

The Determinants of ESG Ratings: Rater Ownership Matters*

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November 11, 2021

Abstract

Environmental, social, and governance (ESG) ratings are largely obscure, yet widely used by investors. We show that firms held by the same investors who own the rater (“sister firms”) receive higher ESG ratings. Exogenously created sister firms through acquisitions reveals causality for the common ownership effect. Sister firms receive higher ratings when the common owners have larger stakes in the ESG rater. Notwithstanding their initial higher ratings, sister firms have poorer future ESG outcomes. These findings suggest that the quality of ESG ratings can be undermined by conflicts of interest and have important implications for practitioners and regulators.

Keywords: ESG, Rating agencies, Conflicts of interest, Ownership structure

JEL classification: G32, L32, M14

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1. Introduction

Investors and regulators are increasingly concerned about the environmental, social, and governance (ESG) performance of corporate issuers, which are commonly measured by ESG ratings. We use Google search trends to create Figure 1, which reveals the surge of interest in ESG ratings in recent years. This contrasts starkly with the stable public interest in credit ratings. A recent large-scale survey of fund managers reports that third-party ESG ratings are as important as shareholder proposals, formal valuation models, and hedging as a tool for institutional investors to manage climate risk (Krüger, Sautner, and Starks, 2020). Trillions of dollars are invested based on ESG ratings, and the trend has accelerated after the outbreak of COVID-19. Moreover, the burgeoning literature derives empirical conclusions from ESG ratings.¹ Despite their widespread use, little is known about the determinants and objectivity of ESG ratings. In this study, we take the first step to fill this gap in the literature.

[Insert Figure 1 here]

A good understanding of ESG rating quality is critical to the further development of sustainable investing. Avramov, Cheng, Lioui, and Tarelli (2021) show that ESG rating uncertainty can discourage investment in projects beneficial to society. Asset owners and funds care about the ESG ratings of their investee firms. They also exert influence on ESG rating agencies. According to a survey conducted by Opimas, ESG rating agencies derive their income primarily from asset owners and managers.² Morningstar, a prominent fund rating firm, has actively expanded its ESG rating services of ESG rating and prompted mutual funds to the importance of ESG measurement.

However, it is necessary to examine whether ESG ratings truly reflect corporate ESG quality. Facebook, Volkswagen, and Wirecard all received good ratings from major ESG raters before their negative ESG incidents were uncovered. The chairman of the U.S. Securities and Exchanges Commission (SEC) has publicly questioned the quality of ESG ratings and criticized their precision, and the European Commission is looking into ways to improve their

¹ Gibson, Glossner, Krüger, Matos, and Steffen (2020) provide an overview of sustainable investing around the world. This investment trend accelerated during the COVID-19 pandemic. Recent examples relating asset prices to ESG ratings include Cao, Titman, Zhan, and Zhang (2020), Engle, Giglio, Kelly, Lee, and Stroebel (2020), Matos (2020), and Pedersen, Fitzgibbons, and Pomorski (2020).

² <http://www.opimas.com/research/547/detail/>

oversight.³ In addition to regulators, investors and issuers care about the quality and outcomes of ESG ratings. Hartzmark and Sussman (2019) show that investors direct more capital into funds with the best ESG portfolios while redeeming from the worst ESG funds. This demonstrates that ESG ratings could play a paramount role in capital allocation. Companies even sue rating agencies for allegedly unfounded ratings, raising substantial concerns among practitioners about their accuracy.⁴

We empirically examine the determinants of ESG ratings, focusing on potential conflicts of interest. Our analysis is guided by incentive-based theoretical predictions. Rating agencies have incentives to provide accurate ratings in order to establish or maintain their reputations. However, these agencies may be motivated to purposefully provide inaccurate—either inflated or deflated—ratings (see, e.g., Bolton, Freixas, and Shapiro, 2012; Goldstein and Huang, 2020). The extant literature on credit ratings, especially around the 2008 credit crisis, provides evidence supporting ESG inaccuracies. We have a relatively good understanding of credit ratings from market practices and academic research. In contrast, ESG ratings are a relatively new phenomenon and have been less scrutinized than credit ratings. ESG performance lacks objective measures or external benchmarks.

We compile a large dataset to uncover the determinants and integrity of ESG ratings, with implications for investors that rely on ESG metrics in their decision making. We first show that in recent years, ESG ratings are more explicable by firm characteristics. For example, large firms receive higher ESG ratings in the post-2010 period, and firm size is the most statistically significant explanatory variable in multivariate regressions of ESG ratings. More importantly, we demonstrate that companies owned by the same institutional investors as their ESG rater (“sister firms”) receive higher ESG ratings. The finding of higher ratings for sister firms is robust to the control for firm characteristics such as firm size. It is also robust to alternative measures of sister firms, control group, and estimation approaches.

³ See “SEC chair warns of risks tied to ESG ratings,” *Financial Times*, May 28, 2020; Question 20, Section 1.3, “Consultation on the Renewed Sustainable Finance Strategy,” European Commission, https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/2020-sustainable-finance-strategy-consultation-document_en.pdf

⁴ In March 2020, Isra Vision, a German manufacturer of camera technology, sued ISS ESG, a well-established ESG rating agency, for assigning it the lowest ESG rating, a D-. Consequently, the Munich District Court banned ISS ESG from rating Isra Vision. This is the first known lawsuit based on poor ESG ratings. Nauman, Billy, 2020 March 4, “Heavy flows into ESG funds raise questions over ratings,” *Financial Times*.

We recognize the potential endogeneity in firm ownership and take a meticulous approach to making causal inferences. Our identification of the common-owner effect on ESG ratings comes from exogenous changes in rater ownership, which occur during corporate mergers and acquisitions. Prior to 2009, Kinder, Lydenberg, Domini & Co. (KLD), the most widely used ESG data source for academic studies and among the most popular for practitioners, was a privately held company primarily owned by its founders and employees. Its acquisition merged it with a publicly listed company with major shareholders identified by mandatory SEC disclosures. We show that the newly created sister firms now receive higher ESG ratings. Moreover, ESG ratings increase only for newly added sisters, not unrelated firms. The results from such a pseudo-natural experiment of acquisition lend support for a causal interpretation of our main finding.

We reveal that ESG rating favoritism for sister firms is more pronounced when the common institutional investor is dedicated (i.e., with a longer holding horizon), has a more active management style, and owns a large equity stake in the rater's holding company. Therefore, the effect of rater ownership on ESG rating depends on owner characteristics. Such findings are consistent with the theoretical prediction that active large shareholders extract private benefits from firms rather than remain concentrated on their monitoring role (e.g., Goldman and Wang, 2021).

Why would a rating agency inflate ESG ratings for its sister firms? One possible answer is to increase the agency's own credibility with its major blockholders. If they care about a firm's ESG rating and add companies to their portfolios accordingly, assigning high ESG ratings to sister firms can increase owners' homophily with and confidence in the ESG rater. However, for investors with expertise in ESG, there is little benefit in boosting ratings to gain perceived credibility. Certain institutional investors are more sincere in the pursuit and knowledge of ESG than others. An increasing number of investors are now signatories of the United Nations Principles for Responsible Investment (UNPRI). In contrast to average rating inflation, we find the sister effect is weaker if the common owner is a UNPRI signatory. Moreover, the longer the owner has been a signatory to the UNPRI, the weaker the rating inflation effect. This finding suggests that committed ESG investors with more in-house expertise are less interested in exerting influence on the ratings agency to produce higher ESG ratings for their portfolio firms.

We categorize ESG ratings by the financial materiality of specific ESG issues according to the classifications set out by the Sustainability Accounting Standards Boards (SASB). We find that ESG rating inflation induced by ownership connection is driven by the immaterial part of ESG ratings. Drilling down on the specific constructs of ESG ratings, we show how rating inflation differs depending on whether the component is a strength or a concern. The rating agency tends not to inflate the material part of ESG concerns, indicating it engages in strategic planning when choosing the specific ESG item to inflate. As markets tend to pay more attention to ESG concerns than strengths (Krüger, 2015), inflating the strengths would not set off as many alarms. We also benchmark the KLD ratings against ratings from Refinitiv (previously part of Thomson Reuters) and find qualitatively the same results: KLD gives higher ratings to its sister firms relative to Refinitiv. Moreover, we uncover little evidence of a convergence in ESG ratings not subject to ownership influence. In other words, the other rater, Refinitiv, does not increase its rating for KLD's sister firms in subsequent years.

As an out-of-sample test for rating inflation, we use future ESG incidents to evaluate the accuracy of initial ESG ratings. RepRisk collects negative news about firms' ESG activities in real time (Li and Wu, 2020). The coverage is widespread with both local and nonlocal, minor and major news. We find that, all else being equal, more negative news items are reported about sister firms than non-sister firms. This ESG underperformance by sister firms is significant after controlling for the initial ESG rating, especially the concern aspects. Therefore, the inflated ratings of sister firms are revealed by their ex-post poor ESG performance.

