Institutional investors' behind-the-scene monitoring and ESG disclosure

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Abstract

I investigate the effectiveness of institutional investors' monitoring through behind-the-scene activities on promoting ESG disclosure. Using difference-in-differences estimations, I document that firm ESG disclosure improves after institutional investors conduct corporate visits and discuss ESG-related issues with management, i.e. ESG-related corporate visits. This effect strengthens with visitors' demands for ESG information and weakens with firms' proprietary costs. Evidence from investors' trading behaviors suggests that the monitoring effects of these ESG-related visits are potentially exerted through threats of exit. Moreover, I document that ESG disclosure is negatively associated with divergence in ESG ratings, which could benefit the broad market participants.

Keywords: ESG disclosure, institutional investors, monitoring, soft activism, corporate visits

JEL classification: G23, G34, M14

Declarations of interest: None

1. Introduction

Sustainable investing has gained popularity over the past decades. As of June 2023, 5,372 institutional investors worldwide representing over $120 trillion assets under management, have made the public commitment to incorporate environmental, social and governance (ESG) information into their investment processes (PRI, 2023). Along with this trend is the considerable gap between investors' burgeoning demand for ESG information and the supply of relevant information by firms (e.g. Gibson et al., 2020; Serafeim and Yoon, 2022; Agarwal et al., 2023). The lack of ESG disclosure possibly drives the substantial disagreement in ESG ratings which investors increasingly rely on to assess firms' ESG performance (Chatterji et al., 2016; Berg et al., 2022), and consequently hampers voluntary sustainable investing (EY, 2018; Avramov et al., 2022; Ilhan, et a., 2023; Krueger et al., 2023).

To promote ESG disclosure, various global-level and country-level initiatives have been adopted to harmonize ESG disclosure standards (Friedman et al., 2021; Krueger et al., 2023). In spite of this, given the non-financial nature of ESG information, how much and in what manners ESG issues are to be disclosed are largely left to managers' discretion (Baldini et al., 2018; Tsang et al., 2022). This calls for pressures from market participants with demands for ESG information and disciplining effects on managerial decisions to better stimulate ESG disclosure (Friedman et al., 2021). Motivated by this, this paper focuses on the role of institutional investors, perceived as a particularly powerful market force to monitor managerial decisions, in promoting ESG disclosure.

The monitoring role of institutional investors in inducing greater financial information disclosure is well established in the literature (e.g., Beyer et al., 2010; Boone and White, 2015; Bird and Karolyi, 2016; Dou et al., 2018; Abramavo et al., 2020). Moreover, recent studies also find positive effects of institutional ownership, shareholder proposals and institutional investors' public advocacy on eliciting greater ESG information (e.g. Flammer et al., 2021; Pawliczek et al.,

2021; Ilhan et al., 2023). However, many interventions from institutional investors occur behind the scenes (e.g., McCahery et al., 2016; Levit, 2019), through for instance, in-person meetings and private conversations, yet there is a dearth of empirical studies focusing on these actions. The lack of research on institutional investors' private engagements with management makes it impossible to comprehensively understand, and potentially creates biases when evaluating their monitoring effectiveness in facilitating ESG disclosure.

One important form of behind-the-scene activities through which institutional investors perform the monitoring role is corporate site visits, enabling investors to observe corporate operations, meet and discuss with management (Jiang and Yuan, 2018; Cao et al., 2022; Agarwal et al., 2023). Retrieving data regarding corporate visits is challenging since such activities are not required to be disclosed in most markets around the world. Shenzhen Stock Exchange (SZSE) in China is one exception, which mandates all firms listed on the exchange disclose detailed information for every corporate visit since 2009. Given that the meeting minutes are also available for every corporate visit, I am able to identify the visits during which institutional investors discuss ESG issues, i.e. ESG-related corporate visits, which directly capture their specific demand for ESG information. Therefore, the Chinese SZSE market provides a unique setting to evaluate the effectiveness of institutional investors' behind-the-scene monitoring on eliciting ESG disclosure.

Exploiting the unique datasets, I ask the following questions: (i) do firms respond to institutional investors' demands for ESG information (conveyed during ESG-related visits) by greater ESG disclosure, (ii) do firms respond more actively when institutional investors have stronger demands for ESG information and when ESG disclosure is associated with lower proprietary costs, (iii) what is the underlying mechanism through which these ESG-related visits exert effects on managerial decisions on ESG disclosure, and (iv) conditional on institutional investors' monitoring through these corporate visits being effective, does improvement in ESG

disclosure bring up any benefits to the market participants at large?

To answer these questions, I compile a sample of 698 SZSE-listed firms for which Bloomberg ESG disclosure scores are available covering the period between 2013 and 2020. I first document a positive relationship between a firm hosting ESG-related corporate visits by institutional investors and its subsequent ESG disclosure. To address potential endogeneity concerns, I perform difference-in-differences (DiD) estimation based on a matched sample of firms selected by nearest-neighbor matching (NNM), and document that the firms that host ESG-related visits experience greater improvement in ESG disclosure following these visits in comparison with the comparable firms that never host ESG-related visits. Moreover, the main finding still preserves after Heckman two-stage correction. In comparison, no statistically significant relationship is found between a firm hosting non-ESG-related corporate visits (i.e. the visits during which institutional investors do not discuss ESG issues with firms) and its subsequent ESG disclosure. The evidence highlights the importance of discussions of ESG issues (relative to non-ESG-related topics) in raising visited firms' awareness of ESG disclosure, confirming the effectiveness of institutional investors' soft activism in promoting ESG disclosure.

Second, I find that the positive link between ESG-related corporate visits and ESG disclosure is more prominent when a firm hosts more ESG-related visits, when institutional investors propose more ESG-related questions to firms, when the ESG-related visits are initiated by investors headquartered in geographically distant cities and by more ESG-aware investors (i.e. signatories of the UNPRI) and when only the environment-pillar which has least public disclosure in comparison with the social- and governance-pillar is assessed. Evidence also indicates that the positive link weakens for firms operating in more concentrated industries which in general are associated with higher proprietary costs (e.g., Botosan and Standord, 2005; Lang and Sul, 2014). The evidence implies that institutional investors potentially exert more intense monitoring on ESG

disclosure when they have stronger ESG information demands, yet the effectiveness of their monitoring can be diluted by the reluctance of firms to disclose (value-relevant) ESG information in presence of high proprietary costs.

Third, I explore the mechanism through which ESG-related corporate visits affect firm ESG disclosure. By constructing a subsample of institutional investors – mutual funds, and assessing their trading behaviors, I document that visiting funds exhibit stronger preferences to firms performing well in ESG disclosure in comparison with the funds that did not conduct ESG-related visits before trading. The evidence indicates that institutional investors may *ex ante* discipline managerial behaviors by performing credible exit threats *ex post*, as managers have incentives to make efforts to avoid share selling by institutional investors (due to dissatisfaction with firm ESG disclosure) which may lead to stock price decline.

To understand whether the effective monitoring of institutional investors in promoting ESG disclosure, if any, brings about spillover benefits to the sustainable investing market at large, I examine the impact of ESG disclosure on ESG rating divergence. Employing the ESG ratings collected from four main rating agencies for Chinese firms, I find consistent evidence that greater ESG disclosure is associated with reduction in ESG rating divergence. The evidence speaks to the argument that firms' ESG disclosure provides a foundation of reliable and consistent ESG ratings (Berg et al., 2022).

The paper makes three important contributions to the literature. First, to the best of my knowledge, this is the first study to provide direct large-scale evidence that institutional investors' behind-the-scene monitoring activities elicit greater ESG disclosure. In comparison with the extensive evidence regarding institutional investors' impacts on improving financial information disclosure (Beyer et al., 2010; Boone and White, 2015; Bird and Karolyi, 2016; Dou et al., 2018; Abramavo et al., 2020), less attention is paid to their monitoring role in ESG disclosure. While

several recent papers take a step to fill this gap, their focuses are on observable actions, i.e. with respect to either institutional ownership (Ilhan et al., 2023) or investors' public engagements, e.g. through submitting shareholder proposals (Baloria et al., 2019; Flammer et al., 2021) and public advocacy (Pawliczek et al., 2021). However, theoretical models and survey studies recognize that many of institutional investors' intervention on firms are through private interactions (Edmans and Manso, 2011; Solomon et al., 2011; McCahery et al., 2016, Edmans et al., 2019; Levit, 2019; Brav et al., 2022), yet little empirical evidence has been presented due to the unavailability of large-scale data of such activities. Utilizing the unique datasets of corporate visits in Chinese market, this paper fills the gap by showing that institutional investors make real efforts behind the scene to promote ESG disclosure through conducting costly corporate visits and discussing ESG issues with management.

Second, the paper contributes to the literature on firm information disclosure and in particular the growing body of literature on ESG disclosure. On one hand, the firm disclosure theory suggests that voluntary disclosure decisions depend on the benefits and costs associated with the disclosures (Bond and Goldstein, 2015; Goldstein and Yang, 2017; Abramova et al., 2020; Christensen et al., 2021). This paper adds to this stream of literature by showing that management responds (more actively) to institutional investors' (stronger) demands for ESG information and that the proprietary costs arising from disclosing ESG information reduce firms' tendency to disclose relevant information. The stream of literature on ESG disclosure, on the other hand, documents the benefits of better ESG disclosure in terms of increasing earnings forecasts accuracy, lowering stock crash risks, and reducing carbon emissions (e.g., Jouvenot and Krueger, 2020; Krueger et al., 2023) as well as the costs of ESG disclosure for corporates with respect to revealing proprietary information regarding firm fundamentals (Albuquerque et al., 2019; Pankratz and Schiller, 2020; Ilhan et al., 2023). This paper documents an additional benefit brought by greater ESG disclosure,

i.e. of reducing divergence in ESG ratings in the Chinese market, which is consistent with the conventional wisdom that greater disclosure reduces information asymmetry and consequently lower disagreements (e.g., Lang and Lundholm, 1996; Morgan, 2002; Hope, 2003).

Third, the paper adds to the understanding of the monitoring role of institutional investors. On one hand, the paper adds supportive evidence to the argument that institutional investors could perform effective governance through communications (Adams and Ferreira, 2007; McCahery et al., 2016; Levit, 2019) and that their threats of exit facilitate activism through communication (Firth et al., 2016; Levit, 2019; Cao et al., 2022). On the other hand, the paper adds to the literature specifically on on-site monitoring. Institutional investors' on-site monitoring is found to enhance plant-level investment and productivity (Giroud, 2013), spur corporate innovations (Bernstein et al., 2016; Jiang and Yuan, 2018), and increase corporate cash dividend payouts (Cao et al., 2022). The paper reveals another context where institutional investors' on-site monitoring could come into effect – to promote firm ESG disclosure. While the setting is in the Chinese market, I note that the observed positive effects of institutional investors on promoting ESG disclosure could be generalized to, or even become stronger in markets outside China, given that the role of institutional investors on monitoring managerial decisions in China has been perceived as less effective in comparison with its western counterparts (Jiang and Kim, 2015, 2020).

The rest of the paper proceeds as follows. Section 2 reviews relevant literature and develops hypotheses. Section 3 describes the data and variables. Section 4 documents the relationship between ESG-related corporate visits and ESG disclosure. Section 5 explores the mechanism through which ESG-related corporate visits affect ESG disclosure. Section 6 examines the impact of ESG disclosure on the divergence in ESG ratings. Section 7 concludes.

2. Literature review and hypothesis development

It is recognized that there is a considerable gap between investors' burgeoning demand for

ESG information and the supply of relevant information by firms (Amel-Zadeh and Serafeim, 2018; Gibson et al., 2020; Serafeim and Yoon, 2022; Agarwal et al., 2023). Given that public ESG information is the foundation of reliable ESG ratings which is the basis of sustainable investing (Chatterji et al., 2016; Berg et al., 2022; Christensen et al., 2022), to explore ways to promote ESG disclosure is a central concern for the sustainable finance community.

The existing literature suggests that the lack of ESG information can be largely attributed to its nature of non-financial information which lacks a standardized format of reporting as in the case of financial information (Elzahar et al., 2015; Baldini et al., 2018; Amel-Zadeh and Serefeim, 2018; Christensen et al., 2021). Although mandatory ESG disclosure regulations have been initiated in several countries (Chan et al, 2014; Talbot and Boiral, 2015; Krueger et al., 2023), the ESG information to be disclosed is still largely left to managers' discretion (Baldini et al., 2018; Tsang et al., 2022). In the presence of considerable costs associated with information disclosure (e.g. information processing and collection costs, proprietary and agency costs etc.), managers would be reluctant to adjust the contents and manners they disclose information (Chapman and Green, 2017; Abramavo et al., 2020), in particular when disclosing (additional) ESG information may set a precedent for future disclosure (Graham et al., 2005).

