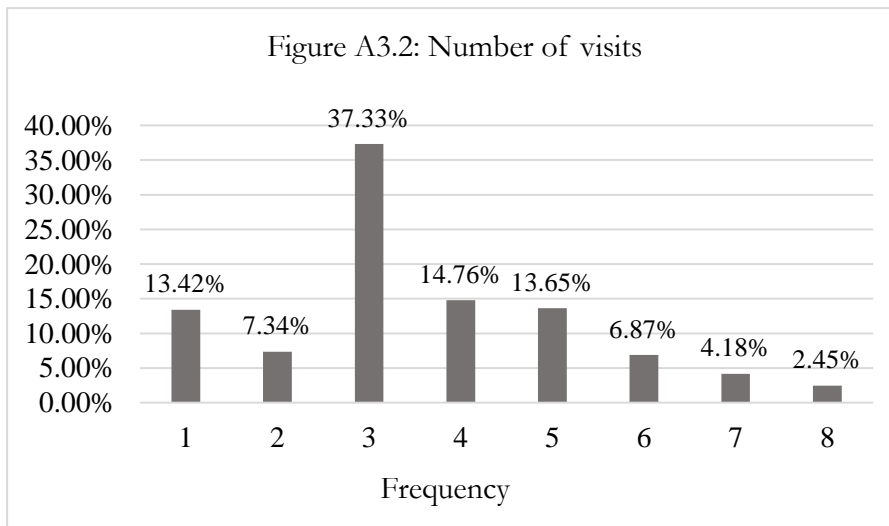
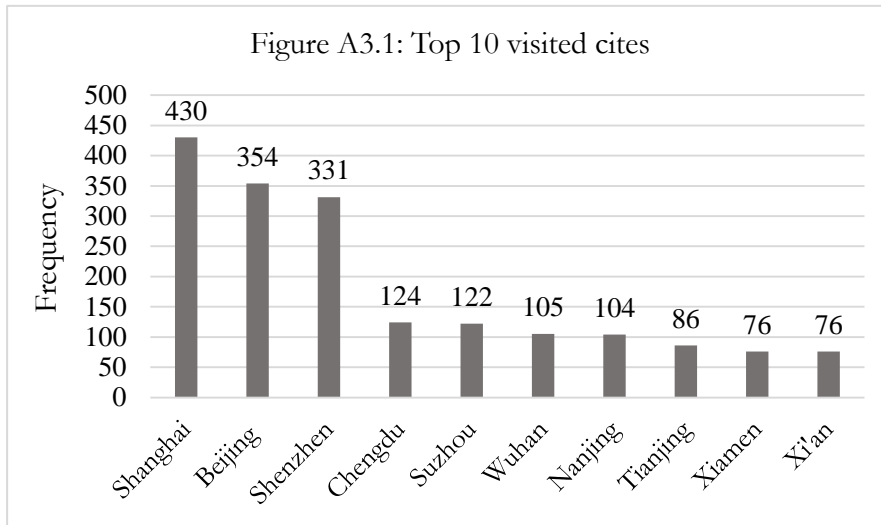