The findings in this study have implications for increasingly mainstream ESG rating-based investing. Low-quality ESG information can foster greenwashing (Wu, Zhang, and Xie, 2020). This paper is among the first to scrutinize the integrity of ESG ratings and identify problems related to conflicts of interest. Our study shows that the large shareholder effect on credit ratings documented by Kedia, Rajgopal, and Zhou (2017) is also prevalent in ESG ratings. However, ESG ratings are different from credit ratings as ESG ratings are not paid by issuers, so the "issuer pay" concern that plagued credit ratings is not the driver for conflicts of interest for ESG ratings. Nevertheless, once institutional investors gain influence over ESG

rating agencies through their blockholdings, their portfolio companies can receive favorable ratings, via suasion from the investor, catering by the rater, or other channels.⁵

This study of conflicts of interest inherent in ESG rating agencies is related to prior work on other information intermediaries, such as corporate governance advisors. Li (2018) finds that the voting recommendation advisor, Institutional Shareholder Service (ISS), tends to make voting recommendations favorable for management. Such a bias is driven by ISS's revenue from consultation fees paid by the firms. Daines, Gow, and Larcker (2010) question the quality of commercial governance ratings. Cohen, Gurun, and Nguyen (2020) reveal an ESG rating deficiency in the energy sector, in which the firms producing most green patents receive lower ESG ratings. The empirical findings on conflicts of interest in this paper are consistent with theoretical predictions from Mehran and Stulz (2007) and Goldstein and Huang (2020), which address rating inflation and the verifiability of ratings.

This study highlights a new determinant of ESG ratings: rater subjectivity, which played a role in CDO credit ratings leading up to the 2008 crisis (see, e.g., Griffin and Tang, 2012). It is widely documented in both academic studies and public commentaries that ESG ratings for the same firm often differ widely across rating agencies. Berg, Koelbel, and Rigobon (2020), Christensen, Serafeim, and Sikochi (2021), and Gibson, Krüger, and Schmidt (2021) reveal evidence of rating disagreements and show that the correlations between different ESG ratings are generally low. Our study provides an underpinning for such a rater effect through the ownership of the rater. The rating disagreements are neither random nor innocuous. Different rating agencies are controlled by different owners, who then exert their own influence on ESG ratings. These findings suggest ESG rating agencies should be regulated like other information intermediaries.

The rest of the paper is organized as follows. We introduce the ESG rating industry and formulate our testable hypotheses in Section 2. Section 3 describes our data and empirical setting. The effect of sisterhood via common ownership on ESG ratings is presented in Section 4. Section 5 discusses the channels and mechanisms for the sister firm effect. Section 6 concludes.

⁵ Our study is also related to studies on the impact of common ownership on product market competition such as Azar, Schmalz, and Tecu (2018). In our setting, the ESG rating firm and its sister firms are in different industries, and there is little competition between them.

2. Institutional Background on ESG Ratings and Hypotheses Development

In this section, we first introduce the institutional background of ESG ratings, especially market practices. We then discuss relevant literature and form testable hypotheses for our empirical analyses. ESG ratings share similarities with other rating systems, but they have their own unique features and prominent roles.

2.1. ESG ratings

Sustainable Finance. Sustainable finance originated in the early 1990s to foster social and environmental developments. However, such investments need specific metrics. Hence, social and governance ratings were created for practitioners. The phrase “ESG” was first coined in 2004 to reference policies and actions related to environmental, social, and governance issues. The United Nations (UN) has been a strong promoter of ESG market development. Across the globe, large institutional investors integrate ESG factors into their portfolio analysis, equity screening, or quantitative research. Amundi, the largest asset manager in Europe in terms of total assets under management (AUM), pledged 100% ESG integration for their active funds and 100% integration of ESG in voting by 2021.⁶ A considerable number of banks in 37 countries have also adopted the Equator Principle, committing to consider borrowers’ environmental and social policies during their lending process.⁷ To gain access to external financing at lower costs, firms have adopted incentives to improve their ESG profiles. Hong and Kacperczyk (2009) find that irresponsible firms are eschewed by institutional investors and analysts, thus facing a higher equity cost. Kim, Wan, Wang, and Yang (2019) show that institutional investors play an important role in shaping corporate ESG performance. One influential example is BlackRock, which since 2018 has sent annual “Dear CEO” letters to its portfolio companies to remind them about ESG issues (Pawliczek, Skinner, and Wellman, 2021).

ESG Rating. An ESG rating is an assessment of a firm’s performance in its approach to environmental, social, and governance practices. Institutional investors and regulators refer to ESG ratings when evaluating a firm’s ESG profile. However, no universal reporting standards exist, which is the primary obstacle hobbling the practical use of ESG information, even while the ESG rating industry has experienced rapid expansion and consolidation in recent years. The

⁶ See Responsible Investment Amundi’s Ambition 2021.

⁷ <https://equator-principles.com>.

first major ESG rating agency was KLD, founded in 1988 in Boston as a privately owned research firm. It has been the most widely used ESG data vendor since the mid-1990s. In 2007, 33 out of 50 institutional investors worldwide were using its research to integrate ESG factors into their investment decisions.⁸ Its ratings are the primary data source for academic studies. KLD was acquired by a public firm in 2010. Refinitiv/Asset4 is another major ESG rating provider with a data history dating back to 2002.⁹ Refinitiv was a division of Thomson Reuters and is now owned by Blackstone and the London Stock Exchange. Other examples include Bloomberg acquiring New Energy Finance, Morningstar acquiring Sustainalytics, Standard and Poor's acquiring TruCost and RobecoSAM ESG Ratings, and Moody's acquiring Vigeo Eiris. Bloomberg has been providing ESG ratings from third-party data sources since 2012. It launched its own ESG scores in August 2020 to improve the transparency of ESG data and ratings so investors can make informed decisions.

Rater Ownership. After KLD became part of a publicly listed company, its major shareholders could be identified from regulatory filings. Large investment managers, including several mutual and hedge funds, own a big stake in the rating agency. Some owners hold concentrated portfolios and appear to be mindful of ESG issues. Their investment strategies allow them to micromanage their investees through means such as sitting on the board of portfolio companies. For example, ValueAct Capital usually holds a dozen public companies. It also makes information about its holdings public, such as its investment in Microsoft in 2013. It appears that most, if not all, major institutional investors of the parent firm of the rater are conscious of the ESG ratings of their portfolio companies. Dyck, Lins, Roth, and Wagner (2019) show that institutional investors, motivated by financial returns, push for stronger firm-level ESG (they focus on E&S) globally. It is possible they also encourage rating agencies to grant the companies they invest in higher ESG ratings. Investors can push for the certain ESG profile to justify their investments in those companies.

Regulations on ESG Ratings. Despite the increasingly important role of ESG ratings in capital markets, little research has been conducted on the ESG rating industry. This is concerning given the number of reasons the industry should be regulated. First, ESG assessments are prone to subjectivity, interpretation, and hypocrisy. As SEC Commissioner Hester M. Peirce highlighted in her speech to the American Enterprise Institute on June 18, 2019:

⁸ <http://web.archive.org/web/20070524034938/http://www.kld.com:80/about/index.html>.

⁹ Berg, Fabisik, and Sautner (2020) find inconsistent records of ESG ratings from Refinitiv over time.

[T]he ambiguity and breadth of ESG allow ESG experts great latitude to improve their own judgments, which may be rooted in nothing at all other than their own preferences. Not surprisingly then, there are many different scorecards and standards out there, each of which embodies the maker's judgments about any issues it chooses to classify as ESG.¹⁰

The above quote leads to the second major concern regarding ESG ratings—the lack of transparency in how information is assessed. The issue of limited transparency in the ESG rating processes ranges from indicators and algorithms to the qualitative proprietary assessment techniques applied. The third issue involves the completion of the unmanageable amount of work many of the major ESG raters undertake, evaluating thousands of firms using hundreds of indicators. Working with such a tremendous amount of data might compromise the quality of the ratings. These problems all cause many to be wary of the trustworthiness of ESG ratings.

ESG rating agencies are part of the ecosystem of sustainable investing, which is one element in the overarching framework of the Sustainable Development Goals (SDGs) announced by the United Nations in 2015. ESG is an important element of the SASB, UNPRI, and the UN Global Compact. Therefore, it is crucial to understand the determinants of ESG ratings and whether they are prone to conflicts of interest, of which investors need to be informed. However, ESG ratings and rating agencies are unregulated. Although they fulfill similar functions as other information intermediaries, such as credit rating agencies, financial analyst recommendations, and even auditors, ESG rating agencies are not subject to securities law in any market. More research is needed to uncover important findings in practice.

2.2. Testable hypotheses

Rating agencies, as information intermediaries, have an incentive to provide accurate ratings in order to establish a strong foundation for a long-lasting business. Bolton, Freixas, and Shapiro (2012) provide a reputation-based model for credit rating agencies. In their model, credit rating agencies are disciplined by their reputational concerns. Oftentimes, rating agencies issue unbiased ratings given their information set. However, rating inflation does occur under certain conditions. Goldstein and Huang (2020) further show that rating inflation can be an equilibrium outcome when credit ratings have feedback effects and affect corporate financing

¹⁰ Peirce, Hester M., 2019 June 18, Scarlet Letters: Remarks before the American Enterprise Institute, <https://www.sec.gov/news/speech/speech-peirce-061819>.

and investments. Critical to Goldstein and Huang's (2020) model is the verifiability of credit rating. Inflation occurs when ratings are only partially verifiable.