Against this backdrop, the pressure and information demand from market participants that have disciplining effects on manager decisions can be a powerful device to encourage firms to disclosure ESG information (Friedman et al., 2021). Consistently, Huang and Kung (2010) argue that the level of environmental disclosure is affected by demands from stakeholder groups such as governments, debtors, consumers, employees and shareholders. Likewise, Huang and Watson (2015) argue that external pressure from stakeholders affects CSR reporting.

Among these stakeholder groups, institutional investors are perceived as one particularly powerful market force to affect managerial decisions, given their active role in shareholder votes

(Abramova et al., 2020) and possession of the option to sell shares due to dissatisfaction with firms which could lead to stock price decline (Admati and Pfleiderer., 2009; Edams and Manso, 2011; Dou et al., 2018). Consistently, numerous studies document that firms respond to the attention and demand from institutional investors, increasing the level of financial information disclosure (e.g., Bushee and Noe, 2000; Healy and Pelapu, 2001; Beyer et al., 2010; Boone and White, 2015; Bird and Karolyi, 2016; Dou et al., 2018; Abramova et al., 2020). In addition, institutional ownership improves firms' environmental and social performance (Dyck et al., 2019; Gantchev et al., 2022) and reduces facility toxic release (Kim et al., 2019).

In the context of ESG information disclosure, Ilhan et al. (2023) show that the level of institutional ownership is positively associated with firms' disclosure of climate risks. Flammer et al. (2021) document that larger number of environment-related proposals submitted by shareholders elicit greater disclosure of climate risk. Shareholder proposals could also motivate managers to disclose political spending information (Baloria et al., 2019). Pawliczek et al. (2021) find that BlackRock's portfolio firms disclose topics regarding environmental and regulatory factors similar to those discussed in its annual Dear CEO letter.

While these studies provide valuable insights into the role of institutional investors in promoting ESG disclosure, their focuses are on the observable actions. However, many interactions between institutional investors and firms during which investors perform monitoring occur behind the scenes. McCahery et al. (2016) stress the crucial role of private communications between investors and firms as a corporate governance mechanism, perhaps more important than previously thought. The effectiveness of the behind-the-scene soft activism by institutional investors (through, for instance, in-person discussions, and telephone calls etc.) on affecting managerial decisions are highlighted by extensive research (e.g., Brav et al., 2008; Becht et al., 2009; Dimson et al., 2015; Corum and Levit, 2019; Edmans et al., 2019; Levit, 2019; Zhang, 2023).

Private interactions with management can take many forms, with a crucial channel being corporate visits. Corporate visits, typically initiated by institutional investors, provide investors with the opportunities to observe firm operations, inspect production facilities, and discuss with managers (Cao et al., 2022). However, corporate visits activities are not required to be disclosed in most stock markets around the world, with the exception of the Shenzhen Stock Exchange (SZSE) in China. Therefore, the Chinese market provides a unique setting to perform large-scale empirical analysis of the effectiveness of corporate visits on affecting managerial decisions. Utilizing the dataset, Jiang and Yuan (2018) find that corporate visits lead to greater corporate innovation, and Cao et al. (2022) document that corporate visits lead to increases in corporate dividend payout through the mechanism of disciplining management with exit threats.

In a similar vein, I conjecture that institutional investors are able to convey their burgeoning demand for ESG information through discussions with managers on ESG issues during corporate visits (i.e. ESG-related corporate visits), and that managers have incentives to respond to their needs in order to avoid the share selling by institutional investors which may lead to stock price decline. Thus, I propose the following hypothesis.

H1: Institutional investors' ESG-related corporate visits are associated with greater ESG disclosure.

I also conjecture that the above link should vary with ESG information demands from institutional investors and the level of proprietary costs faced by firms. First, institutional investors' stronger demand for ESG information should be associated with more intense monitoring on ESG disclosure. This is because without sufficient ESG disclosure, investors with stronger demand for ESG information would incur higher information acquisition costs which could erode their pecuniary benefits (Agarwal et al., 2023). Consistently, Ilhan et al. (2023) show that the groups of institutional investors that have a stronger demand for climate disclosure induce greater reporting

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of climate risk. Second, besides external pressures and demands, firm disclosure theory suggests that firms' disclosure policy also depends upon the proprietary costs brought by the disclosure (Verrecchia, 1983; Healy and Palepu, 2001; Beyer et al., 2010; Lang and Sul, 2014; Bernard et al., 2018; Christensen et al., 2021). ESG information is documented to contain proprietary information about firm fundamentals (Dhaliwal et al., 2012; Albuquerque et al., 2019; Pankratz and Schiller, 2020; Ilhan et al., 2023) and the role of proprietary costs in impeding climate risk disclosure is confirmed in Ilhan et al. (2023). Following this line of thought, I propose the following hypothesis.

H2: The positive relationship between ESG-related corporate visits and firm ESG disclosure strengthens with institutional investors' information demands and weakens with firms' proprietary costs.

I also explore the mechanism through which ESG-related visits exert effects on firm ESG disclosure, and the outcomes to the sustainable finance market brought up by improvement in ESG disclosure. These will be discussed in detail in the empirical analysis sections.

3. Data and variable construction

3.1 Data collection

Data for corporate visits during the period of 2013-2020 are collected from China Stock Market and Accounting Research (CSMAR). The Shenzhen Stock Exchange (SZSE) mandates that all listed firms disclose information for investor relation activities including corporate visits in their annual reports from 2009. CSMAR maintains complete records of the names of visiting institutions, dates, and meeting minutes of every visit since 2012.[2] As the paper focuses on the monitoring role of institutional investors, I keep the records only for the corporate visits conducted by fund companies, asset management companies, securities (brokers), insurance companies,

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[2] Table A.2 in the Appendix shows an example of the visit records, following Agarwal et al. (2023).

banks and trust companies, which in total conduct 83.5% of all the corporate visits on the market during the sample period.[3] To calculate the geographical distance between a visitor and the visited firm, for each of the 26,791 visiting institutions, I manually search the city it headquarters. I utilize the signatory to the United Nations Principle for Responsible Investment (UNPRI) as a proxy for an institutional investor's ESG awareness. To identify whether a visiting institution is a UNPRI-signatory, I manually match the names of the visiting institutions provided by CSMAR and those from the UNPRI website.[4]

Given that corporate visit data is available for SZSE-listed companies only, in the following analysis, the firm sample is restricted to SZSE-listed firms, excluding those listed on Shanghai Stock Exchange. For the sample of 2,343 SZSE-listed firms, I extract their daily stock returns, quarterly accounting data, the cities they headquarter, the industries they belong to, whether the firms have Big 4 auditors, and the yearly values for the proportion of shares held by institutional investors from CSMAR. Statistics show that out of the 2,343 firms, 2,062 are visited at least once in a calendar year by the sample institutional investors during the period of 2013-2020, translating to 48,265 corporate visit activities in total.

I use Bloomberg's annual ESG disclosure score as the proxy of firms' ESG disclosure, consistent with prior studies (e.g. Baldini et al., 2018; Christensen et al., 2022). According to Bloomberg, the disclosure scores range from 0-100% based on the amount of data points disclosed by the company and collected by Bloomberg from a variety of publicly available documents from sources, including company websites, exchanges and CDP responses.[5] I also collect the granular disclosure scores for the firms in each year for the three ESG pillars. Panel A of Table 1 reports the number of SZSE-listed firms in each year that have ESG disclosure score data during the period

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[3] My own calculations. Other institutions that conduct corporate visits include, for instance, rating agencies, law and accountancy firms, consulting firms, governments and universities etc.

[4] See https://www.unpri.org/signatories/signatory-resources/signatory-directory

[5] Also see a detailed description of the Bloomberg ESG disclosure score in Christensen et al. (2022).

of 2013-2020. Out of the initial sample of 2,343 firms, 698 firms have ESG disclosure scores, which constitutes the final sample of the main empirical analysis.

*********************insert Table 1 here*********************

3.2 Variable construction and summary statistics

3.2.1 ESG disclosure score, ESG-related corporate visits and firm-level characteristics

The dependent variable, a firm's ESG disclosure score (or E-/S-/G-pillar disclosure score) in a given year is denoted as *ESGD* (or *ED, SD* and *GD,* respectively). The independent variable of interest is a dummy *ESGvisit* indicating that a firm is visited and ESG issues are discussed during at least one visit in a calendar year. Similarly, the dummy *NESGvisit* indicates that a firm is visited and ESG issues are not discussed in any visits in a calendar year. To identify which visits are ESG-related, I follow the method in Agarwal et al. (2023), defining an ESG-related visit if the visiting institutions pose at least one question containing ESG-issue keywords during a visit.[6] It is worth noting that to focus on the questions visitors pose rather than the answers the visited firms deliver ensures to capture the active decision of institutional investors to discuss ESG issues, reflecting their activism in monitoring the visited firms. Panel B of Table 1 reports the number of firms that host (non-) ESG-related visits by year. It shows that out of the 698 sample firms, 515 ever host ESG-related visits during the period of 2013-2020, with on average 35% of the sample firms hosting ESG-related visits in an individual year.

For each firm in each year, I construct control variables that are documented to affect firms' information disclosure (e.g., Francis and Wang, 2008; Huang and Kung, 2010; Abramova et al., 2020; Tsang et al., 2022) for which the definitions are presented in Table A.1 in the Appendix. Table 2 reports the descriptive statistics for these firm-level variables.

Panel A shows that the average (median) *ESGD* of the sample firms is 27.7 (27.2), with firms

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[6] Table A.3 in the Appendix shows the keywords used to identity E-/S-/G-issues, following Agarwal et al. (2023).

performing worst (best) in disclosing environmental (governance) information, indicated by the average score of 7.4 (62.9) for *ED* (*GD*).[7] On average, 34.6% of the firms host ESG-related visits and this number is slightly higher for non-ESG-related visits (36.4%). While *ESGD* does not differ statistically significantly between the firms that host ESG-related visits and host non-ESG-related visits (indicated by the statistical insignificance of the difference in means of 0.166), the *ESGD* in the next year (*ESGD_lead*) is higher for the firms hosting ESG-related visits than for those hosting non-ESG-related visits (statistically significant at 1 percent). The outperformance in *ESGD_lead* of firms that host ESG-related visits already provides supportive evidence for the hypothesis that firms' ESG disclosure improves after discussions of ESG issues with institutional investors during corporate visits.

*********************insert Table 2 here*********************

3.2.2 Proxy for information demand and proprietary cost

To test whether institutional investors' monitoring role in ESG disclosure varies with how much they demand ESG information, I construct four measures to proxy for their information demands. The first two measures capture the intensity of institutional investors proposing ESG-related questions to the visited firms. Specifically, the first is the total number of ESG-related visits (*#ESG-visits*) a firm hosts in a given year, and the second is the total number of ESG-related questions (*#ESG-qs*) a firm receives from all the corporate visits it hosts in a given year. The third measures the geographical distance between the visiting institutions and the visited firms. This measure could reflect institutional investors' information demands given the considerable costs incurred during distant on-site visits (Giroud, 2013; Bernstein et al., 2016; Cao et al., 2022). I first calculate the geographical distance between the cities where the visiting institution and the visited

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[7] The evidence is comparable to the statistics presented in Christensen et al. (2022) that the average (median) ESG disclosure score across firms in 69 countries during the period of 2004-2016 is 28.5 (25.6), and that firms worldwide, on average, tend to perform best in disclosing governance information and worst in disclosing environmental information.

firm headquarters for each ESG-related visit (for the visit with multiple visitors, the median geographical distance across all the visitors is calculated). Then, for a firm hosting multiple visits in a given year, I use the median geographical distance across all the ESG-related visits (*Geodis*) as a proxy for institutional investors' information demand. The fourth is the total number of UNPRI-signatory visitors a firm receives across all the ESG-related visits the firm hosts in a given year (*#UNPRI*). As signing the UNPRI is a public commitment to responsible investing, it is natural to expect that UNPRI-signatories would be more ESG aware and thus have a stronger intention to acquire ESG information from corporate visits in order to fulfil their commitment to responsible investing (Agarwal et al., 2023).

Numerous studies find that proprietary costs are negatively associated with disclosure levels (e.g., Verrecchia, 1983; Lang and Sul, 2014; Abramova et al., 2020; Ilhan et al., 2023) and in general relate industry concentration to greater proprietary costs and less disclosure (e.g., Harris, 1998; Bamber and Cheon, 1998; Botosan and Standord, 2005; Lang and Sul, 2014). To test the role of proprietary costs, I calculate the Herfindahl-Hirschman Index (*HHI*) measure based on firm annual revenues for the industry a given firm belongs to. Panel A of Table 3 reports the descriptive statistics for the variables defined above, to show the variation in information demands and in proprietary costs in relation to the firms that host ESG-related visits. It shows that the average (median) firm hosts 3.1 (2) ESG-related visits and the visitors on average pose 4.1 ESG-related questions to the firm in a given year. The average (median) geographical distance between the visitor and the visited firm is 912 (878) kilometers. For the majority of the firms hosting ESG-related visits, the visitors are not UNPRI-signatories (indicated by the median of zero for *#UNPRI*). Importantly, the statistics of the standard deviations and the values in the 10th and 90th percentiles indicate large variation across firms in all of the five measures.