Figure A3.4: Firm profitability

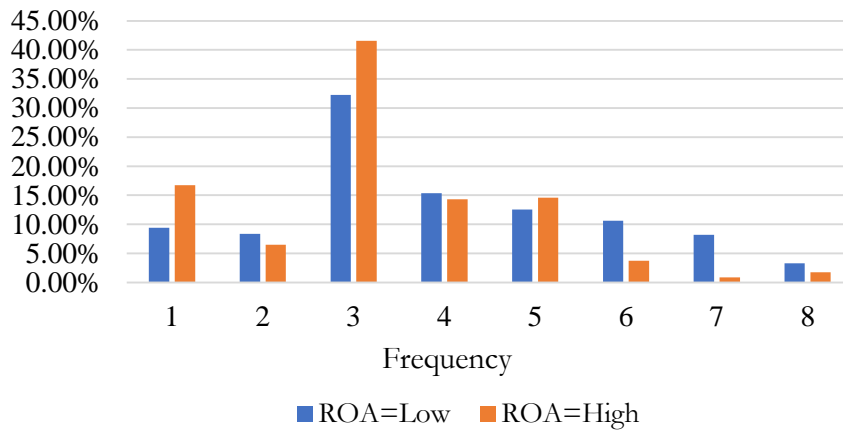


Figure A3.5: Independent director ratio

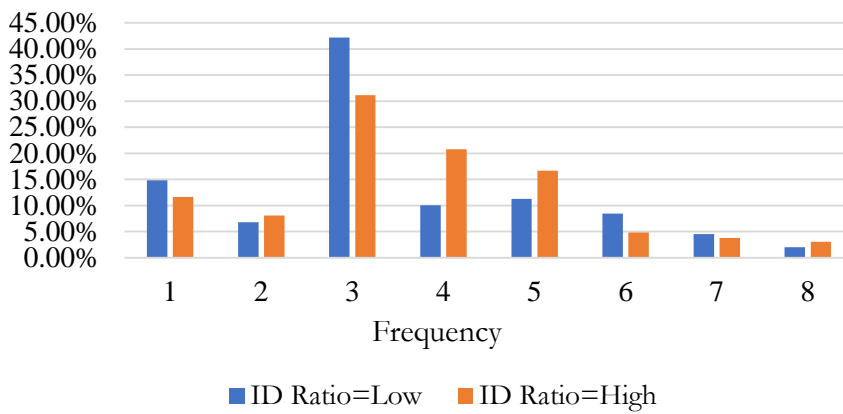
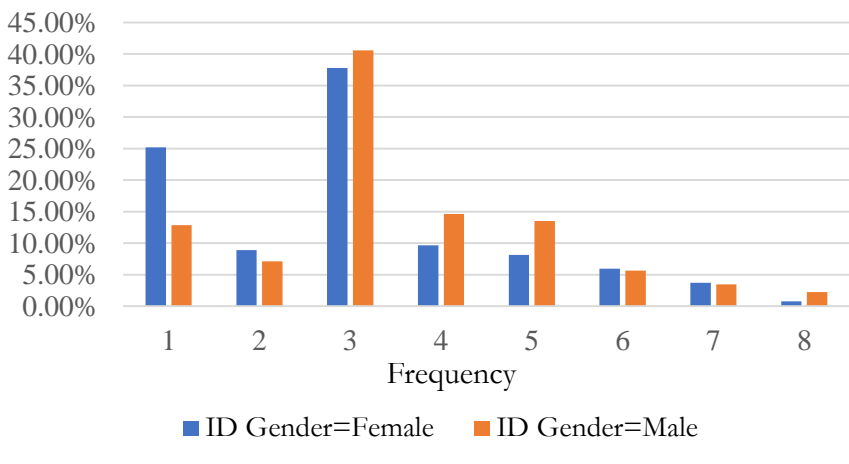


Figure A3.6: Independent director gender



Appendix 4. Alternative proprietary cost proxy

Variables	Product Market Competition		Product Market Competition	
	Low	High	Low	High
	(1)	(2)	(3)	(4)
	DIS	DIS	DIS	DIS
IDSV[0,1]	2.11*** (3.35)	1.11** (1.99)		
IDSV[%]			1.80*** (2.95)	0.68 (1.21)
Difference Test	P-value = 0.04**		P-value = 0.02**	
SIZE	-1.28** (-1.99)	-2.28*** (-3.92)	-1.29** (-2.00)	-2.29*** (-3.93)
MTB	-0.33*** (-3.44)	-0.48*** (-4.38)	-0.33*** (-3.47)	-0.48*** (-4.40)
ROA	-9.61* (-1.91)	5.59 (1.08)	-9.70* (-1.93)	5.57 (1.07)
LEV	4.23* (1.95)	1.38 (0.72)	4.23* (1.95)	1.38 (0.72)
AGE	-0.54 (-0.68)	-2.22 (-1.64)	-0.53 (-0.66)	-2.21 (-1.64)
DUAL	-0.76 (-1.15)	-0.54 (-0.77)	-0.74 (-1.12)	-0.56 (-0.80)
IDRRATIO	-7.79 (-1.41)	-3.16 (-0.60)	-7.94 (-1.43)	-3.17 (-0.60)
MANHLD	1.14 (0.41)	1.44 (0.49)	1.18 (0.42)	1.45 (0.50)
IDAGE	-0.01 (-0.27)	0.04 (0.95)	-0.01 (-0.30)	0.04 (0.98)
FEMALE	0.52 (1.04)	0.44 (0.90)	0.54 (1.06)	0.42 (0.86)
FGO	1.63*** (3.65)	1.85*** (4.08)	1.62*** (3.63)	1.85*** (4.10)
OVERSEA	0.27 (0.45)	-0.20 (-0.35)	0.28 (0.46)	-0.19 (-0.34)
ACADEMIC	2.15*** (3.11)	2.40*** (3.21)	2.19*** (3.17)	2.43*** (3.24)
OTHERCOP	1.29*** (2.70)	1.13** (2.29)	1.29*** (2.69)	1.14** (2.30)
BMATT	0.03 (0.13)	0.27 (1.09)	0.06 (0.27)	0.28 (1.16)
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

Type FE	YES	YES	YES	YES
Obs.	123,782	124,600	123,782	124,600
Adj R ²	0.20	0.20	0.20	0.20