ESG ratings resemble credit ratings in some ways. However, the differences are notable, perhaps none quite so much as that ESG ratings are harder to verify. The rater has room to exert its own subjective views. Such subjectivity and opaqueness are a hotbed for conflicts of interest (see, e.g., Mehran and Stulz, 2007). Potential conflicts of interest can originate from customers and shareholders of the rating agencies, among others. Conflicts of interest arising from customers are easily dismissed because ESG agencies are not paid by the companies being rated. On the other hand, a major shareholder of a rating agency can influence ESG ratings in ways that will further enhance the value of their portfolio.

Kedia, Rajgopal, and Zhou (2017) provide empirical evidence of credit rating inflation for related companies. They find that Moody's gives higher ratings relative to S&P to companies held by the same institutional investors (e.g., Berkshire Hathaway and Davis Selected Advisers). Further, they suggest that rater bias toward the economic interests of their significant shareholders is more severe when opaque and complex issues are involved, such as structured finance products. Their findings are consistent with the view that large shareholders exert influence on firms, such as advising on takeovers and managerial appointments, in order to reap benefits for themselves (Edmans, 2014).¹¹ We hypothesize that the same can happen when ESG ratings are involved.

Hypothesis 1: *ESG raters assign higher ESG ratings to their sister firms, which are owned by the same blockholders than non-connected firms.*

Some argue that ESG ratings reports and related information are read and analyzed by machines and thus rating assessments may not be prone to subjectivity and human judgment. Unlike credit ratings, which are regulated and tend to be governed by specific triggers such as a firm breaching a certain level of leverage, ESG ratings are less regulated and monitored and lack clear metrics, which makes rating inflation more plausible. If credit ratings are subject to conflicts of interest, then ESG ratings are likely to be influenced by subjectivity as well.

¹¹ See Edmans (2014) for a detailed review of theoretical and empirical studies regarding the mechanisms through which large shareholders can influence corporate governance. See McCahery, Sautner, and Starks (2016) for a comprehensive survey of corporate governance channels that institutional investors prefer to adopt.

If larger shareholders influence the ESG rating process, it is natural to expect the ESG rater should treat them more favorably than other large shareholders. The ESG rater is likely to cater to key institutional shareholders because their “voice” or “exit” can have serious consequences on or pose significant threats to the ESG rater itself. In a similar vein, the ESG rater is more inclined to accommodate major sister firms in which their large shareholders have pronounced stakes. This leads to key sister firms obtaining even higher ESG ratings than other sister firms. In other words, the closeness between an ESG rater and its large shareholders, and the connectedness between large shareholders and sister firms, tend to increase rating inflation. Many ESG raters acquire an existing ESG rating business as a means of entering the industry. The sister firms of an ESG rater may then enjoy the benefits of being associated with such an agency.

Hypothesis 2: *The effect of sister firms on ESG rating is more pronounced when the institution owners can and do exert a stronger influence on the rater.*

Institutional investors have different mandates and objectives and as such hold different attitudes toward ESG rating inflation, even if they are equally capable of influencing the rating agencies. Certain investors such as Generation Investment Management¹² aim to obtain authentic ESG ratings for their portfolio companies. The fund was one of a handful who signed on to UNPRI at its inception in 2006; therefore, it is reasonable to assume it has a different view of ESG than other investors. Dyck, Lins, Roth, and Wagner (2019) also emphasize the role of UNPRI signatories. In contrast, other institutional investors are more likely to encourage ESG rating inflation.

Not all ESG components are equally important, or *material*. Investors and the public pay less attention to financially immaterial aspects of ESG than others. Moreover, rating inflation on immaterial aspects of ESG is innocuous, as it is inconsequential. It is possible that rating agencies have more leeway to inflate immaterial ESG scores for their sister firms. However, such rating inflation may eventually be revealed.

¹² Generation Investment Management, an equity hedge fund with a focus on sustainability, was established in 2004 by former U.S. Vice President Al Gore. With \$20 billion AUM as of 2020, it was the largest shareholder of the parent firm of the rater in 2013 Q4, with a holding of 7.87%, and in 2014 Q3 with a holding of 8.45%.

3. Data and Summary Statistics

In this section, we outline the three main datasets used in the paper: ESG ratings data, Compustat corporate fundamentals data, and 13F institutional holding data. We then describe our model specifications.

3.1. ESG rating data

ESG rating data is provided by the KLD database. In the existing literature, ESG ratings are most commonly used to evaluate a firm's ESG performance.¹³ The KLD ESG rating data is one of the longest ESG data time series available. The dataset covers S&P 500 firms from 1991 to 2000. Its coverage extends to Russell 1000 components and Russell 3000 component firms through 2001 and 2003, respectively. It measures ESG strength and ESG concern indicators for seven ESG categories: environment, community, employee relations, diversity, product, humanity, and governance. If a firm meets (or fails to meet) the evaluation criteria for an indicator, it receives one (zero) for that indicator. Each year, we add one point for each strength (concern) to create an aggregate strength (concern) for a given firm. We then take the difference between the strengths and the concerns across the categories to calculate the ESG ratings. Higher ratings indicate more strengths or fewer concerns, and vice versa.

Founded as a private company in 1988 and acquired in 2010 by a public firm, KLD experienced a change in ownership structure from a privately owned firm to a publicly traded firm. Our analysis focuses on ESG ratings post-acquisition, from 2010 to 2015. Table 1 presents the summary statistics of the 11,145 firm-year observations in the sample. In Panel A, the mean of the ESG strengths is 1.61, while the mean of the ESG concerns is 1.47. The average of the ESG ratings is 0.13, and the median of the ESG ratings is 0, with a standard deviation of 2.74.

[Insert Table 1 here]

3.2. Identifying shareholders and sister firms

We obtain ownership structure information from the Thomson Reuters Institutional Holdings 13F database (formerly known as CDA/Spectrum), which contains ownership information on all institutional investors, operating under discretionary management, who

¹³ See, e.g., Hong and Kostovetsky (2012), Hong, Kubik, and Scheinkman (2012), DiGiuli and Kostovetsky (2014), Cheng, Hong, and Shue (2016), Khan, Serafeim, and Yoon (2016), and Chen, Dong and Lin (2020).

manage portfolios of at least \$100 million. Common stock positions larger than 10,000 shares or worth \$200,000 or more must be disclosed, and institutional managers file 13F reports of their stock ownership quarterly with the SEC. An institutional investor is defined as a large shareholder if it owns at least 5% of shares of the parent firm of the rater in a given year.¹⁴ In our sample period, investments by large shareholders can exceed 10%, the investment horizon ranges from two to six years, and the management style of the owners varies from passive to active. In the section below, we discuss how these factors influence the ESG ratings of institutional investors' holding firms.

We define an investee firm as a *sister* if it comprises at least 0.25% of a large shareholder's investment portfolio in a given year.¹⁵ Panel B of Table 1 displays various comparisons between sister firms and other firms. The average ESG rating of sister firms is 2.70 and -0.07 for other firms is -0.07, creating a difference of 2.77 at the 1% significance level. Similarly, the median ESG rating of sister firms is 2.00, whereas it is 0.00 for others. The difference test in medians is statistically significant at the 1% level.

Does the significant difference in ESG ratings between sisters and non-sisters hold across the sample of firms? Figure 2 depicts the ESG ratings of sister and non-sister firms, respectively, and shows that, in general, the frequencies of positive (negative) ESG ratings of sister firms are higher (lower) than those of non-sisters. This distribution plot confirms ESG ratings of sister firms are higher than those of non-sisters across the sample of firms. Further, we turn to the Kolmogorov-Smirnov test to compare the two distributions. We find that the null hypothesis that the two distributions of ESG ratings of sisters and non-sisters would be identical was rejected, with a Kolmogorov-Smirnov value of 0.3748 ($p = 0.0000$). Nevertheless, significant differences may be driven by a number of different factors at the firm and institution levels. To address this possibility, we perform regression tests to control various factors.

[Insert Figure 2 here]

¹⁴ The ESG rating data in a given year is released in the second quarter of the subsequent year. For example, the rating data for 2010 was published in the second quarter of 2011. The ESG ratings for 2010 are matched with the institutional holding data from the third quarter of 2010 to the second quarter of 2011. Given that the ESG database was acquired in June 2010, this study analyzes ESG rating data from 2010 to 2015, which are matched with the institutional holding data from the third quarter of 2010 to the second quarter of 2016.

¹⁵ We adopt 0.25% as the cutoff because it is the 75th percentile holding weight in the Thomson Reuters 13F universe during the sample period. For robustness, we use alternative definitions of *Sister* and find that the results are qualitatively similar, as shown in the next section.

3.3. Empirical model specification

The control variables used are the following firm-level variables that may potentially account for variations in ESG ratings as documented in prior literature: total assets, book-to-market ratio, firm age, sales per employee, ROA, prior-year return, capital expenditure, research and development (R&D), R&D missing dummy, dividends, cash holdings, leverage, advertising intensity, institutional ownership, analyst coverage, and blue state dummy.¹⁶ Stock price information is obtained from the Center for Research in Security Prices (CRSP), accounting variables from the Compustat Fundamentals Annual database, and analyst information from the IBES detail file. The Appendix provides detailed variable definitions.