Furthermore, Panel B shows that regardless of the information demand measures assessed, the

ESGD and *ESGD_lead* for the high-demand group (from the high-tertile group) is larger than those for the low-demand group (from the low-tertile group), with the differences in means being statistically significant at 5 or 1 percent when *#ESG-visits*, *#ESG-qs*, and *#UNPRI* are assessed. The evidence suggests that institutional investors' stronger demand for ESG information is potentially associated with firms' greater ESG disclosure.

<p style="text-align:center;">********************insert Table 3 here********************</p>

4. ESG-related corporate visits and firm ESG disclosure

4.1 Baseline results

To test the effect of ESG-related corporate visits on firms' ESG disclosure, I first employ pooled OLS regressions where the dependent variable is the ESG disclosure score in the next year (*ESGD_lead*). The independent variable of interest is the dummy *ESGvisit* indicating a firm hosts at least one ESG-related visit in a given year, after controlling for various firm-level characteristics (i.e. *Size, ROA, Vol, Lev, Big4 and Insratio*), plus fixed effects of years, the industry a firm belongs to, and the city a firm headquarters.

Specifications (i) and (ii) in Panel A of Table 4 report the results when the city-fixed effects are excluded and included, respectively, in order to show whether the results hold after considering the location factors such as economic conditions and transportation convenience of the cities the firms headquarter. Regardless of the specification, the coefficient of *ESGvisit* is positive and statistically significant at 1 or 5 percent. Specifications (i) and (ii) suggest that hosting ESG-related visits is associated with a subsequent increase in the firm's ESG disclosure score of 0.816 or 0.591, respectively. In addition, both specifications show that the firms with larger market capitalization, larger institutional ownership and that have Big4 auditors tend to have higher future ESG disclosure scores, consistent with the findings in the existing literature (Huang and Kung, 2010; Baldini et al., 2018; Yu and Luu, 2021).

For comparison, I replace the dummy *ESGvisit* with *NESGvisit* to examine whether the corporate visits without discussions of ESG issues also have such monitoring role in promoting firms' ESG disclosures, with the results reported in Specifications (iii) and (iv) in Panel A. Both specifications show that the coefficients of *NESGvisit* are negative and statistically insignificant, suggesting no effect of non-ESG-related visits on firms' ESG disclosure. The findings still preserve when both *ESGvisit* and *NESGvisit* dummies are included in the regressions, as shown in Specifications (v) and (vi) of Panel A.

To test the robustness of the results, Panel B of Table 4 reports the analogous specifications to (i), (iii) and (v) in Panel A but adopting panel regressions with firm-fixed effects.[8] The results for *Size* and *Big4* preserve, while the statistical significance of the positive effect of institutional ownership weakens, and the positive effect of *ROA* on ESG disclosure scores becomes statistically significant. Importantly, the main finding of a statistically significantly positive effect of *ESGvisit* still preserves, regardless of whether controlling for the effect of *NESGvisit* in the specification or not.

*********************insert Table 4 here*********************

Overall, the stark differences in the effects on firm ESG disclosure scores associated with the ESG-related and non-ESG-related visits highlight the importance of institutional investors discussing ESG issues during corporate visits in monitoring firms to promote their ESG disclosure practices.

4.2 Addressing endogeneity concern

4.2.1 Nearest-neighbor matching and difference-in-differences approach

The baseline results are subject to the endogeneity concern that systematic differences among firms may drive both the propensity of a firm receiving ESG-related questions (i.e. hosting ESG-

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[8] The Hoechle method (Hoechle, 2007) with Driscoll–Kraay standard errors (Driscoll and Kraay, 1998) for unbalanced panels is adopted to adjust for heteroscedasticity, cross–sectional correlations and autocorrelation.

related corporate visits), and the firm's ESG disclosure. To mitigate the endogeneity issue, I employ the difference-in-differences (DiD) identification strategy after performing nearest-neighbor matching (NNM) on firm characteristics. To be specific, I first employ NNM with replacement and for each firm that ever host ESG-related visits during the sample period (i.e. the treatment group of firms), find one firm that never host ESG-related visits but share similar *ESGD* and *Size*, and operate in the same industry of the firm questioned in the year prior to the ESG-related visit (i.e. the control group of firms), in order to reduce the observable differences between the two groups of firms.[9] Then in order to rule out the effects of time-invariant unobservable differences between the treatment and the control groups, the matched sample is used for the following model of DiD estimation:

$$ESGD_{i,t+1} = \alpha + \beta Treat_{ESGi} \times Post_t + \gamma' X_{it} + \theta_i + \delta_t + \varepsilon_{i,t} \qquad (1)$$

where $ESGD_{i,t+1}$ represents firm i's *ESGD* score in year $t+1$, $Treat_{ESGi}$ indicates a firm coming from the treatment group (i.e. firms that ever hosts ESG-related visits), $Post_t$ is the time indicator for the post-treatment years for both the treatment and control groups, X_{it} is a vector of firm-level characteristics in year t used in the baseline regressions, θ_i and δ_t represents firm- and year-fixed effects, respectively.

Specification (i) in Panel A of Table 5 reports the DiD estimation results. The positive effects of firm size, ROA and having Big 4 auditors on ESG disclosure observed in the baseline results still hold. Importantly, the coefficient of the DiD estimator, i.e. the interaction term $Treat_{ESG} \times Post$ is positive and statistically significant at 5 percent, suggesting that the increase in the ESG disclosure score is larger for the treatment group than for the control group of firms by

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[9] When a firm hosts ESG-related visits in multiple years, its pre-ESG-visit years are defined as the years prior to the year when the earliest ESG-related visit occurred. Figure IB in Internet Appendix B shows the K density plots for the matching covariates (*ESGD* and *Size*) for the treated and control group of firms before and after adopting the NNM. It shows that the matching reduces the distributional difference in *ESGD* during the pre-treatment period between the two groups of firms, while the difference in *Size* remains at a minimal level after the matching.

0.27 following the ESG-related visits.

It is possible that institutional investors pose 'implicit' ESG-related questions during non-ESG-related corporate visits which may also have a monitoring effect on firms' ESG disclosure practices. Therefore, to rule out the possibility that the results are 'contaminated' by the effects of non-ESG-related visits, I exclude the firms that have hosted non-ESG-related visits before hosting ESG-related visits from the sample, and then repeat the NNM and DiD estimation. The results are presented in Specification (ii) in Panel A of Table 5. The positive and statistically significant coefficient of the interaction term confirms the finding observed in Specification (i). Moreover, the magnitude of its coefficient over doubles that in Specification (i), suggesting that the effect of ESG-related visits on firms' ESG disclosures becomes even stronger after removing the effect of non-ESG-related visits.

A key condition for validity of the DiD estimation is the parallel trend assumption. While the NNM on *ESGD* already reduces the pre-treatment difference in the outcome variable between the treatment and control groups of firms, to formally test the assumption and also to test the dynamics of the treatment effect, I estimate a variety of Eq. (1) by including dummies to trace out the year-by-year effects of ESG-related visits on firms' future ESG disclosure score, following the model used in Beck et al. (2010):

$$ESGD_{i,t+1} = \alpha + \beta_1 D_{it}^{-3} + \beta_2 D_{it}^{-2} + \cdots + \beta_7 D_{it}^{4} + \beta_8 D_{it}^{5} + \gamma' X_{it} + \theta_i + \delta_t + \varepsilon_{i,t} \qquad (2)$$

where the dummies ("D"s) equal zero except that D^{-j} equals one for firms in the *j*th year before the (earliest) ESG-related visits, and D^{+j} equals one for firms in the *j*th year after the (earliest) ESG-related visits. I exclude the year just prior to the ESG-related visits, thus estimating the dynamic effect of ESG-related visits on firms' future ESG disclosure scores relative to the year prior to the visits.

Panels A and B of Figure 1 plot the coefficients results and the 99% confidence intervals when

the firms that have hosted non-ESG-related visits before hosting ESG-related visits are included and excluded from the regressions, respectively. The two panels share similar patterns and highlight two key points: (i) the ESG disclosure scores do not differ statistically significantly between the treatment and the control groups of firms prior to ESG-related visits, and (ii) firms hosting ESG-related visits significantly increase their ESG disclosure in the following years. The results suggest that the parallel trend condition in absence of ESG-related visits is satisfied and that the effects of ESG-related visits could persist for years after the visits. One caveat to interpret the dynamic effects is that the persistent effect of the ESG-related visits in the following years may be driven by repeated ESG-related visits, if any, to a given firm, rather than the earliest one of question in the regression specifications.

For comparison, I repeat the analysis analogous to those in Panel A of Table 5, but examine the effects of non-ESG-related visits on firms' ESG disclosure. Specifically, the treatment group consists of the firms that ever host non-ESG-related visits (indicated by the dummy $Treat_{NESG}$), and analogous NNM is performed to construct the control group of firms that never host non-ESG-related visits. The matched sample is used for the DiD estimation. Panel B of Table 5 reports the results analogous to those in Panel A. It shows that no matter whether the effect of ESG-related visits is excluded (Specification (ii)) or not (Specification (i)), the coefficients of the interaction term $Treat_{NESG} \times Post$ are statistically insignificant, indicating that non-ESG-related visits do not affect firms' ESG disclosure.

********************insert Table 5 here********************

Overall, this section adopts the DiD identification strategy based on NNM and illustrates that firms increase their ESG disclosure after hosting ESG-related corporate visits more than the comparable firms that do not host ESG-related visits, reinforcing the main finding.

4.2.2 Heckman two-stage estimation

I employ a variety of the Heckman (1979) two-step estimation – the treatment effect model, as an alternative approach to mitigate the endogeneity issue associated with self-selection bias. In the first-step model, probit regression is adopted to estimate the probability a firm hosting ESG-related visits. In the second-step model, the inverse Mills ratio (IMR) obtained from first-step estimation is included as an additional independent variable in the specifications analogous to those in Table 4. To achieve first-step estimation, I construct an instrumental variable *#firms* measuring the number of firms being visited in the city a given firm headquarters in a given year.[10] This instrumental variable is chosen because location factors such as economic growth, transportation convenience and regional policy etc. are crucial for institutional investors to make corporate visit decisions (e.g., Giroud, 2013; Chen et al., 2022). Moreover, this variable is unlikely to affect ESG disclosure at firm level except via corporate visits.

Panels A and B of Table 6 report the results for the first-stage and the second-stage of the Heckman two-step regressions, respectively. Panel A shows that the firms that institutional investors have a higher propensity to visit and discuss ESG issues with are more likely to be located in cities with more corporate visit activities, indicated by the positive coefficient of *Ln(#firms)*, statistically significant at 1 percent, making it a valid instrument variable for the Heckman (1979) adjustment procedure. Importantly, Panel B shows that the six coefficients of *ESGvisit* are all positive and statistically significant at 1 or 5 percent, after adding the *IMR* obtained from the first-stage estimation (Specifications (i)-(ii) and (iv)-(v) adopt pooled OLS regressions, and Specification (iii) and (vi) adopt panel regressions with firm-fixed effects), providing supportive evidence for the main finding.

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[10] I also use an alternative instrumental variable *#firms_esg* measuring the number of firms that host ESG-related corporate visits in the city a given firm headquarters in a given year. The results remain qualitatively similar and are reported in Table IB.1 in Internet Appendix B.

*******************insert Table 6 here*******************

4.3 Effect by information demand and proprietary cost

To test the second hypothesis, I repeat the NNM and DiD estimation analogous to that in Specification (ii) in Panel A of Table 5 but using the subsamples created based on the various measures for information demands and proprietary costs defined in Section 3.2.2.[11] To start with, Table 7 reports the DiD estimation results for the subsamples of firms with ESG-related visits grouped by *#ESG-visits*, *#ESG-qs*, *Geodis* and *#UNPRI* in Panels A-D, respectively. In each panel, Specification (i) and (ii) report the results when the firms with the lowest and highest tertile of the grouping variable are assessed, respectively.

Panel A of Table 7 shows that the positive coefficient of the interaction term $Treat_{ESG} \times Post$ is statistically significant at 1 percent when the firms with a large number of ESG-related visits are assessed (Specification (ii)) only. Moreover, the magnitude of the coefficient (1.086) doubles that (0.545) in Specification (i), suggesting that the increase in a visited firm's ESG disclosure after ESG-related visits is more prominent when the firm receives more ESG-related visits in a given year. Similar pattern is also observed when the firms are grouped by the number of ESG-related questions a firm receives during the corporate visits in a given year (*#ESG-qs*). Specifically, Panel B shows that the positive coefficient of the interaction term $Treat_{ESG} \times Post$ is statistically significant at 5 percent when the firms receiving larger number of ESG-related questions are assessed (Specification (ii)) only, and that the magnitude of the coefficient (0.74) nearly doubles that (0.385) in Specification (i).