We begin by exploring the determinants of ESG ratings pre- and post-acquisition of the ESG data business to test whether explanatory factors are time variant. We regress the ESG ratings on all control variables defined in the Appendix, and include industry times year-fixed effects. In Table 2, column (1) reports the results for the entire sample period of 2003 to 2015; column (2) presents the results for the pre-acquisition period of 2003 to 2009, and column (3) shows the results for the post-acquisition period of 2010 to 2015. The results reveal the estimated coefficient on firm size (i.e., total assets) is insignificant pre-acquisition, but positive and significant post-acquisition. This implies that big firms outperform small firms in terms of ESG ratings post-acquisition of a ESG data business, which is not the case pre-acquisition. In other words, this observation indicates that the size effect on ESG ratings exists only post-acquisition.

[Insert Table 2 here]

Other explanatory variables, including firm age, financial constraint measures (i.e., cash holdings, dividends, and leverage), advertising intensity, analyst coverage, and blue state dummy, explain the consistency of ESG ratings over time. The coefficients on cash holdings and dividends are positive and significant, whereas the coefficient on leverage is negative and significant, in line with the financial constraint hypothesis that states firms do good when they

¹⁶ See Di Giuli and Kostovetsky (2014) on total assets, book-to-market ratio, and firm age; Dimson, Karakas, and Li (2015) on sales per employee, ROA, and stock returns; Jensen and Meckling (1976) on capital expenditure, R&D, and R&D missing; Hong, Kubik, and Scheinkman (2012) on dividends, cash holdings, and leverage; Servaes and Tamayo (2013) on advertising intensity; Dyck, Lins, Roth, and Wagner (2019), Chen, Dong, and Lin (2020), and Gibson, Glossner, Krüeger, Matos, and Steffen (2020) on total institutional ownership; Hong and Kacperczyk (2009) on analyst coverage; Hong and Kostovetsky (2012) and Di Giuli and Kostovetsky (2014) on political values.

do well (Hong, Kubik, and Scheinkman, 2012). The loading on advertising intensity is positive and significant, consistent with the view that advertising spending strengthens the relation between CSR and firm value (Servaes and Tamayo, 2013). The negative coefficient on institutional ownership echoes agency motives behind ESG spending (Cheng, Hong, and Shue, 2016). The loadings on the blue state dummy are positive and significant, which is in line with the finding that firms have higher ESG ratings when they are headquartered in Democratic rather than Republican-leaning states (Di Giuli and Kostovetsky, 2014).

Panel B of Table 1 presents the univariate analysis of firm characteristics of sister and non-sister firms. Compared with non-sister firms, sister firms are larger, more profitable, and mature; have more growth opportunities and higher institutional ownership; spend more on advertising; followed by more analysts; and are more likely to be headquartered in blue states. In the univariate analysis, the difference tests on these firm characteristics are all statistically significant. For example, the average of the logarithm of total assets of sister firms is 9.28 and of non-sister firms is 7.13, with a difference of 2.15 at the 1% significance level. For the blue-state dummy, the average percentage of sister firms headquartered in Democratic-leaning states is 0.68, which is statistically significant compared to the average of non-sister firms, at 0.60.

4. Sister Firms and ESG Ratings

The transition from a privately owned firm to a publicly listed firm suggests shareholder interests has become the important driver of corporate actions, consequently changing ESG ratings post-acquisition. In other words, large shareholders may extract private benefits. Most large shareholders are investment firms and as such are not assigned an ESG rating.¹⁷ However, through acquisition, the rater “adopts” many sister firms connected to these large shareholders. Will sister firms receive higher ESG ratings based on institutional shareholders’ interests? Or do machine involvement or reputational concerns prevent shareholders from exerting such influence? In this section, we will bring those questions to the data.

¹⁷ Despite most large shareholders of the rater not being assigned ESG ratings, in our sample, we identify one firm, one of the top three large shareholders, a public firm on the S&P 500, which has ESG ratings available. This firm received a nine-point boost in its ESG rating one year after the rater was acquired, compared with one year before.

4.1. ESG rating and sister firms

To answer these questions, we begin by examining the relationship between ESG ratings and sister firms, using the following equation:

$$\text{ESG rating}_{it} = \alpha_0 + \alpha_1 \text{Sister}_{it} + \alpha_2 X_{it} + e_{it}, \quad (1)$$

where the dummy variable, *Sister*, equals one if a firm is a large investee owned by a large shareholder of the rater's parent firm and zero otherwise; X_{it} is a vector of firm-level characteristics including total assets, book-to-market ratio, firm age, sales per employee, ROA, prior-year return, capital expenditure, R&D, R&D missing dummy, dividends, cash holding, leverage, advertising intensity, institutional ownership, analyst coverage, and blue state dummy.

In Table 3, column (1), we include the *Sister* dummy variable without any control variables, and the regression is akin to the univariate analysis. The *Sister* coefficient, 2.775 with a *t*-statistic of 10.38, is positive and statistically significant, indicating a positive relation between ESG ratings and sister firm status. In column (2), we include total assets as the only independent variable, consistent with the size effect on ESG ratings previously discussed. The estimated coefficient on total assets, 0.799 with a *t*-statistic of 24.33, is positive and significant at the 1% level. In column (3), we include the *Sister* dummy and *total assets* as the two independent variables. The coefficient on the *Sister* dummy is 1.199 with a *t*-statistic of 4.97, indicating *Sister* can explain ESG ratings even when firm size is controlled. However, omitted firm characteristics could affect this finding. In column (4), we include all firm-level control variables and a *blue state* dummy, and control for industry and year-fixed effects to examine whether sister status remains a key determinant of ESG ratings. The coefficient on the *Sister* dummy, 0.795 with a *t*-statistic of 3.78, is positive and significant at the 1% level, showing that adding firm-level controls and industry and year-fixed effects does not qualitatively affect the results.

[Insert Table 3 here]

Our findings reveal sister firms are assigned higher ESG ratings, supporting our hypothesis that these firms garner favorable treatment compared with non-sister firms. This is consistent with the “partial verifiability constraint” view of Goldstein and Huang (2020), as the

validity of ESG ratings is difficult to verify. Consequently, the ambiguity and breadth of ESG ratings leave ESG raters with the scope and discretion to treat their favorites favorably.

4.2. Robustness tests

In this subsection, we examine the robustness of our main findings by constructing various alternative measures and using an alternative estimation method.

4.2.1. Large Shareholders. We propose an alternative definition of “large shareholders.” We define an institutional investor as a large shareholder of the rater if it owns at least 4% of shares of the rater, rather than 5% as defined in the previous subsection. An institutional investor is required to file Schedule 13D/13G forms with the SEC when acquiring more than 5% of a voting class of equity securities of a publicly traded company.¹⁸ To avoid public disclosure, the institutional investor may intentionally manage its holding positions to remain below 5%, but will still be able to influence the management team due to its significant stakes. The results are reported in Table 4, column (1). While all control variables in our baseline test are included in the new test and the remaining tables, we only report the *Sister* dummy (and any newly added variables) coefficients for the sake of brevity. Using the alternative cutoff to define a large shareholder leads to similar findings. The coefficient on the *Sister* dummy, 0.712 with a *t*-statistic of 3.94, is positive and significant at the 1% level, which is similar to the baseline result, 0.795 with a *t*-statistic of 3.78, as seen in Table 3, column (4).

[Insert Table 4 here]

4.2.2. Sister Firm Definition. We explore whether our results are robust to alternative definitions of “sister firms.” The monitoring efforts allocated by institutional investors to an investee firm depend on the relative importance of the investee firm’s stock in their portfolios (Fich, Harford, and Tran, 2015). In other words, we expect that the larger stakes shareholders have in investee firms, the more preferential treatment the investee firms receives from the rater. In our previous analysis, we define a sister firm as one that accounts for at least 0.25% of one of the rater’s large shareholder’s portfolios. Using a stricter cutoff, we define a sister firm as one that accounts for at least 5% of one of the rater’s large shareholder’s portfolios

¹⁸ <https://www.sec.gov/fast-answers/answerssched13htm.html>.

(Fich, Harford, and Tran, 2015). Table 4, column (2) reveals that the coefficient on the *Sister* dummy (1.773) is twice that of our baseline model result of 0.795 (Table 3, column (4)).

In a similar spirit, we would expect to see sister firms' effects on rating inflation increase as institutional ownership cutoffs rise. Figure 3 plots the coefficients on the *Sister* dummy estimated from our baseline model. We define a sister firm as one that accounts for 1% to 5% of one of the rater's large shareholder's portfolios. The coefficients on the *Sister* dummy increase monotonically as the cutoff rises from 1% to 5%. The results not only confirm that our findings are robust to various alternative definitions of sister firms, but also show that the bigger the stake that a large shareholder invests in a sister firm, the higher the ESG ratings assigned to the sister firm.

[Insert Figure 3 here]

4.2.3. Continuous Measure of Connection. We use an alternative continuous measure to quantify the stakes large shareholders invest in sister firms. The continuous measure is the size of ownership, defined as the average of the large shareholders' portfolio weights of a sister firm in a given year. The results are reported in Table 4, column (3). The estimated coefficient on the continuous measure, 0.272 with a *t*-statistic of 3.14, is positive and significant. Using alternative continuous measures provides further evidence that sister firms are more likely to receive favorable treatment when large shareholders retain larger stakes in such firms.¹⁹

4.2.4. Matched Sample. We implement propensity score matching to address a concern about nonlinearity. The treatment group includes sister firms, while the untreated group is comprised of the remaining firms that evaluated by the same rater but are not its sister firms. To control observable differences in attributes between the treatment and control groups, we use the propensity score matching procedure, a technique using one-to-one nearest-neighbor matching with replacement, which can reduce the bias of regression estimators. This approach is suitable in our setting because we have more candidates for potential matches in the untreated group than the treated group, which increases the possibility of identifying appropriate matches between sister and non-sister firms.

¹⁹ We also test whether ESG ratings increase as the length of time large shareholders invest in sister firms increases. The length of the relationship between a large shareholder and a sister firm is defined as the number of quarters that large shareholders hold those sister firms. We find that rating inflation is positively related to the duration of ownership.

We begin the matching with a logit regression where the dependent variable equals one if a firm is a sister firm and zero otherwise. Because independent variables need to influence a firm's ESG rating and institutional investors' shareholding choices simultaneously, we use firm characteristics in our baseline regression to match a sister firm to another firm with attributes statistically closest to it. To alleviate the concern of imperfect matching, we also control the same covariates in the regression analysis. Table 4, column (4) reports the results. The coefficient on *Sister*, 0.666 with a *t*-statistic of 2.47, remains positive and statistically significant. The matching analyses provide further supportive evidence of our main findings.

4.3. Identification

Despite the various precautions taken in the previous subsection, our findings may still be spurious due to potential endogeneity problems. Omitted variables may drive the association between sister firms and favorable ESG ratings. First, it is possible that large shareholders may hold both the rater and rater's sister firms due to their common unobservable characteristics. Second, our findings may be confounded by the fact that the rater and its large shareholders are capable of identifying firms with better ESG performance. In other words, specific firm characteristics might entice large shareholders to purchase major stakes in those firms, but those characteristics might also lead the rater to assign high ratings. To identify the causal relationship between sister firms and ESG rating inflation, we use the acquisition of the ESG business as an exogenous shock to examine ESG ratings of sister firms pre- and post-acquisition of the ESG business in 2010. If higher ESG ratings of sister firms are due to private benefits from corporate control, rather than unobservable common criteria, then the higher ESG ratings assigned to sister firms should not exist before the takeover of the ESG business.

We begin by computing the average of sister and non-sister firms ESG ratings post-acquisition of the ESG business. We then define "pseudo-sisters" as firms held by the same set of large shareholders prior to their classification as large shareholders post-acquisition, and define "pseudo-non-sisters" as the rest of firms pre-acquisition. We calculate the average ESG ratings on pseudo-(non-)sisters before the acquisition. We plot the average of the ratings for (non)sisters and those for pseudo-(non)sisters in Figure 4. Two thought-provoking observations arise. First, the average of the ESG ratings on pseudo-sisters is negative pre-acquisition, while the average of the ESG ratings of sisters is positive and rises to above one post-acquisition. Second, the average of the ESG ratings of pseudo-non-sisters is negative pre-acquisition, and the average of non-sisters is negative post-acquisition. The visual inspection

highlights the large differences in ESG ratings for pseudo-sisters pre-acquisition and sisters post-acquisition, despite few differences in ESG ratings between pseudo-non-sisters and non-sisters.

[Insert Figure 4 here]

We then turn to formal tests; specifically, regression-based analyses. We extend our sample period to cover 2003 to 2015, including six years before and after acquisition.²⁰ We augment our baseline regression by adding another dummy variable, *Pseudo-Sister*, which is equal to one if a firm is a large investee firm consisting of the same large shareholders prior to their being classified as large shareholders post-acquisition, and zero if not. If the rater loosened its ESG rating standards only after the change in ownership, the coefficient of the *Sister* dummy should be positive and significant, while the coefficient of the *Pseudo-Sister* dummy should not. If the higher ratings assigned to connected firms are due to common criteria, then both the coefficient of the *Sister* and *Pseudo-Sister* dummy should be positive and significant. As seen in Table 5, column (1), the coefficient of the *Sister* dummy (1.791 with a *t*-statistic of 8.28) is positive, whereas the coefficient of the *Pseudo-Sister* dummy (-0.329 with a *t*-statistic of -2.62) is negative. This finding suggests that once connected with the rater, sister firms receive higher ratings.²¹ Overall, we find little evidence to suggest that common criteria are the source of the favorable ratings awarded to the rater's sister firms, as higher ratings exist only after the connection is established.

[Insert Table 5 here]

Our analyses above raise two critical questions. First, when a firm aligns with a rater and becomes a sister firm, does this help upgrade a firm's ESG rating? Second, when a sister firm disassociates from its rater, does it lead to a downgrade in a firm's ESG rating? To answer the two questions, we create four dummy variables: *Become Sister* (*Become Pseudo-Sister*) that takes the value of one if a firm becomes a sister firm to the rater after (before) 2010, and

²⁰ A potential concern is that our findings may be contaminated by confounding events that incurred during this long sample period. To address this issue, we re-estimate our results using a one-year (three-year) window before and after acquisition. We find this robustness check does not qualitatively change the results.

²¹ To rule out possible confounding effects due to macroeconomic or industry-level factors, we repeat the exercise, replacing the dependent variable, ESG ratings, with relative ESG ratings as defined in Section 5.4. Using relative ESG ratings does not qualitatively affect our results.

zero otherwise, and *Become Outsider* (*Become Pseudo-Outsider*) that takes the value of one if a firm is no longer a large investee in the rater after (before) 2010, and zero otherwise.

As shown in Table 5, column (2), the coefficient on the *Become Sister* dummy, 1.473 with a *t*-statistic of 8.25, is positive and significant, while the coefficient on *Become Pseudo-Sister*, 0.162 with a *t*-statistic of 0.83, is insignificant. The results answer the first question: becoming sister firms with the rater has little impact on ESG ratings pre-acquisition, but after the acquisition it incurs favorable ESG ratings. As seen in Table 5, column (3), the coefficient on the *Become Outsider* dummy (0.020 with a *t*-statistic of 0.14) is insignificant, suggesting that if a firm is no longer a sister post-acquisition, no downgrade occurs, which answers the second question. This finding may reflect the concept of the “once and forever club” in which both the rater and their sister firms have incentives to maintain their relationship once it has been established.

5. Channels and Mechanisms

The section above demonstrates that the rater tends to give preferential treatment to its sister firms by assigning them higher ESG ratings. In this section, we explore channels and mechanisms that drive such rating inflation and subsequent performance.

5.1. Owner style and influence

We begin by investigating how relationships with large shareholders affect the extent of rating inflation. First, we examine whether rating inflation is related to the closeness between the rater and its large shareholders. Does the duration that large shareholders hold the rater matter? Chen, Harford, and Li (2007) suggest that short- and long-term large investors approach monitoring activities differently. Compared with short-term investors, long-term investors focus more on monitoring activities and less on short-term trading profits. McCahery, Sautner, and Starks (2016) show that long-term institutional investors intervene in the activities of their portfolio firms more intensively, through “voice” or direct intervention, than short-term investors do. In this subsection, we examine differences in ESG ratings of sister firms between short-term and long-term large shareholders of the rater.

We define an institutional investor as a dedicated (transient) large shareholder of the rater if it holds at least 5% of the rater’s ownership for more than (equal to or less than) two

years, following Chen, Harford, and Li (2007). In Table 6, column (1), the dummy variable *Sister* is equal to one if an investee firm is owned by a dedicated large shareholder of the rater, and zero otherwise. As reported in column (1), when sister firms are held by dedicated large shareholders, the coefficient on the *Sister* dummy, 0.842 (*t*-statistic of 3.56), is positive and significant at the 1% level. In column (2), the dummy variable *Sister* is equal to one if an investee firm is owned by a transient large shareholder of the rater, and zero otherwise. As shown in column (2), when sister firms are owned by transient large shareholders, the coefficient on the *Sister* dummy is insignificant. Our results indicate that ESG rating inflation is limited to sister firms held by dedicated shareholders rather than transient ones.

Does the size of the stake in the rater held by large shareholders make a difference? We rank large shareholders based on their average ownership of the rater in a given year during our sample period. We define a dummy variable *Top* (*Bottom*) to indicate if a sister firm is held by large shareholders that rank in the top (bottom) five of investors to indicate their average quarterly stake in the rater. In Table 6, column (3), the coefficient on the *Top* dummy, 1.098 with a *t*-statistic of 3.88, is positive and significant. The results show that when large shareholders hold more stakes in the rater, sister firms are more likely to receive preferential treatment.

[Insert Table 6 here]

We then investigate whether the management style of large institutions matters. If large shareholders are passive investors, they might not care about the ESG ratings of their holding firms, and therefore sister firms may not receive preferential treatments from the rater. To explore this possibility, we repeat our baseline test, but divide large shareholders into two categories, active and passive, and reexamine the status of sister firms within each category. In Table 6, column (5), *Sister* is a dummy variable that takes a value of one if a sister firm is held by a large shareholder who is an active player in the fund industry, and zero otherwise; in column (6), passive players are examined. As shown in column (5), when sister firms are held by active institutional investors, the coefficient of the *Sister* dummy, 0.728 with a *t*-statistic of 3.71, is positive and significant. Column (6) reveals that when sister firms are held by passive institutional investors, the coefficient of the *Sister* dummy is insignificant. These results are consistent with our expectation that active institutional investors care more about the ESG ratings of their holding firms.