Given the considerable costs incurred during conducting geographically distant on-site visits (Giroud, 2013; Cheng et al., 2016; Cheng et al., 2019; Cao et al., 2022; Agarwal et al., 2023), the

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[11] I also run the DiD estimation analogous to that in specification (i) of Table 5 Panel A when the firms that have hosted non-ESG-related visits before ESG-related visits are not excluded from the sample. The results remain qualitatively similar and are reported in Table IB.2 in Internet Appendix B.

geographical distance could reflect institutional investors' information acquisition demands. Panel C of Table 7 reports the results when the firms with ESG-related visits are grouped by *Geodis*. It shows that the positive effect of ESG-related visits on firms' ESG disclosure is only observed for the firms that host corporate visits initiated by geographically distant institutional investors (Specification (ii)).

Moreover, Panel D illustrates the effect of demand for ESG information by examining visitors' ESG awareness. It shows that while both coefficients of the interaction term are positive and statistically significant at 10 percent, the coefficient magnitude in Specification (ii) is over four times that in Specification (i) (3.116 versus 0.66), suggesting that the effect of ESG-related visits on visited firms' ESG disclosure is stronger when more UNPRI-signatory institutional investors participate the visits.

********************insert Table 7 here********************

Another way to capture information demand from institutional investors is to examine their demand for the specific E-/S-/G-pillar information. Table 2 shows that firms' disclosure score is lowest (highest) for the E-pillar (G-pillar). Therefore, institutional investors are expected to have the strongest demand for the opaquest strand of information – environmental information. Therefore, I separately examine the effects of environment-related (social- or governance-related) corporate visits on firms' *ED* (*SD* or *GD*, correspondingly) in the next year. Specifically, I repeat the NNM and DiD estimation separately for the three ESG pillars. In the regressions, the indicator for the treatment group is replaced with *Treat$_E$, Treat$_S$ and Treat$_G$* indicating that a firm ever hosts E-/S-/G-related corporate visits, and the dependent variable is replaced with *ED_lead*, *SD_lead* and *GD_lead*, respectively. The results are reported in Table 8. Panels A and B present the results when the firms that have hosted non-ESG-related visits before E-/S-/G-visits are included and excluded from the regressions, respectively.

The first column of Panel A shows a positive and statistically significant (at 5 percent) coefficient of $Treat_E$ x $Post$, suggesting that the increase in firms' environmental information disclosure is larger for the treatment group of firms than for the control group of firms by 1.11 following the E-related visits. However, such effects are not observed for the S- or G-related visits, as shown in the second and third column in Panel A. Moreover, the coefficient magnitude in Specification (i) is the largest among the three specifications and that for the G-related visits even becomes negative, albeit statistically insignificant. The results shown in Panel B after removing the effects of non-ESG-related visits remain qualitatively similar. The statistically insignificant results for the social-pillar disclosure is also consistent with the argument in Aluchna et al. (2022) that social issues, such as community involvement, human rights and employee relations are not major risk factors and therefore are not the prime concern for institutional investors. In summary, the evidence implies that the monitoring effect of institutional investors on firms' ESG information disclosure is most prominent for environmental information, which is the least transparent pillar.

*******************insert Table 8 here*******************

To assess whether the observed effect varies across firms with different levels of proprietary costs, I repeat the NNM and DiD estimation for the firms operating in industries of low and high concentration separately. The results are reported in Table 9. Panels A and B present the results when the firms that have hosted non-ESG-related visits before ESG-related visits are included and excluded from the regressions, respectively. The two panels in Table 9 illustrate that the coefficients of $Treat_{ESG}$ x $Post$ are positive and statistically significant at 1 or 10 percent for Specification (i) only, implying that institutional investors' monitoring role in pushing firms' ESG disclosure is only effective when the visited firms operate in industries of low proprietary costs.

*******************insert Table 9 here*******************

Overall, this section shows consistent evidence implying that institutional investors exert

stronger monitoring effects on firms' ESG disclosure when they have stronger demands for ESG information, whilst the effectiveness of their monitoring could be offset by firms' reluctance to disclose ESG information in the presence of high proprietary costs.

5. Mechanism through threats of exit

To tighten the relationship between ESG-related visits and firm ESG disclosure further, in this section I explore the mechanism through which institutional investors' discussions of ESG issues with management exert effects on managerial decisions with respect to ESG disclosure.

Evidence is documented in the literature that trading is an effective corporate governance mechanism (Admati and Pfleiderer., 2009; Edams and Manso, 2011; Firth et al., 2016; Cvijanovic et al., 2022) and that soft activism can be facilitated if the activists have the option to exit (Levit, 2019; Cao et al., 2022). That is, institutional investors can *ex ante* discipline managerial behaviors by exit threats, assuming that the managers make efforts to avoid the share selling by institutional investors which may lead to stock price decline. More specifically, the survey conducted by McCahery et al. (2016) shows that 42% of the surveyed institutional investors believe that the exit threat is effective in disciplining managers and that 49% state that they had exited due to dissatisfaction with firm performance. Therefore, I conjecture that the exit threats could be an effective mechanism through which institutional investors' communications with firms during corporate visits exert real effects on firms' ESG disclosure.

While the *ex ante* threat of exit is unobservable, it is possible to test whether the exit threat is credible by observing the *ex post* trading behaviors of institutional investors after they conduct corporate visits, similar to Cao et al. (2022). To achieve this, I construct a subsample of institutional investors -- mutual funds for which portfolio holding data are disclosed regularly and publicly accessible.[12] Utilizing this dataset, I assess mutual funds' trading behaviors following ESG-related

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[12] Further details about the mutual fund data can be found in Internet Appendix A.

visits, using the specification similar to that in Cheng et al. (2019) and Cao et al. (2022) as follows:

$$SHch_{fit} = \alpha + \beta ESGD_{it} + \gamma ESGvisit_{fit} + \theta ESGD_{it} \times ESGvisit_{fit} + \delta' X_{it} + \vartheta' F_{ft} + \tau_{fi} + \varphi_t + \varepsilon_{fit} \qquad (3)$$

where $SHch_{fit}$ is a fund f's holding change of a portfolio firm i, calculated as the number of shares of firm i the fund f holds at the end of year t minus the number of shares f holds at the end of year t-1. $ESGD_{it}$ is firm i's ESG disclosure score at the end of year t, $ESGvisit_{fit}$ is an indicator equal to one if firm i is visited by fund f in year t during which ESG issues are discussed. $X_{it}(F_{ft})$ is a set of firm-level (fund-level) characteristics that could affect the share changes of mutual fund holdings, and the definition of the variables are presented in the Appendix. τ_{fi} is fund-firm pair fixed effect, and φ_t is year fixed effect.

********************insert Table 10 here********************

To start with, Table 10 Specification (i) presents the results when the interaction term *ESGD* x *ESGvisit* is not included. The positive and statistically significant coefficient of *ESGvisit* suggests that mutual funds increase the holdings of shares of the firms after they discuss ESG issues during the corporate visits. It implies the existence of investment values of the information acquired from ESG-related corporate visits, consistent with the finding in Agarwal et al. (2023). It also adds to the evidence that corporate visits in general could create information advantages and affect mutual funds' trading behaviors (Cheng et al., 2016; Liu et al., 2017; Han et al., 2018). Moreover, the coefficient of *ESGD* (0.011) is positive and statistically significant at 1 percent, suggesting the preference of mutual funds to firms with better ESG disclosures.

Specification (ii) in Table 10 further includes the interaction terms of *ESGvisit* with *ESGD* in the regression, and shows a positive and statistically significant coefficient (at 5 percent) for *ESGvisit* x *ESGD*. It suggests that visiting funds sell more shares (or purchase less) if they find firms performing badly in ESG disclosures, relative to the funds that did not conduct ESG-related visits prior to trading.

For comparison, I repeat the analyses analogous to Specifications (i) and (ii) in Table 10 but replace the *ESGvisit* indicator with the *NESGvisit* indicator equal to one if a firm is visited by a fund in a given year during which only non-ESG-issues are discussed and zero otherwise.[13] Specifications (iii) and (iv) report the results, showing that while conducting non-ESG-related corporate visits also generate private information for mutual funds and increase funds' purchases of firm shares following the visits (indicated by the positive coefficient of *NESGvisit*, statistically significant at 1 percent in Specification (iii)), non-ESG-related visits do not strengthen the positive relationship between *ESGD* and *SHch* (indicated by the statistically insignificant coefficient of *NESGvisit* x *ESGD*).

Overall, the evidence in this section confirms the creditability of mutual funds' exit threats, in support of the conjecture that the threat of exit could be one mechanism through which institutional investors' discussions of ESG issues during corporate visits promote firms' ESG disclosures.

6. Consequences of greater ESG disclosure

The previous sections establish that institutional investors' monitoring activities through private communications with firms promote ESG disclosure. Then the question follows of what consequences the enhancement of ESG disclosure could bring up to the broad market participants. Conventional wisdom suggests that greater disclosure reduces disagreement (e.g., Lang and Lundholm 1996; Hope 2003), and in the ESG information context, it is argued that sufficient public disclosure of ESG information is the foundation for rating agencies to assign firms reliable ESG scores and to reduce the divergence in ESG ratings across rating providers (Chatterji et al., 2016; Berg et al., 2022). Following this line of thought, this section examines whether the divergence across ESG ratings varies with ESG disclosure.

To quantify ESG rating divergence, I retrieve firms' ESG score data in each year from four

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[13] For Specifications (i) and (ii), the firms having non-ESG-related corporate visits are excluded from the regressions. Similarly, for Specifications (iii) and (iv), the firms having ESG-related corporate visits are excluded from the regressions.

main ESG rating providers for Chinese listed firms -- Huazheng, Syntao Green Finance, Bloomberg and S&P.[14] Panel A of Table IB.3 in Internet Appendix presents the pairwise Pearson correlations between the four ESG performance measures. It shows that the correlations of the rating pairs range from -0.013 (for S&P – Huazheng pair) to 0.412 (for Bloomberg – Syntao pair), confirming the low consistency in the ESG ratings across different rating providers.

To measure ESG rating divergence, I first calculate firms' percentile ranking according to each of the four ESG ratings, and then for each pair of ratings in each year (e.g., Huazheng - Syntao, Huazheng - Bloomberg, Bloomberg – SP) calculate the square of the difference in percentile ranking based on the two ratings. The conversion from ESG scores to percentile rankings is done to remove the effect of scaling and make the divergences across different rating pairs comparable. The calculation gives me six measures for divergence for the six pairs of ratings, denoted as *HZ_syn*, *HZ_Blbg*, *HZ_SP*, *Blbg_syn*, *SP_syn* and *SP_Blbg*. Panel B of Table IB.3 in Internet Appendix presents the descriptive statistics for the six divergence measures.

To examine the effect of ESG disclosure on ESG rating divergence, I run regressions of firms' ESG rating divergence measures on *ESGD*, after controlling for firm-level characteristics same as those used in Table 4, plus year- and firm-fixed effects. Given that it may take time for rating agencies to collect public ESG information to adjust their ratings, firms' ESG rating divergence in the next year and in two years is used as the dependent variable, with the results reported in Panels A and B of Table 11, respectively.

*********************insert Table 11 here*********************

The six columns of Table 11 present the results when the six rating divergence measures are

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[14] Huazheng and Syntao rating has gained popularity in studies on ESG performance in China (e.g., Broadstock et al., 2021; Zhang et al., 2023). See rating methodology details at https://www.chindices.com/files/Sino-Securities%20Index%20ESG%20Ratings%20Methodology.pdf (downloaded in Aug 2023). Also see http://syntaogf.com/Menu_EN.asp?ID=34 for detailed information of the rating methodology of SynTao. Further details about the four ESG scores can be found in Internet Appendix A.

the dependent variables, respectively. The coefficient of *ESGD* is negative in 10 out of the 12 specifications, with 6 of them being statistically significant at 1 or 10 percent, providing consistent evidence that greater ESG disclosure is associated with lower ESG rating divergence. It is worth noting that Christensen et al. (2022) finds a positive relationship between ESG disclosure and ESG rating divergence in a cross-country analysis, arguing that the subjective nature of ESG information makes ESG disclosure expand opportunities for different interpretations of information. While Table 11 shows finding for the Chinese market opposite to Christensen et al. (2022), the results are in line with the conventional wisdom that greater disclosure reduces disagreement (e.g., Lang and Lundholm, 1996; Hope, 2003). The discrepancy in results calls for caution when examining the ESG disclosure-ESG rating relationship in different markets.

7. Conclusion

Utilizing the unique dataset of institutional investors' corporate visit activities in the Chinese market covering the period of 2013-2020, I find consistent and strong evidence that institutional investors' discussions of ESG-related issues during the corporate visits lead to greater ESG disclosure of the visited firms. To the best of my knowledge, this is the first study providing direct large-scale evidence that institutional investors' behind-the-scene monitoring activities elicit greater ESG disclosure.