Our analyses show that ESG rating inflation for sister firms is more pronounced when the common owner is a long-term investor, holds a large ownership stake, and possesses a more active management style. The results suggest that common owner characteristics may be underlying forces behind our finding of ESG rating favoritism for sister firms.

5.2. *UNPRI signatories*

While we demonstrate that large institutional investors as a whole are likely to pursue inflated ESG ratings, recent studies suggest only certain institutional investors are the main driver of ESG performance.²² Dyck, Lins, Roth, and Wagner (2019) find that institutional investors that are signatories to the UNPRI have more than double the average investor impact on firms' environmental and social performance. Similarly, Gibson, Glossner, Krüeger, Matos, and Steffen (2020) reveal that globally, UNPRI signatories exhibit better portfolio-level ESG performance. UNPRI is the world's leading proponent of ESG investment and operates as an industry-led network of the largest institutional investors. It began in 2006 with fewer than 100 signatories, but the number has increased exponentially since. By the end of 2020, the UNPRI had 3,038 signatories, including asset owners, investment managers, and service providers, with over \$103.4 trillion in AUM.

The UNPRI provides guidance for signatories to commit to ESG issues and put its six principles into practice.²³ Among the six principles that signatories commit to, the first two—"We will incorporate ESG issues into investment analysis and decision-making processes," and "We will be active owners and incorporate ESG issues into our ownership policies and practices"—are most relevant to this study. The UNPRI takes its signatories seriously. In September 2020, it ousted five asset managers and owners from the signatory list, including BPE of France, for failing to meet the minimum requirements.

We examine how institutional investors with different sustainability goals drive ESG rating inflation by exploiting the public status of large shareholders that are UNPRI signatories. We define the *UNPRI Signatory* dummy, which is equal to one if a large shareholder is a UNPRI signatory and zero otherwise. The UNPRI requires that an institutional investor genuinely care about ESG performance by incorporating ESG issues into decision making,

²² See, for example, Dimson, Karakas and Li (2015), Dyck, Lins, Roth, and Wagner (2019), Gibson, Glossner, Krüeger, Matos, and Steffen (2019), Chen, Dong and Lin (2020), and Starks, Venkat and Zhu (2020).

²³ More details regarding these six principles can be found at <https://www.unpri.org/pri/what-are-the-principles-for-responsible-investment>

individually and collectively. Therefore, we expect that if large shareholders are UNPRI signatories, they are less likely to pursue inflated ratings for their holding firms. During our sample period, about half the large shareholders were UNPRI signatories. Of these institutions, about one-third signed on before the beginning of our sample period. To capture the length of time a firm has committed to the UNPRI, we define *UNPRI Tenure* as the number of years since a large shareholder became a signatory. We expect that the longer an institutional investor has been a signatory, the more it has committed to ESG performance rather than simply pursuing increased ESG ratings. Further, we define two interaction terms, *Sister × UNPRI Signatory* and *Sister × UNPRI Tenure*. We augment the baseline test by adding these new independent variables. The results are reported in Table 7.

[Insert Table 7 here]

In Table 7, column (1), we add the *UNPRI Signatory* dummy and the interaction term *Sister × UNPRI Signatory*. The coefficient on the *Sister* dummy, 1.024, with a *t*-statistic of 4.48, remains positive and significant, while the coefficient on *Sister × UNPRI Signatory*, -0.786 with a *t*-statistic of -2.88, is negative and significant. Those results suggest that large institutional investors that are UNPRI signatories sincerely care about a firm’s ESG performance *per se* rather than seeking to artificially inflate ESG ratings. In column (2), we add *UNPRI Tenure* and *Sister × UNPRI Tenure*. Similarly, the coefficient on *Sister × UNPRI Tenure*, -0.384 with a *t*-statistic of -2.44, is negative and significant, indicating that sister firms held by UNPRI signatories with longer tenures are less interested in increasing their holding firms’ ESG ratings. Our results suggest that large shareholders who are UNPRI signatories are more likely to adhere to the network’s principles and put sincere effort into ESG improvements, while their influence on rating inflation is weaker.

Of the large shareholders that are also UNPRI signatories in our sample, Generation Investment Management is not only a UNPRI founding signatory²⁴ but the one with the longest tenure.²⁵ Generation Investment Management constructs portfolios of sustainable companies that provide “goods and services consistent with a low-carbon, prosperous, equitable, healthy

²⁴ The list of founding signatories is found at <https://www.unpri.org/pri/about-the-pri>. The complete list of signatories, including detailed information on the account name and signature date, is available at <https://www.unpri.org/signatories/signatory-resources/signatory-directory>.

²⁵ In our sample, Generation Investment Management owns an average of 5.08% of the rater’s holding company, and their stake is stable with an investment horizon of four years. The portfolio holdings of Generation Investment Management include 39 sister firms, and on average each accounts for 3.88% of its portfolio holdings.

and safe society.” If Generation Investment Management genuinely cares about firms’ ESG practices, they should be less likely to push for inflated ratings for the large investee firms in their portfolio. Unsurprisingly, when repeating the baseline regression for sister firms held by Generation Investment Management, we find little evidence of rating inflation.

The institutional investors in our sample are primarily U.S. based. Gibson, Glossner, Krüeger, Matos, and Steffen (2020) find no significant difference in sustainability footprints between UNPRI signatories and other U.S. institutions. They use RepRisk to measure actual ESG performance, which we discuss later. However, our finding remains encouraging. Although UNPRI signatories may not compile seemingly superior ESG portfolios, they demand less rating inflation than non-signatories.

5.3. Materiality of ESG ratings

In this subsection, we address the potential implications of ESG rating inflation from an investor’s viewpoint. ESG ratings are vital metrics by which investors can evaluate firms’ ESG performance. While ESG issues can be financially material and immaterial, ESG issues that are financially material are far more important to investors. Khan, Serafeim, and Yoon (2016), who were among the first to study the implications of the materiality of ESG ratings, show financially material ESG indicators have predictive power over future stock returns, unlike financially immaterial indicators. They point out that investors may not be able to distinguish material and immaterial ESG issues because materiality classifications are not available previously.

Our study considers the implications of materiality in rating inflation. On the one hand, if rating inflation benefitting sister firms is limited to material issues, then it may negatively affect shareholder values. On the other hand, if rating inflation is limited to immaterial issues, then it may not have detrimental effects on shareholder values, despite being harmful to other stakeholders. Unlike material ESG issues, which taken into consideration by shareholders and closely monitored by regulators, immaterial ESG issues receive less attention and lack transparency, leaving raters with the scope and discretion to give sister firms favorable ratings. Consistent with Goldstein and Huang’s (2020) “partial verifiability constraint” view, the validity of immaterial ESG issues is difficult to verify relative to material ESG issues. Accordingly, we would expect that rating inflation that favors sister firms is mainly limited to immaterial ESG issues.

To distinguish between material and immaterial ESG indicators, we follow SASB standards. To alleviate the problems of the ambiguity of ESG ratings that investors and regulators face, SASB, founded in 2011, aims to provide a clear set of standards for reporting the sustainability information that matters most to their investors. Because the SASB standards are designed from an investor viewpoint, the standard-setting process centers on financial materiality. The SASB standards focus on sector-specific sustainability factors likely to affect the financial conditions or operating performances of companies materially. They provide guidance for 11 sectors encompassing 77 industries.²⁶ For example, greenhouse house emissions are a material issue for the extractives & minerals processing sector but are immaterial for the finance sector, while data security is a material issue for the consumer goods sector, but not for the transportation sector.

We hand-map the firm-level ESG rating indicators with the SASB sector-specific standards to classify the ESG indicators into financially material and immaterial categories. We follow Khan, Serafeim, and Yoon (2016) to classify material or immaterial within each sector according. For example, Tesla, an American electric vehicle and clean energy company, is in the transportation sector. In 2011, Tesla obtained one strength under the ESG category of “climate change: carbon emissions,” which is mapped to the SASB topic of “greenhouse emissions” as a material issue in the transportation sector. Meanwhile, Tesla received one concern under each of the ESG categories of “reporting quality” and “board diversity.” However, these are not classified as material issues in the transportation sector under SASB standards. After mapping SASB material topics to ESG indicators across sectors, we then construct the material (immaterial) ESG ratings for each firm as the material (immaterial) strengths minus the material (immaterial) concerns.

We repeat the baseline model, replacing the dependent variables with the material and immaterial ESG ratings rather than the overall ESG ratings. The results are reported in Table 8. As shown in columns (1) and (2), when the material and immaterial ESG ratings are dependent variables, the coefficient on the *Sister* dummy is 0.157 (*t*-statistic of 1.63) and 0.638 (*t*-statistic of 3.58), respectively. Consistent with our expectations, the results indicate that preferential treatment of sister firms is mainly present in ESG issues that are financially immaterial from an investor’s viewpoint. As in Goldstein and Huang (2020), the validity of

²⁶ The 11 sectors are consumer goods, extractive and mineral processing, financials, food and beverage, health care, infrastructure, renewable resources and alternative energy, resource transformation, services, technology and communications, transportation, and services. <https://www.sasb.org/standards-overview/materiality-map/>.

immaterial issues, relative to material issues, is not easily verified. Rating inflation of immaterial ESG issues harms other stakeholders rather than shareholders. That higher ratings assigned to sister firms should not destroy shareholder values, assuming investors are able to distinguish material ESG issues from immaterial ESG issues. This assumption may not be true, as Khan, Serafeim, and Yoon (2016) demonstrate that investors may not be able to distinguish between material and immaterial ESG issues. As such, inflation of immaterial issues may also be harmful to shareholders.

[Insert Table 8 here]

Next, we repeat the baseline test, but assess the implications of materiality on ESG strengths and concerns separately. Columns (3) and (4) report the results for ESG strengths. The coefficients of the *Sister* dummy are 0.213 (*t*-statistic of 2.66) and 1.222 (*t*-statistic of 6.69) for material and immaterial ratings, respectively, again indicating raters' looser standards for sister firms regarding immaterial issues as opposed to material issues. When *Immaterial Concern Ratings* is the dependent variable, as shown in column (6), the coefficient of *Sister* is 0.584 with a *t*-statistic of 6.02, less than half the magnitude of the immaterial strength ratings.

5.4. Benchmarking against alternative ESG ratings

Excluding the previously discussed factors, we consider whether any unobserved or omitted factors could account for higher ratings awarded to sister firms. For example, certain industrial or macroeconomic events may influence a firm's ESG performance and affect its rating. We employ a difference-in-difference method to examine relative ESG ratings rather than absolute ESG ratings. The first difference examined is between the KLD rating and an alternative rating. If a firm's ESG performance is affected by an industry shock, it should be reflected in both the KLD ratings and alternative ESG ratings, but not in relative ratings. The second difference compares the ratings of sister firms with those of non-sister firms.

We begin by benchmarking the KLD ratings against the Refinitiv ESG ratings. Compared to KLD, Refinitiv ESG data have a relatively short and small coverage, encompassing S&P 500 firms since 2003 and extending to Russell 1000 components and Russell 3000 components in 2011 and 2017, respectively. Refinitiv ESG ratings are the second most popular ESG rating data used in ESG literature. The agency provides two ESG measures: an ESG score and an ESG combined score. The Refinitiv ESG score includes only the positive aspects of ESG, while the combined score adds negative factors. We use the Refinitiv ESG

combined score as it provides a more comprehensive evaluation of a firm’s sustainable impact and behavior and is also more comparable to the KLD ESG rating.

We begin by grouping all firms into 20 quantiles based on the KLD ESG ratings and Refinitiv ESG ratings, using the distribution of raw ratings in each year to create comparable scales. We then apply ESG rankings—from 1 to 20—in the analysis. We construct the dependent variable, *Benchmarked ESG*—the differences between KLD ESG rankings and Refinitiv ESG rankings—using the following model:

$$\text{Benchmarked ESG}_{it} = \alpha_0 + \alpha_1 \text{Sister}_{it} + \alpha_2 X_{it} + e_{it}, \quad (2)$$

where the specification in model (2) resembles the specification in model (1), except the dependent variable is changed to *Benchmarked ESG*.

The regression estimation results are reported in Table 9. As shown in column (1), the estimated coefficient of the *Sister* dummy is 1.226 with a *t*-statistic of 2.88, indicating that compared to Refinitiv, KLD assigns higher ESG ratings to its sister firms. These results help alleviate the concern that our findings may be driven by unobserved and omitted factors related to ESG ratings. Our findings echo the well-documented rating divergence found in both academic studies and public commentaries—ESG ratings for the same firm can vary significantly across rating agencies.²⁷ Berg, Koelbel, and Rigobon (2020) attribute the rating divergence to the rater effect or the rater’s subjective view of the firm. We show that firms that are connected to the rater tend to receive favorable treatment relative to the alternative rater, which indicates the ownership structure of the rater can create the rater effect.

[Insert Table 9 here]

Having demonstrated the significant differences between KLD ESG ratings and alternative ESG ratings of sister firms, we next examine whether KLD and its competitors adjust their ratings and whether the ratings assigned by two raters may converge in subsequent years. If rating inflation reflects the information-driven timeliness of KLD’s rating decisions, rather than ownership-driven leniency, then the ratings by two raters should eventually converge. To explore this possibility, we estimate the response of future Refinitiv ESG ratings to current KLD ratings assigned to sister firms. In columns (2) and (3), the dependent variable

²⁷ See, e.g., Berg, Koelbel, and Rigobon (2019), Christensen, Serafeim and Sikochi (2020), and Gibson and Krüger, and Schmidt (2021).

is *Future Refinitiv ESG rankings*; that is, Refinitiv ESG rankings in Year $t + 1$ and $t + 2$. The independent variable includes the *Sister* dummy, *ESG Rankings*, and the interaction between them ($Sister \times ESG$). If alternative ratings of sister firms increase and converge with those of KLD, we would expect that the coefficient on the interaction term is positive.

The results are reported in Table 9, columns (2) and (3). In column (2), the dependent variable is *Refinitiv ESG Rankings in Year $t + 1$* and the coefficient on the interaction term $Sister \times ESG$ is -0.012 with a t -statistic of -2.15. In column (3), we obtain similar results when the dependent variable is *Refinitiv ESG Rankings in Year $t + 2$* . This shows that after KLD assigns higher ratings to its sister firms, the Refinitiv ESG ratings of those firms do not increase in subsequent years. The results provide little evidence that KLD's high ratings of its sister firms are driven by the information timeliness of KLD's rating decisions, given the low ratings assigned by its competitor. Further, the negative coefficients of the interaction terms in columns (2) and (3) indicate the sister firms' ratings will continue to diverge in subsequent years.

5.5. Incentive alignment

Why do institutional investors care about the ESG ratings of their portfolio companies? Hartzmark and Sussman (2019) argue that good ESG metrics enable funds to attract greater inflow from investors. Asset owners might prefer investments with higher ESG ratings (Bauer, Ruof, and Smeets, 2021). To investigate incentive alignment between raters and large shareholders, we examine two possibilities. First, the rater may have more incentive to provide favorable treatment to sister firms held by multiple shareholders than sister firms held by single shareholders. Second, a large shareholder of the rater that is powerful and influential due to AUM may create more incentive to assign higher ratings to the large shareholder's holding firms. These large shareholders can derive greater benefits by obtaining easing ratings for connected firms in their portfolios.

To examine the first possibility, we repeat the baseline analysis but distinguish whether a large investee is held by one or multiple large shareholders. We report the results in Table 10. In column (1), the *Sister* dummy takes the value of one if it represents at least 0.25% of the portfolio of a large shareholder of the rater and is held by multiple large shareholders in a year, and zero otherwise. In column (2), the *Sister* dummy takes the value of one if it represents at least 0.25% of the portfolio of a large shareholder of the rater and is held by a single large shareholder in a year, and zero otherwise. The coefficient on the *Sister* dummy in column (1), 1.221 with a t -statistic of 2.96, is more than double the corresponding coefficient on the *Sister*

dummy in column (2), 0.458 with a t -statistic of 2.36. This finding indicates that the more shareholders hold sister firms, the higher ratings sister firms receive.

[Insert Table 10 here]

To explore the second possibility, we redo the baseline analysis but differentiate large shareholders by their AUM. In Table 10, column (3), the *Sister* dummy takes the value of one if a firm represents at least 0.25% of the rater's large shareholder's portfolio and its AUM is above the median of other large shareholders in a year, and zero otherwise. In column (4), the *Sister* dummy is defined similarly, but the AUM of the large shareholder of the rater is below the median AUM of other large shareholders in a year. The coefficient on the *Sister* dummy in column (3) is 1.038 with a t -statistic of 3.42; however, the corresponding coefficient in column (4) is insignificant. The results suggest sister firms held by larger shareholders tend to improve by more than one rating notch, and this relative easing in ESG ratings is both economically meaningful and statistically significant, while the sister firms held by smaller shareholders may not receive higher ratings. In other words, major large shareholders, compared to relatively small shareholders, may enjoy more benefits from easing ESG ratings.

5.6. Large shareholders' incentives

In this subsection, we investigate how large shareholders' incentives relate to ESG rating inflation. When large shareholders have more incentive to push for high ESG ratings of their portfolio firms, ESG rating inflation might be more severe. We first examine the differential responses of large shareholders to ESG proposals targeted at their significant holding firms. Prior studies document that when ESG shareholder proposals are put up for votes, it signals that the proposal sponsors (e.g., asset managers) and management are unable to reach an agreement (Flammer, 2015; Krüger, Sautner, and Starks, 2020). When important investee firms of the ESG rater's shareholders are faced with such pressure (e.g., a large number of CSR proposals), the shareholders' attention may then focus on the investees' ESG profile. Shareholders could either engage with the targeted firm directly to create substantial improvements or push for higher ESG ratings to restore the company's image. Second, we use the FTSE4Good US Select Index rebalance events as shocks to large investee firms' ESG reputation, which in turn may incentivize shareholders to seek high ESG ratings for their investee firms. FTSE-Russell measures the ESG performance of firms using over 300 indicators. U.S. firms are added to the FTSE4Good US Select Index when they meet the criteria

and removed when they fail to do so. Since its inception, the Index has been viewed as a salient ESG benchmark in the financial market (Shin, 2020; Starks, Venkat, and Zhu, 2020). As such, we expect that when firms are removed, their shareholders may have greater incentive to repair firms' ESG reputation by pursuing high ESG ratings.