Consistent with firm disclosure theory, this monitoring effect strengthens when institutional investors have stronger demands for ESG information and weakens when corporates operate in the industries with high proprietary costs. In addition, I document evidence that institutional investors' threat of exit is a potential mechanism through which their soft activism via private communications exerts effects on managerial decisions of ESG disclosure. Lastly, to understand the consequences of the effective monitoring of institutional investors on promoting ESG disclosure, I document that greater ESG disclosure is linked with a reduction in the divergence of

ESG ratings by different providers.

The paper reveals that institutional investors make real efforts behind the scene, e.g. conducting costly corporate visits and communicating with corporates regarding ESG issues, to promote corporates' ESG disclosure practices. The finding highlights that in addition to the various regulations and initiatives at the global and national level to promote mandatory ESG disclosure, the pressures and demands from market participants, particularly institutional investors, could be an effective stimulator of ESG disclosure. Moreover, the improvement in corporate ESG disclosure potentially brings benefits to the sustainable investing community at large, i.e. reduction in divergence in ESG ratings. Collectively, the paper highlights the crucial role of institutional investors in eliciting corporate ESG disclosure and pushing the ESG agenda.

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Figure 1. Tests for parallel trend assumption and dynamic effects of ESG-related visits on ESG disclosure.

Panel A. Test corresponding to the Specification (i) in Panel A of Table 5
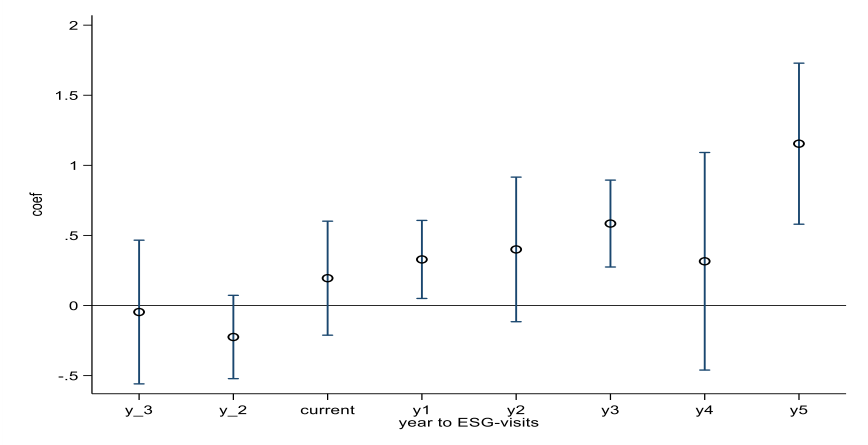
Panel B. Test corresponding to the Specification (ii) in Panel A of Table 5
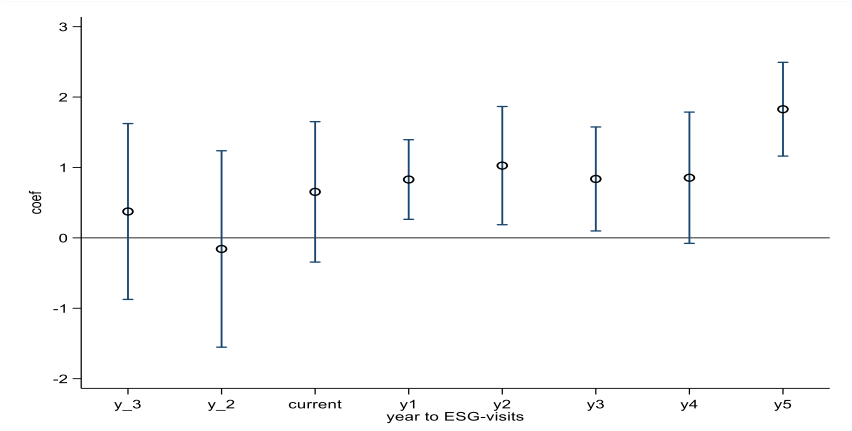
Table 1. Sample construction.

Panel A. Number of SZSE-listed firms and firms with valid ESG disclosure score data

Year	#firms	#firms with ESGD score	#firms with ED score	#firms with SD score	#firms with GD score
2013	1,405	412	396	409	412
2014	1,542	429	412	427	429
2015	1,716	581	565	580	581
2016	1,825	579	563	578	579
2017	2,029	494	494	494	494
2018	2,072	520	520	520	520
2019	2,094	573	573	573	573
2020	2,151	573	573	573	573
Total	2,343	698	683	696	698

Panel B. Number of sample firms that have ESG-related visits and non-ESG-related visits

Year	# Sample firms	#firms hosting ESG-related visits	#firms hosting non-ESG-related visits only
2013	412	161	154
2014	429	187	137
2015	581	211	222
2016	579	211	236
2017	494	187	184
2018	520	179	196
2019	573	164	200
2020	573	138	185
Total	698	515	546

Table 2. Descriptive statistics of firm characteristics.

	Panel A. All firms				Panel B. Firms hosting ESG-related visits				Panel C. Firms hosting non-ESG-related visits				T-test on the differences in means	
	Mean	Median	Std Dev	Obs.	Mean	Median	Std Dev	Obs.	Mean	Median	Std Dev	Obs.	ESG-NESG	p-value
ESGvisit	0.346	0.000	0.476	4,161										
NESGvisit	0.364	0.000	0.481	4,161										
ESGD	27.673	27.160	7.617	4,161	27.723	27.231	8.105	1,438	27.557	27.110	7.432	1,514	0.166	0.562
ESGD_lead	28.486	27.854	7.380	3,692	29.018	28.186	7.845	1,356	28.163	27.548	7.131	1,364	0.856***	0.003
ED	7.389	1.752	10.673	4,096	8.579	2.416	11.569	1,412	7.055	1.268	10.596	1,493	0.979**	0.015
ED_lead	7.674	1.752	10.956	3,645	8.988	2.416	11.785	1,338	7.192	1.571	10.599	1,346	1.387***	0.001
SD	13.907	12.281	6.914	4,154	14.563	12.817	6.980	1,437	13.638	12.001	6.944	1,512	0.925***	0.000
SD_lead	14.049	12.394	6.926	3,688	14.855	13.029	7.163	1,355	13.718	12.001	6.781	1,364	1.137***	0.000
GD	62.924	64.419	12.737	4,161	62.134	64.419	13.847	1,438	63.179	64.419	12.517	1,514	-1.045**	0.031
GD_lead	64.704	66.556	11.633	3,692	64.867	67.550	12.375	1,356	64.508	66.346	11.506	1,364	0.359	0.433
Size (bil CNY)	17.203	9.657	36.179	4,161	17.365	10.360	38.386	1,438	18.104	10.199	32.754	1,514	-0.739	0.573
ROA	0.031	0.026	0.041	4,161	0.038	0.033	0.035	1,438	0.034	0.028	0.041	1,514	0.005***	0.001
Vol	0.027	0.024	0.014	4,160	0.027	0.024	0.016	1,438	0.027	0.025	0.012	1,514	0.000	0.528
Lev	1.218	0.789	2.812	4,161	1.016	0.742	0.946	1,438	1.132	0.743	3.636	1,514	-0.116	0.241
Big4	0.072	0.000	0.259	4,161	0.079	0.000	0.270	1,438	0.061	0.000	0.239	1,514	0.019**	0.049
Insratio	48.353	49.679	23.615	4,159	48.458	50.205	24.536	1,437	47.632	48.368	23.720	1,514	0.825	0.353
Firms.		698				515				546				

Notes: Panel A reports the statistics calculated across all the sample firms, Panel B reports the statistics calculated across the firms that host at least one ESG-related visit in a given year, and Panel C reports the statistics calculated across the firms that host only non-ESG-related visits in a given year. ESGvisit is a dummy indicating that a firm is visited and ESG issues are discussed during at least one visit in a calendar year. NESGvisit is a dummy indicating that a firm is visited and ESG issues are not discussed in any visits in a calendar year. ESGD is a firm's ESG disclosure score in a given year, and ED (SD or GD) is the E- (S- or G-) pillar disclosure score in a given year. ESGD_lead, ED_lead, SD_lead and GD_lead is the value of ESDG, ED, SD, and GD, correspondingly in the next year. Size is the market capitalization of a firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table 3. Descriptive statistics of the proxy for information demand and proprietary costs for the firms hosting ESG-related visits (Panel A), and of *ESGD* and *ESGD_lead* for the firms by groups of information demands and proprietary costs (Panel B).

Panel A. Proxy for information demand and disclosure costs

	Mean	Median	Std Dev	p10	p90	Obs.
#ESG-visits	3.054	2.000	3.876	1.000	7.000	1,438
#ESG-qs	4.074	2.000	6.982	1.000	8.000	1,438
Geodis (km)	911.951	878.258	519.133	285.371	1,546.088	1,437
#UNPRI	0.879	0.000	6.299	0.000	2.000	1,438
HHI	0.045	0.021	0.066	0.004	0.117	1,438

Panel B. *ESGD* and *ESGD_lead* for firms by groups of information demand and proprietary costs

	Low tertile of grouping variable				High tertile of grouping variable				T-test on difference in means	
	Mean	Median	Std Dev	Obs.	Mean	Median	Std Dev	Obs.	Tert1-Tert3	p-value
ESGD										
by *#ESG-visits*	27.483	27.130	7.657	641	28.549	27.864	8.657	509	-1.066**	0.027
by *#ESG-qs*	27.361	27.080	7.552	567	28.723	28.176	8.702	440	-1.362***	0.008
by *Geodis*	27.504	27.382	7.562	429	27.829	27.216	8.280	524	-0.325	0.531
by *#UNPRI*	26.267	26.019	7.659	1,122	32.891	30.646	7.524	316	-6.624***	0.000
by *HHI*	27.725	27.140	7.713	502	27.812	27.321	8.555	473	-0.087	0.867
ESGD_lead										
by *#ESG-visits*	28.482	27.995	7.140	584	29.812	28.599	8.331	501	-1.330***	0.005
by *#ESG-qs*	28.319	27.955	7.096	519	30.131	28.785	8.397	432	-1.811***	0.000
by *Geodis*	28.591	28.186	7.190	409	29.172	27.774	8.222	477	-0.581	0.267
by *#UNPRI*	27.800	27.402	7.365	1,099	34.230	32.421	7.710	257	-6.431***	0.000
by *HHI*	29.209	28.176	7.479	468	28.818	27.784	8.420	441	0.390	0.460

Notes: #ESG-visits is the total number of ESG-related visits a firm hosts in a given year, #ESG-qs is the total number of ESG-related questions a firm receives from all the ESG-related visits it hosts in a given year. Geodis is the geographical distance between the visiting institutions and the visited firms. #UNPRI is the total number of UNPRI-signatory visitors a firm receives across all the ESG-related visits the firm hosts in a given year. HHI is the Herfindahl-Hirschman Index calculated based on firm annual revenues for the industry a given firm belongs to. ESGD is a firm's ESG disclosure score in a given year. ESGD_lead is a firms' ESGD in the next year.

Table 4. Baseline results. Impact of ESG-related visits on firm ESG disclosure score in the next year.

	Panel A. Pooled OLS						Panel B. Firm fixed effects		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(i)	(ii)	(iii)
ESGvisit	0.816***	0.591**			1.078***	0.829**	0.257***		0.412***
	(0.003)	(0.016)			(0.003)	(0.017)	(0.000)		(0.001)
NESGvisit			-0.216	-0.148	0.426	0.365		-0.052	0.214*
			(0.358)	(0.495)	(0.187)	(0.245)		(0.371)	(0.051)
Size	53.260***	50.509***	53.047***	50.285***	53.035***	50.311***	34.628***	34.621***	34.405***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	3.547	2.565	4.777	3.300	3.047	2.215	7.978***	8.211***	7.790***
	(0.300)	(0.468)	(0.161)	(0.348)	(0.384)	(0.535)	(0.000)	(0.000)	(0.000)
Vol	-19.365***	-16.473***	-19.237***	-16.372***	-18.977***	-16.229***	3.684	3.916	3.640
	(0.004)	(0.008)	(0.004)	(0.009)	(0.004)	(0.009)	(0.458)	(0.427)	(0.463)
Lev	-0.000	0.022	-0.004	0.020	0.001	0.022	0.002	0.002	0.002
	(0.996)	(0.306)	(0.888)	(0.341)	(0.976)	(0.315)	(0.800)	(0.838)	(0.808)
Big4	5.758***	5.837***	5.807***	5.860***	5.770***	5.867***	2.722***	2.727***	2.703***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Insratio	0.019**	0.018**	0.019**	0.018**	0.019**	0.018**	0.019	0.020*	0.019
	(0.011)	(0.029)	(0.012)	(0.030)	(0.011)	(0.029)	(0.104)	(0.094)	(0.108)
Ind FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
City FE	No	Yes	No	Yes	No	Yes	No	No	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	No	No	No	No	No	No	Yes	Yes	Yes
R^2 Adj	0.453	0.530	0.451	0.529	0.454	0.530			
R^2 Within							0.558	0.558	0.558
Obs.	3,688	3,685	3,688	3,685	3,688	3,685	3,688	3,688	3,688

Notes: The dependent variable is *ESGD_lead*, a firm's ESG disclosure score in the next year. Panel A reports the results adopting the pooled OLS regressions, and Panel B reports the results adopting panel regressions with firm-fixed effects. ESGvisit is a dummy indicating that a firm is visited and ESG issues are discussed during at least one visit in a calendar year. NESGvisit is a dummy indicating that a firm is visited and ESG issues are not discussed in any visits in a calendar year. Size is the market capitalization of a firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. For specifications of Panel A, standard errors are clustered at firm level. For specifications of Panel B, Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table 5. DiD estimation. Impact of ESG-related visits (Panel A) and non-ESG-related visits (Panel B) on firm ESG disclosure score in the next year.

	Panel A. ESG-related visit		Panel B. Non-ESG-related visits	
	(i)	(ii)	(i)	(ii)
$Treat_{ESG}$ x Post	0.271**	0.713**		
	(0.043)	(0.033)		
$Treat_{NESG}$ x Post			0.100	-0.104
			(0.423)	(0.574)
Size	32.802***	28.235***	31.904***	57.510***
	(0.000)	(0.000)	(0.000)	(0.000)
ROA	8.242***	5.269	10.496***	6.960**
	(0.000)	(0.112)	(0.001)	(0.024)
Vol	5.490	1.885	2.131	-1.337
	(0.275)	(0.633)	(0.548)	(0.789)
Lev	0.001	-0.289***	0.014	0.054**
	(0.931)	(0.000)	(0.494)	(0.034)
Big4	1.971*	3.209*	2.151**	0.763
	(0.075)	(0.051)	(0.040)	(0.214)
Insratio	0.009	0.014	0.012	0.012
	(0.447)	(0.383)	(0.352)	(0.170)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2 Within	0.605	0.593	0.575	0.604
Obs.	2,534	1,440	2,343	1,236

Notes: The dependent variable is *ESGD_lead*, a firm's ESG disclosure score in the next year. Specification (ii) of Panel A and B excludes the firms that have host non-ESG-related visits before hosting ESG-related visits, and the firms that have host ESG-related visits before hosting non-ESG-related visits, respectively. $Treat_{ESG}$ is a dummy indicating that firms ever host ESG-related visits during the sample period. $Treat_{NESG}$ is a dummy indicating that firms ever host non-ESG-related visits during the sample period. Post is a time indicator for post-treatment period. Size is the market capitalization of a firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table 6. Heckman two-stage model.

	Panel A. First-step Probit(ESGvisit)	Panel B. Second-step					
		(i)	(ii)	(iii)	(iv)	(v)	(vi)
Ln(1+#firms)	0.129***						
	(0.000)						
ESGvisit		0.797***	0.590**	0.246***	1.031***	0.816**	0.358***
		(0.003)	(0.016)	(0.001)	(0.006)	(0.024)	(0.004)
NESGvisit					0.374	0.345	0.153
					(0.262)	(0.295)	(0.146)
Size	-1.587	53.853***	50.136***	34.910***	53.541***	49.143***	34.725***
	(0.238)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	3.979***	1.828	3.259	6.032***	1.764	5.024	5.974***
	(0.000)	(0.733)	(0.754)	(0.000)	(0.742)	(0.643)	(0.000)
Vol	0.644	-19.531***	-15.514**	3.798	-19.099***	-14.970**	3.774
	(0.721)	(0.003)	(0.011)	(0.432)	(0.004)	(0.014)	(0.434)
Lev	-0.022	0.012	0.015	0.013	0.010	0.001	0.013
	(0.136)	(0.741)	(0.821)	(0.216)	(0.781)	(0.986)	(0.242)
Big4	0.149	5.604***	5.849***	2.542***	5.637***	5.956***	2.529***
	(0.324)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Insratio	0.000	0.018**	0.019**	0.018	0.019**	0.019**	0.018
	(0.782)	(0.012)	(0.030)	(0.115)	(0.011)	(0.028)	(0.119)
Imr		-0.618	0.344	-0.650**	-0.488	1.092	-0.623*
		(0.639)	(0.918)	(0.048)	(0.716)	(0.759)	(0.058)
Ind FE	Yes	Yes	Yes	No	Yes	Yes	No
City FE	No	No	Yes	No	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes	No	No	Yes
R² Pseudo	0.073						
R² Adj		0.451	0.528		0.451	0.528	
R² Within				0.558			0.558
Obs.	3,664	3,664	3,661	3,664	3,664	3,661	3,664

Notes: The dependent variable of the specification in Panel A is a dummy indicating a firm is visited by institutional investors and ESG issues are discussed during at least one visit in a given year. The dependent variable of the specifications in Panel B is *ESGD_lead*, a firm's ESG disclosure score in the next year. Ln(1+#firms) is the natural logarithm of one plus the number of firms visited in the city a given firm headquarters. ESGvisit is a dummy indicating that a firm is visited and ESG issues are discussed during at least one visit in a calendar year. NESGvisit is a dummy indicating that a firm is visited and ESG issues are not discussed in any visits in a calendar year. Size is the market capitalization of a firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. Imr is the inverse Mills ratio obtained from the first-stage regression. For Specifications (i)-(ii) and (iv)-(v) of Panel B, standard errors are clustered at firm level. For Specifications (iii) and (vi) of Panel B, Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table 7. DiD estimation. Effects of ESG-related visits on firm ESG disclosure, by institutional investors' information demand.

	Panel A. #ESG-visits		Panel B. #ESG-qs		Panel C. Geodis		Panel D. #UNPRI	
	(i) Tert1	(ii) Tert3	(i) Tert1	(ii) Tert3	(i) Tert1	(ii) Tert3	(i) Tert1	(ii) Tert3
Treat_{ESG} x Post	0.545	1.086***	0.385	0.740**	-0.115	1.032***	0.660*	3.116*
	(0.302)	(0.001)	(0.415)	(0.016)	(0.855)	(0.008)	(0.065)	(0.085)
Size	24.915***	92.773***	16.161***	72.001***	32.855***	26.469***	28.446***	-12.447
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.770)
ROA	10.922***	5.885	12.758***	-1.560	5.057	3.424	3.805	20.028
	(0.001)	(0.409)	(0.001)	(0.732)	(0.194)	(0.323)	(0.261)	(0.106)
Vol	9.144	12.612	8.529	37.505***	-4.961	12.320	0.193	4.613
	(0.296)	(0.256)	(0.289)	(0.007)	(0.219)	(0.372)	(0.954)	(0.521)
Lev	-0.270***	-0.060	-0.279**	0.417	0.101	-0.179	-0.365***	3.654
	(0.006)	(0.836)	(0.017)	(0.172)	(0.114)	(0.357)	(0.000)	(0.107)
Big4	0.765	5.222	0.167	8.100	3.485*	2.327	2.954*	-1.035
	(0.388)	(0.122)	(0.752)	(0.103)	(0.094)	(0.216)	(0.058)	(0.688)
Insratio	-0.006	0.026	0.001	0.037*	0.004	0.042**	0.011	0.180**
	(0.620)	(0.264)	(0.947)	(0.077)	(0.820)	(0.030)	(0.481)	(0.012)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 Within	0.626	0.606	0.636	0.606	0.598	0.612	0.593	0.667
Obs.	830	459	731	430	574	596	1,358	132

Notes: Panels A-D report the results when the firms that host ESG-related visits are grouped by the tertiles of *#ESG-visits, #ESG-qs, Geodis and #UNRPI*. The dependent variable is ESGD_lead, a firm's ESG disclosure score in the next year. Treat_{ESG} is a dummy indicating that firms ever host ESG-related visits during the sample period. Post is a time indicator for post-treatment period. Size is the market capitalization of a firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table 8. DiD estimation. Effects of ESG-related visits on firm ESG disclosure, by E-, S- and G-pillar.

	Panel A. Not excluding firms with non-ESG-related visits			Panel B. Excluding firms with non-ESG-related visits		
	(i)	(ii)	(iii)	(i)	(ii)	(iii)
Treat$_E$ x Post	1.105**			1.196*		
	(0.024)			(0.064)		
Treat$_S$ x Post		0.166			0.226	
		(0.508)			(0.288)	
Treat$_G$ x Post			-0.481			-0.130
			(0.388)			(0.875)
Size	65.569***	16.415***	7.453**	138.650***	6.155*	6.315
	(0.000)	(0.000)	(0.043)	(0.000)	(0.056)	(0.209)
ROA	14.989**	4.433	2.629	15.270*	5.363	-1.406
	(0.020)	(0.330)	(0.591)	(0.080)	(0.227)	(0.889)
Vol	11.383	-14.359	-2.740	16.531*	-35.098***	7.407
	(0.242)	(0.184)	(0.722)	(0.059)	(0.000)	(0.528)
Lev	0.011	-0.025	0.011	-0.759***	-0.077***	-0.618***
	(0.705)	(0.189)	(0.481)	(0.002)	(0.006)	(0.003)
Big4	6.645**	0.026	1.104	5.062*	2.909***	2.681
	(0.029)	(0.984)	(0.282)	(0.085)	(0.000)	(0.149)
Insratio	0.035	-0.006	-0.024	0.008	0.043**	-0.032*
	(0.223)	(0.564)	(0.132)	(0.657)	(0.012)	(0.050)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2 Within	0.333	0.338	0.568	0.338	0.382	0.569
Obs.	1,918	522	2,149	1,001	269	1,210

Notes: Panels A and B include and exclude the firms that have hosted non-ESG-related visits prior to hosting ESG-related visits, respectively. The dependent variable in Specification (i) – (iii) is ED_lead, SD_lead and GD_lead, respectively. Treat$_E$, Treat$_S$ and Treat$_G$ are dummies indicating that a firm ever hosted E-/S-/G-related corporate visits, respectively. Post is a time indicator for post-treatment period. Size is the market capitalization of a firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table 9. DiD estimation. Effects of ESG-related visits on firm ESG disclosure, by proprietary cost.

	Panel A. Not excluding firms with non-ESG-related visits		Panel B. Excluding firms with non-ESG-related visits	
	(i) low HHI	(ii) High HHI	(i) low HHI	(ii) High HHI
Treat$_{ESG}$ x Post	0.636***	-0.596	1.289*	0.161
	(0.008)	(0.170)	(0.051)	(0.591)
Size	30.568*	86.830***	25.646	103.616***
	(0.094)	(0.000)	(0.150)	(0.000)
ROA	13.043***	10.093**	11.407***	7.723
	(0.000)	(0.032)	(0.000)	(0.359)
Vol	12.969*	7.234*	10.961	4.785
	(0.098)	(0.091)	(0.575)	(0.380)
Lev	0.271***	0.003	0.166	-0.727***
	(0.004)	(0.819)	(0.239)	(0.001)
Big4	5.922**	0.488	6.565**	1.127
	(0.018)	(0.701)	(0.019)	(0.210)
Insratio	0.002	-0.008	0.012	-0.009
	(0.924)	(0.178)	(0.709)	(0.169)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2 Within	0.608	0.620	0.611	0.606
Obs.	1,025	818	549	444

Notes: Panels A and B include and exclude the firms that have hosted non-ESG-related visits prior to hosting ESG-related visits, respectively. Treat$_{ESG}$ is a dummy indicating that a firm ever hosted ESG-related corporate visits. Post is a time indicator for post-treatment period. Size is the market capitalization of a firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table 10. Mechanism through threats of exit. Impact of corporate visits and ESG disclosure score on fund trading behaviors.

	(i)	(ii)	(iii)	(iv)
ESGD	0.011***	0.011***	0.012***	0.012***
	(0.000)	(0.000)	(0.001)	(0.001)
ESGvisit	0.251***	0.115*		
	(0.000)	(0.087)		
ESGvisit x ESGD		0.004**		
		(0.028)		
NESGvisit			0.189***	0.128
			(0.000)	(0.219)
NESGvisit x ESGD				0.002
				(0.419)
Share	0.032*	0.032*	0.038*	0.037*
	(0.094)	(0.092)	(0.064)	(0.067)
ROA	-0.822**	-0.809**	-0.650**	-0.653**
	(0.015)	(0.016)	(0.042)	(0.042)
Vol	19.345***	19.366***	20.119***	20.113***
	(0.000)	(0.000)	(0.000)	(0.000)
Lev	-0.003	-0.003	-0.007	-0.007
	(0.876)	(0.879)	(0.653)	(0.652)
$Size_f$	0.039***	0.039***	0.042***	0.042***
	(0.000)	(0.000)	(0.000)	(0.000)
Age_f	0.530	0.530	0.512	0.512
	(0.189)	(0.188)	(0.228)	(0.228)
Fee	0.114***	0.114***	0.116***	0.116***
	(0.000)	(0.000)	(0.000)	(0.000)
Flow	0.108***	0.108***	0.108***	0.108***
	(0.001)	(0.001)	(0.001)	(0.001)
$Size_{FC}$	0.232***	0.231***	0.238***	0.238***
	(0.000)	(0.000)	(0.000)	(0.000)
Num_{mng}	-0.071*	-0.071*	-0.068	-0.068
	(0.053)	(0.055)	(0.106)	(0.106)
Gender	0.023	0.023	0.004	0.004
	(0.612)	(0.611)	(0.937)	(0.936)
Edu	0.035**	0.035**	0.030	0.030
	(0.043)	(0.044)	(0.103)	(0.104)
Num_f	-0.002	-0.002	-0.004	-0.004
	(0.767)	(0.761)	(0.643)	(0.642)
Fund-firm pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2 Within	0.057	0.057	0.057	0.057
Obs.	293,902	293,902	306,982	306,982

Notes: The dependent variable is SHch, a fund's holding change of a portfolio firm, calculated as the number of shares of a portfolio firm a fund holds at the end of a given year minus the number of shares the fund holds at the end of last year. ESGD is a firm's ESG disclosure score in a given year. ESGvisit is a dummy indicating that a firm is visited and ESG issues are discussed during at least one visit in a calendar year. NESGvisit is a dummy indicating that a firm is visited and ESG issues are not discussed in any visits in a calendar year. Share is the total number of shares outstanding at the end of a given year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. $Size_f$ is a fund's total assets under management at the end of a year. Age_f is the number of years since inception till current year. Fee is the fees charged. Flow is the quarterly fund flow in the year-end quarter. $Size_{FC}$ is the total assets under management of the fund company the fund belongs to. Num_{mng} is the number of managers managing a fund. Gender is the gender of a fund's manager(s) which is the average value of individual manager(s)' gender, defined as one for male managers and zero for female managers. Edu is the education level of a fund's manager(s) which is the average value of individual manager(s)' education level, defined as one for high-school degree, two for bachelor degree, three for master degree, four for MBA/EMBA degree and five for PhD degree. Num_f measures the busyness of a fund's manager(s), which is measured by the average number of funds within a fund-family that a fund's managers manage in the year-end quarter. Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table 11. Impact of ESG disclosure on ESG rating divergence.

	HZ_syn	HZ_Blbg	HZ_SP	Blbg_syn	SP_syn	SP_Blbg
Panel A. Divergence measure in next year						
ESGD	-0.500***	-0.083	0.084	-0.749***	0.032	-0.042
	(0.000)	(0.410)	(0.574)	(0.000)	(0.769)	(0.755)
Size	-7.865	-29.866**	41.889**	17.014***	30.183	30.015
	(0.485)	(0.012)	(0.015)	(0.003)	(0.299)	(0.372)
ROA	30.490***	35.770*	12.268	17.501**	0.243	-38.290
	(0.000)	(0.094)	(0.473)	(0.031)	(0.989)	(0.120)
Vol	-46.012	-3.804	-21.611	-18.064	-174.804***	-0.847
	(0.291)	(0.829)	(0.227)	(0.574)	(0.001)	(0.981)
Lev	0.220***	0.692	0.086	-0.475	-0.075***	-2.730***
	(0.005)	(0.263)	(0.455)	(0.719)	(0.003)	(0.006)
Big4	2.427	-1.076	-2.867	1.887	-2.122	-2.716*
	(0.697)	(0.738)	(0.248)	(0.113)	(0.387)	(0.053)
Insratio	-0.056*	0.059	-0.048	0.081	0.119*	0.016
	(0.065)	(0.422)	(0.134)	(0.180)	(0.062)	(0.818)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2 Within	0.026	0.016	0.027	0.047	0.025	0.103
Obs.	1,443	836	1,307	647	869	651
Panel B. Divergence measure in two years						
ESGD	-0.509***	-0.165	-0.155	-0.720***	-0.413*	-0.327***
	(0.000)	(0.204)	(0.136)	(0.000)	(0.052)	(0.000)
Size	0.877	-26.359***	16.833	11.193	-42.224**	14.725*
	(0.930)	(0.002)	(0.536)	(0.302)	(0.019)	(0.075)
ROA	29.085	-2.357	62.440***	24.052***	24.265***	-8.304
	(0.132)	(0.919)	(0.003)	(0.002)	(0.000)	(0.350)
Vol	-81.204***	21.514	-8.293	34.578	-51.127*	-43.825
	(0.002)	(0.553)	(0.455)	(0.121)	(0.094)	(0.163)
Lev	0.064	0.819	0.037	1.154*	-0.089**	-1.404
	(0.241)	(0.298)	(0.846)	(0.094)	(0.048)	(0.130)
Big4	-7.584**	-7.910***	-6.019**	3.914***	3.821*	-0.082
	(0.047)	(0.000)	(0.039)	(0.000)	(0.097)	(0.948)
Insratio	-0.030	0.180***	0.046	0.062	0.001	-0.015
	(0.584)	(0.001)	(0.373)	(0.192)	(0.967)	(0.800)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2 Within	0.029	0.032	0.038	0.044	0.022	0.097
Obs.	1,413	786	1,184	639	849	617

Notes: The column names indicate the ESG rating divergence measures assessed in the specifications. Panel A reports the results when the value of the divergence measure in the next year is the dependent variable, and Panel B reports the results when the value of the divergence measure in two years is the dependent variable. ESGD is a firm's ESG disclosure score in a given year. Size is the market capitalization of a firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Appendix

Table A.1. Variable definitions

Variable	Definition	Data source
Firm-level variables		
ESGD	ESG disclosure score for a calendar year	Bloomberg
ED	Environmental-pillar disclosure score for a calendar year	Bloomberg
SD	Social-pillar disclosure score for a calendar year	Bloomberg
GD	Governance-pillar disclosure score for a calendar year	Bloomberg
ESGVisit	A dummy indicating that a firm is visited and ESG issues are discussed during at least one visit in a calendar year	CSMAR and manual identification
NESGVisit	A dummy indicating that a firm is visited and ESG issues are not discussed in any visits in a calendar year.	CSMAR and manual identification
#ESG-visits	The total number of ESG-related visits a firm hosts in a given year	CSMAR and manual identification
#ESG-qs	The total number of ESG-related questions a firm receives in a given year	CSMAR and manual identification
Geodis	The median geographical distance across all the ESG-related visits a firm hosts in a given year.	CSMAR and manual identification
#UNPRI	The total number of UNPRI-signatory visitors a firm receives across all the ESG-related visits the firm hosts in a given year	CSMAR and UNPRI website
HHI	Herfindahl-Hirschman Index measure based on firm annual revenues for the industry a given firm belongs to	CSMAR
Size	The market capitalization of a firm at the end of a calendar year.	CSMAR
Vol	Average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter.	CSMAR
ROA	Annual return on assets calculated as the average ROA across the quarters in a calendar year.	CSMAR
Lev	Leverage ratio calculated as the ratio of debt to equity at the end of a calendar year.	CSMAR
Big4	A dummy indicating that a firm has Big 4 auditors in a given year.	CSMAR
Insratio	The percentage of institutional ownership in the firm at the end of a year.	CSMAR
Share	The total number of shares outstanding at the end of year	CSMAR
HZ_syn	The square of the difference in percentile ranking based on the ESG rating provided by Huazheng and Syntao Green Finance	WIND

Table A.1. Variable definitions (continued)

HZ_Blbg	The square of the difference in percentile ranking based on the ESG rating provided by Huazheng and Bloomberg	WIND and Bloomberg
HZ_SP	The square of the difference in percentile ranking based on the ESG rating provided by Huazheng and S&P Global	WIND and Bloomberg
Blbg_syn	The square of the difference in percentile ranking based on the ESG rating provided by Bloomberg and Syntao Green Finance	WIND and Bloomberg
SP_syn	The square of the difference in percentile ranking based on the ESG rating provided by S&P Global and Syntao Green Finance	WIND and Bloomberg
SP_Blbg	The square of the difference in percentile ranking based on the ESG rating provided by S&P Global and Bloomberg	WIND and Bloomberg

Fund-level variables

$Size_f$	A fund's total assets under management at the end of a year	CSMAR
Age_f	Number of years since a fund's inception till current year	CSMAR
Fee	Total fees (including management fees, distribution fees, subscription and redemption fees) of a fund at the end of a year	CSMAR
Flow	Quarterly fund flow in the year-end quarter	CSMAR
$Size_{FC}$	Total assets under management of the fund company a fund belongs to at the end of a year	CSMAR
Num_{mng}	The number of managers managing a fund at the end of a year	CSMAR
Gender	The gender of a fund's manager(s), which is the average value of individual manager(s)' gender, defined as one for male managers and zero for female managers	CSMAR
Edu	The education level of a fund's manager(s) which is the average value of individual manager(s)' education level, defined as one for high-school degree, two for bachelor degree, three for master degree, four for MBA/EMBA degree and five for PhD degree	CSMAR
Num_f	The busyness of a fund's manager(s), which is measured by the average number of funds within a fund-family that a fund's managers manage in the year-end quarter	CSMAR

Table A.2. Disclosure of investor relationship records of Ping An Bank Co., Ltd..

Type of investor relationship activities	☑Visit by special entities □ Analysts meeting □ Media interview □ Performance announcement meeting □ News release □ Roadshow □ Site tour □ Other (please describe it here)
Participants	All Pensions Group (APG)
Time	March 19th 2020.
Location	Shenzhen
Insider attendees	Xuguang Lv, and board office, Ping An Bank Co., Ltd.
Content	…
	Question: What social responsibilities does Ping An Bank undertake during the epidemic?
	Answer: During the outbreak of the novel coronavirus pneumonia in 2020, the Bank actively undertook its social responsibility in various ways and urgently carried out a series of public welfare activities as an active support for containing the spreading of the epidemic. (1) A first donation of RMB 30 million to Hubei Charity Federation was made in support of the anti-epidemic action and for the procurement of anti-epidemic supplies, insurances for volunteers, protective tools, supplements for community public health utilities, and so on. In addition, policies were specially made to give relief to affected customers such as medical workers engaged in the anti-epidemic action, customers infected with the novel coronavirus pneumonia, and customers in Hubei who were unable to make repayments as a result of the prevention and control measures. Those customers were allowed to make repayments later or pay less interest without leaving any bad credit records. …(3) Data-based loans assisted small- and medium-sized pharmacies in online financing. For medium-, small- or even mini-sized pharmacies, we provided industry-wide integrated and comprehensive online financial service plans. The data-based financing services specific for pharmacies are upgraded all around with "industry-specific data + online operations + intelligent risk control" to meet the needs of pharmacy customers, strengthen the online services for enterprises in the pharmaceutical industry, improve the convenient service level and support the real economy.
	…
	Question: What is the corporate strategy of Ping An Bank?
	Answer: The Bank resolutely promotes the transformation of corporate business, focusing on refining and strengthening the three business pillars of "industry banking, transaction banking and comprehensive finance", promotes characteristic operation and ecological layout, and creates the "engine" of Ping An Group's comprehensive finance "1 + N" business; the Bank adheres to the "customer-centric" principle, focusing on the two core customer groups of "strategic customer group and small and micro customer group", continuously increasing the support for private enterprises, and fully satisfying the diversified needs of customers through data-based operation and differentiated services; firmly adhere to the "one lifeline" of asset quality without wavering and insist on a sustainable and high-quality development path, and provides solid support for building ""domestic best performer and world-leading intelligent retail Bank".
Attachments (If any)	Slides for annual performance of 2019
Date	March 19, 2020.

Table A.3. Environmental, social and governance issue keywords.

Environment	Social	Governance
Beautiful China	child labour	assessment mechanism
carbon neutrality	collective bargaining	auditing committee
carbon reduction	community	auditing independence
contamination	discrimination	average pay
emission	donation	board
energy	employee turnover	bribery
energy conservation	employee welfare	business ethics
environment	enterprise foundation	corporate governance
environmental protection	equal pay for equal work	corruption
exhaust gas	fair trade	decentralization
green	female worker	diversity
greenhouse gas	forced labour	employee stock ownership
low carbon	freedom of association	incentives
peak carbon dioxide	human rights	independence
recycling	lost in accidents	independent audit
solid waste	non-regular employee	independent nomination
sustainable development	occupational fatality	information disclosure
utilization ratio	occupational health	internal governance
waste residue	occupational safety	management team reorganization
wastewater	professional training	managerial ownership
water conservation	public benefits	managerial power
water recycling	responsible	organization structure
	social responsibility	ownership structure
	supply chain management	remuneration
	supply chain supervision	salary gap
	vocational training	sustainability
	work-related injury	tax payment
		thematic committee
		unqualified opinion

Notes: Phrases that contain 'environment' but deliver other meanings are excluded from the list of keywords, e.g. economic environment, policy environment, market environment, competition environment, financing environment, development environment, new environment, regulation environment, domestic/international/foreign environment, operational environment, and information environment etc.

Internet Appendix

To

Institutional investors' behind-the-scene monitoring and ESG disclosure

Internet Appendix A. Description of the mutual fund subsample and ESG score data

DESCRIPTION OF MUTUAL FUND SAMPLE

I obtain the data for actively managed equity open-ended funds from CSMAR. Similar to the existing literature (e.g., Chen et al., 2018; Chua and Tam, 2020; Agarwal et al., 2023), I exclude passively managed funds, bond funds, money market funds, and Qualified Domestic Institution Investor (QDII) funds from the sample, and define actively managed equity funds as the funds holding at least 50 percent of their assets in domestic stocks, including stock and mixed funds. Only primary share classes of funds are included. The screening gives me 2,758 mutual funds coming from 131 fund companies during the period of 2013-2020. After merging mutual fund data with the corporate visit data by visiting institution names, statistics show that the 131 fund companies visit 1,597 firms during the sample period.[15] For these funds, I collect information from CSMAR about funds' inception date, quarterly total assets under management (AUM), quarterly fees including management fee, distribution fee, custodian fee, subscription fee and redemption fee, manager characteristics including manager gender and education level, and semi-annual stock holdings.

DESCRIPTION OF ESG SCORE DATA

Huazheng started to release ESG rating for Chinese listed firms since 2009 which gives the longest time-series of ESG rating and covers the largest number of Chinese listed firms in comparison with other agencies. Huazheng rating classifies firms into eight grades ranging from C, CC, CCC, B, BB, BBB, A to AA according to ESG practices during the sample period. I define a firm's Huazheng ESG score as the value of the grade rated in which one to eight represents the eight grades from C to AA, respectively. Syntao Green Finance is a leading responsible investment

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[15] Corporate visit records are at fund company level rather than fund level. In most cases, it is impossible to know which specific fund within a fund company initiates the corporate visits. Thus, it is assumed that the funds within a same fund company share the information acquired from corporate visits, in line with Liu et al. (2017). The assumption is plausible given the evidence that funds within a fund company have an information-sharing channel (e.g. Gaspar et al., 2006; Elton et al., 2007).

professional service institution in China, grouping firms into ten grades between D and A+ based on the ESG practices since 2015. I define a firm's Syntao ESG score as the value of the grade rated in which one to ten represents the ten grades from D to A+, respectively. Bloomberg and S&P both started to rate Chinese firms' ESG performance since 2015, with Bloomberg (S&P) ESG score for the sample firms ranging from 0.72 to 5.58 (from 0 to 94).

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Internet Appendix B. Supporting figures and tables

Figure IB. K density plots of the matching covariates for the treated and control groups of firms before and after NNM, respectively.
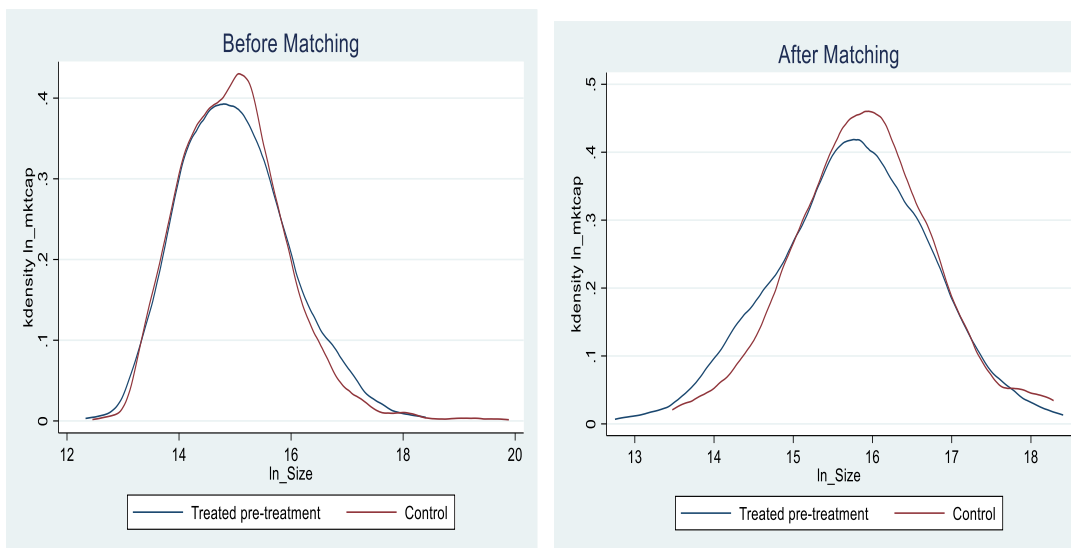
Panel A. Plots for *ESGD*
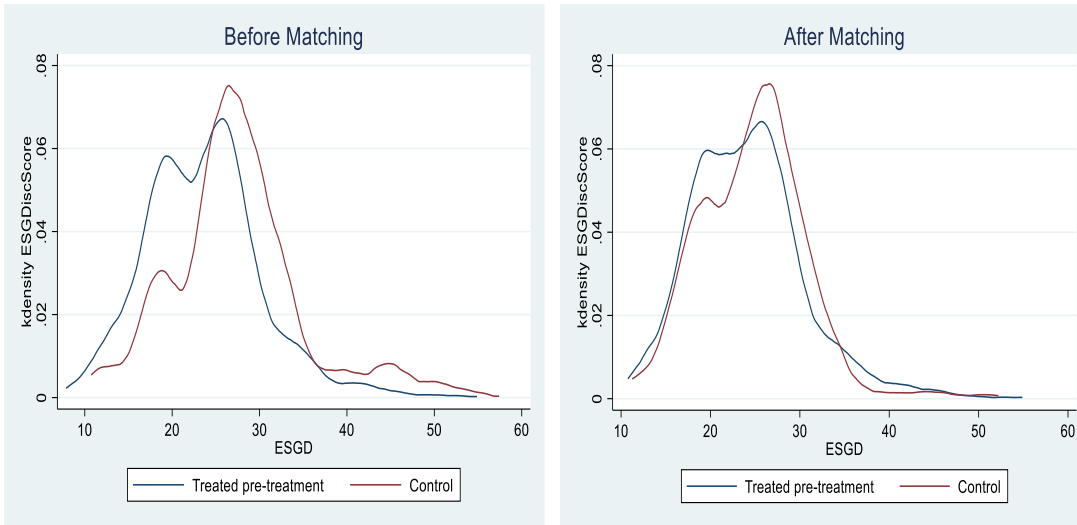
Panel B. Plots for *Ln(Size)*

Table IB.1. Heckman two-stage model, analogous to Table 6 with alternative instrumental variable.

	Panel A. First-step Probit(ESGvisit)	Panel B. Second-step					
		(i)	(ii)	(iii)	(iv)	(v)	(vi)
Ln(1+#firms_esg)	0.197***						
	(0.000)						
ESGvisit		0.791***	0.625**	0.228***	1.029***	0.836**	0.346***
		(0.004)	(0.016)	(0.001)	(0.006)	(0.021)	(0.005)
NESGvisit					0.383	0.328	0.163
					(0.243)	(0.297)	(0.123)
Size	-1.648	53.622***	48.729***	34.958***	53.386***	48.652***	34.802***
	(0.233)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	3.894***	2.545	6.681	6.044***	2.223	6.141	5.880***
	(0.000)	(0.574)	(0.319)	(0.001)	(0.624)	(0.356)	(0.001)
Vol	0.357	-19.360***	-15.204**	3.899	-18.980***	-15.016**	3.856
	(0.844)	(0.004)	(0.013)	(0.425)	(0.004)	(0.014)	(0.429)
Lev	-0.021	0.007	-0.006	0.013	0.007	-0.005	0.013
	(0.151)	(0.825)	(0.880)	(0.193)	(0.827)	(0.903)	(0.193)
Big4	0.122	5.642***	5.945***	2.557***	5.663***	5.965***	2.540***
	(0.421)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Insratio	0.000	0.019**	0.019**	0.018	0.019**	0.019**	0.018
	(0.797)	(0.011)	(0.025)	(0.114)	(0.011)	(0.026)	(0.118)
Imr		-0.374	1.595	-0.651**	-0.327	1.513	-0.658**
		(0.686)	(0.413)	(0.018)	(0.725)	(0.433)	(0.019)
Ind FE	Yes	Yes	Yes	No	Yes	Yes	No
City FE	No	No	Yes	No	No	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes	No	No	Yes
R^2 Pseudo	0.086						
R^2 Adj		0.451	0.528		0.451	0.528	
R^2 Within				0.558			0.558
Obs.	3,664	3,664	3,661	3,664	3,664	3,661	3,664

Notes: The dependent variable of the specification in Panel A is a dummy indicating a firm is visited by institutional investors and ESG issues are discussed during at least one visit in a given year. The dependent variable of the specifications in Panel B is *ESGD_lead*, a firm's ESG disclosure score in the next year. Ln(1+#firms_esg) is the natural logarithm of one plus the number of firms hosting ESG-related visits in the city a given firm headquarters. ESGvisit is a dummy indicating that a firm is visited and ESG issues are discussed during at least one visit in a calendar year. NESGvisit is a dummy indicating that a firm is visited and ESG issues are not discussed in any visits in a calendar year. Size is the market capitalization of a visited firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. Imr is the inverse Mills ratio obtained from the first-stage regression. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table IB.2. Effects of ESG-related visits on firm ESG disclosure, by institutional investors' information demand. Analogous to Table 7 but the firms that have hosted non-ESG-related visits before hosting ESG-related visits are not excluded from the regressions.

	Panel A. #ESG-visits		Panel B. #ESG-qs		Panel C. Geodis		Panel D. #UNPRI	
	(i) Tert1	(ii) Tert3	(i) Tert1	(ii) Tert3	(i) Tert1	(ii) Tert3	(i) Tert1	(ii) Tert3
Treat$_{ESG}$ x Post	0.122	0.845***	0.032	0.432*	-0.041	0.230	0.328***	1.250
	(0.647)	(0.000)	(0.877)	(0.057)	(0.911)	(0.493)	(0.007)	(0.174)
Size	26.048***	61.229***	18.757***	59.908***	29.186***	30.065***	32.363***	21.023***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
ROA	9.998***	5.673	10.597***	2.213	3.646**	7.018**	7.314***	12.065***
	(0.000)	(0.137)	(0.000)	(0.407)	(0.042)	(0.018)	(0.000)	(0.004)
Vol	14.738**	6.795	17.156**	2.714	-1.645	23.662	3.095	10.285
	(0.046)	(0.219)	(0.039)	(0.567)	(0.687)	(0.121)	(0.477)	(0.325)
Lev	-0.225***	0.014	-0.248***	0.014	0.015	-0.084	0.002	-0.046
	(0.000)	(0.120)	(0.000)	(0.185)	(0.615)	(0.274)	(0.849)	(0.158)
Big4	1.418*	1.799	1.294	1.373	2.689	3.172**	2.241*	-0.274
	(0.096)	(0.370)	(0.152)	(0.536)	(0.163)	(0.044)	(0.086)	(0.801)
Insratio	0.005	0.029**	0.009	0.044***	0.008	0.009	0.010	0.023*
	(0.645)	(0.023)	(0.548)	(0.001)	(0.589)	(0.383)	(0.362)	(0.100)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 Within	0.616	0.601	0.620	0.605	0.597	0.608	0.601	0.644
Obs.	1,474	796	1,323	704	1,004	1,071	2,334	368

Notes: Panels A-D report the results when the firms that host ESG-related visits are grouped by the tertiles of *#ESG-visits, #ESG-qs, Geodis and #UNRPI*. The dependent variable is ESGD_lead, a firm's ESG disclosure score in the next year. Treat$_{ESG}$ is a dummy indicating that firms ever host ESG-related visits during the sample period. Post is a time indicator for post-treatment period. Size is the market capitalization of a visited firm at the end of a calendar year. Vol is a firm's average quarterly volatility of stock returns in a calendar year where quarterly volatility is calculated as the standard deviation of daily returns across a calendar quarter. ROA is a firms' annual return on assets calculated as the average ROA across the quarters in a calendar year. Lev is a firm's leverage ratio calculated as the ratio of debt to equity at the end of a calendar year. Big4 is a dummy indicating that a firm has Big 4 auditors in a given year. Insratio is the percentage of institutional ownership in the firm at the end of a year. Driscoll-Kraay standard errors are estimated. P-values reported in brackets. ***, **, * are 1, 5 and 10 percent statistical significance respectively.

Table IB.3. Pairwise Pearson correlations between ESG ratings (Panel A), and descriptive statistics for ESG divergence measures (Panel B).

Panel A. Correlations between ESG scores

	Huazheng	Syntao	Bloomberg	SP
Huazheng	1			
Syntao	0.275***	1		
Bloomberg	0.243***	0.412***	1	
SP	-0.013	0.175***	0.274***	1

Panel B. Descriptive statistics of ESG rating divergences

	Mean	Median	Std Dev	p10	p90	Obs
HZ_syn	13.585	4.000	19.272	0.000	49.000	1,636
HZ_Blbg	13.162	4.000	17.663	0.000	36.000	890
HZ_SP	19.593	9.000	23.171	0.000	49.000	1,774
Blbg_syn	13.725	4.000	18.637	0.000	36.000	651
SP_syn	15.624	4.000	19.605	0.000	49.000	904
SP_Blbg	15.441	9.000	19.798	0.000	49.000	692