We obtain information on CSR shareholder proposals from Institutional Shareholder Services and rerun the baseline regression by differentiating large shareholders on the basis of the average number of CSR proposals faced by their important investee firms at annual general meetings. In Table 11, column (1), the dummy variable *Sister* is an indicator that equals one if a firm represents at least 0.25% of the shareholders' portfolio, and the average number of CSR proposals faced by a large shareholders' important investee firms is above the median of all shareholders, and zero otherwise. In column (2), the dummy variable *Sister* is an indicator that equals one if a firm represents at least 0.25% of the shareholders' portfolio, and the average number of CSR proposals faced by a large shareholders' important investee firms is below the median of all shareholders, and zero otherwise. The coefficient on the *Sister* dummy in column (1) is 0.951 with a *t*-statistic of 9.07, and in column (2) it is 0.325 with a *t*-statistic of 2.29. The difference test of the coefficients on the two *Sister* dummies is significant, with a probability of 0.0181. The results suggest that when shareholders face greater public activism on CSR issues involving their important investee firms, sister firms may receive higher ESG ratings.

[Insert Table 11 here]

We re-estimate the baseline regression but differentiate large shareholders based on the average number of FTSE4Good US Select Index exclusion events experienced by their important investee firms. In column (3), the indicator variable, *Sister*, is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio, and the average number of index exclusion events occurring at a large shareholders' important investee firms is above the median of all large shareholders, and zero otherwise. In column (4), the indicator variable, *Sister*, is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio, and the average number of index exclusion events occurring at a large shareholders' important investee firms is below the median of all large shareholders, and zero otherwise. The coefficient on the *Sister* dummy in column (3) is 1.709 with a *t*-statistic of 8.22, and the coefficient on the *Sister* dummy in column (4) is 0.735 with a *t*-statistic of 3.89. The difference test of the coefficients on the *Sister* dummies in two columns is significant, with a probability of 0.0596. This indicates that large investors may be more incentivized to respond to reputation

shocks to their significant investee firms by pressing for higher ESG ratings to repair the damage.

5.7. Future ESG performance

Finally, we examine whether higher ratings assigned to sister firms can be justified by their better ESG performances. In other words, whether the higher ESG ratings received by sister firms may merely reflect that their good ESG performances are being rewarded with high ratings. We use ESG incidents as a proxy for ESG performance to examine how ESG ratings are related to ESG performance. Unlike ESG ratings, ESG incidents are less likely to be under direct managerial control. Although it may be plausible for firms to self-promote positive news through their public relations departments, it is considerably harder to bury negative ESG news coverage as media outlets compete for audiences.

We retrieve negative ESG news from RepRisk, a comprehensive database that has compiled information on ESG and business conduct risks since 2007. The RepRisk dataset covers negative ESG news that can be harmful to a firm's reputation. Its data analysis is conducted in two steps. First, using machine learning algorithms based on 8 million labeled documents, RepRisk systematically screens over 500,000 documents for news items on ESG incidents from more than 90,000 public sources and stakeholders in 20 major business languages on a daily basis. Second, using a rule-based methodology, trained analysts conduct two-level analyses of each ESG incident to verify and then classify them into 30 predefined ESG incident categories (95 ESG factors), such as environmental degradation, overuse, and wasting of resources, and impacts on communities. This dataset was previously used by researchers such as Hummel and Schlick (2016), Kolbel, Busch, and Jancso (2017), and Li and Wu (2020).

We obtain firm-level incident counts from RepRisk and merge them with our sample. We begin by plotting the number of ESG incidents to make comparisons between sister and non-sister firms. Figure 5 depicts the average count of ESG incidents pertaining to pseudo-sisters and pseudo-non-sisters for each quarter pre-acquisition of the ESG business from 2007 to 2009. The pseudo-sisters endured slightly more ESG incidents than pseudo-non-sisters pre-acquisition. Figure 5 also shows the mean of ESG incidents involving sister and non-sister firms for each quarter post-acquisition from 2010 to 2015. If ESG ratings reflect true ESG performance, then we should expect fewer ESG incident counts for sister firms compared to

non-sister firms in order to justify higher ratings for sister firms. What we find is the opposite. The average count of ESG incidents attributed to sister firms is noticeably higher than the average for non-sister firms post-acquisition. The significant discrepancy between ESG ratings and ESG performance implies that higher ESG ratings for sister firms are likely not justified by better ESG performance. Similarly, Li and Wu (2020) also use RepRisk data to show that for the sake of shareholders' best interests, public firms, as opposed to private firms, show little real efforts on ESG performance.²⁸

[Insert Figure 5 here]

The RepRisk data provide an external measure of actual ESG performance, which allows us to answer the following question: Do inflated ratings for sister firms have predictive power over subsequent ESG incidents? If large shareholders care about sister firms' ESG ratings rather than their actual ESG performance, then we expect to uncover a positive relation between sister firms and future ESG incidents rather than a significant reduction in the sister firms' number of ESG incidents.

We begin by plotting the average number of future ESG incidents in the subsequent year against the range of ESG concerns for sister firms (black bars) and non-sisters (gray bars). Figure 6 reveals that for each range of concern, the number of future ESG incidents faced by sister firms is generally higher than that faced by non-sister firms. For instance, for the level of ESG concerns ranging from 9 to 11, sister firms encounter more than 20 ESG incidents in the subsequent year, compared with fewer than 10 ESG incidents involving non-sister firms. The results indicate that the lenient ratings bestowed on sister firms may not be justified. We then turn to formal regression-based tests.

[Insert Figure 6 here]

We employ a count data model to examine whether a relationship exists between future ESG incidents and rating inflation. The primary independent variables of interest are the *Sister* dummy and *ESG Rating*; the dependent variable is the number of future ESG incidents predicted for the following year. We assume the number of ESG incidents follows a Poisson distribution—the rate of distribution is determined by the status of being a sister firm, firm

²⁸ Li and Wu (2020) suggest that the shareholder-stakeholder conflicts of interest are the important driver of decoupled ESG action. Having compared the ESG performances of public firms and private firms, they find that private firms tend to improve ESG performance as evidenced by a decrease of ESG incident levels, but this is not the case for public firms.

characteristics, and industry year-fixed effects. Table 12, columns (1) and (2) report the count data model estimation results. As shown in column (1), the coefficient on the *Sister* dummy is positively related to the number of ESG incidents in the following year. In column (2), we add lagged one-year ESG concerns and the identical set of control variables included in other tables to control for past ESG performance and firm-level characteristics. We still find that the *Sister* dummy significantly positively predicts future ESG incidents.

[Insert Table 12 here]

For robustness, we use a negative binomial distribution for the number of ESG incidents and re-estimate the count data model. Table 12, Column (3) does not include past ESG ratings or various control variables, while column (4) does. Using alternative distribution generates qualitatively similar results. All findings indicate that rating inflation is associated with an increased number of future negative ESG incidents.

6. Conclusions

ESG ratings have become increasingly important to investment and capital allocation. However, little is known about the determinants of ESG ratings, especially whether such ratings reflect the true quality of a firm's ESG approaches. In this study, we find that rater ownership plays a significant role in the determination of ESG ratings. Specifically, the rater tends to give higher ESG ratings to sister firms owned by the same large shareholders. Our findings are robust to different definitions of sister firms, alternative estimation methods, and benchmarking against ratings from alternative raters. To identify the causal effect, we use the exogenous change of ownership of the rater and find that sister firm results are present only after the rater and sister firms are connected through the same owners.

We show that the sister firm rater effect is more pronounced when the large institutional investor is dedicated (e.g., with a longer holding horizon), has a more active management style, and holds a significant ownership stake in the rater. That said, certain large institutions, such as UNPRI signatories, sincerely care about ESG practices and possess more sophisticated knowledge that causes them to refrain from encouraging raters to increase the ESG ratings of their portfolio firms. When investigating whether rating inflation granted to sister firms is justified, we find that sister firms instead are predicted to have more future negative ESG incidents.

To the best of our knowledge, this study is the first to provide evidence that conflicts of interest in market practices can contaminate the integrity of ESG ratings. Across the world, trillions of dollars are being invested in accordance with ESG ratings. Rating inflation that benefits a specific group of firms can have significant real and negative consequences on the capital markets. Our work highlights the specific conflicts of interest that affect the validity of the ESG ratings, which should be considered by investors in various decision- and policy-making situations. We support clearer and more transparent ESG metrics, which could make rating inflation more detectable. The European Commission recently proposed the Corporate Sustainability Reporting Directive in an attempt to produce more consistent and comparable information. It remains to be seen to what extent the implementation of the included policies help improve ESG rating quality.

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Appendix: Variable Definitions

Variable	Definition
<i>ESG Data</i> (Source: <i>KLD ESG, Refinitiv ESG, RepRisk, and SASB</i>)	
ESG rating	The sum of ESG ratings across environment, social, and governance categories
ESG strengths	The total number of strength scores under the environment, social, and governance categories
ESG concerns	The total number of concern scores under the environment, social, and governance categories
ESG ranking	20-quantile ranks converted from the original ESG rating
Refinitiv ESG ranking	20-quantile ranks converted from the Refinitiv ESG combined rating
ESG incident counts	The number of ESG incidents annually per firm
Severity	The level of the harshness of an ESG incident on a firm
Material	Financially material ESG issues as classified by SASB
Immaterial	Non-Financially material ESG issues as classified SASB
<i>Fundamental Data</i> (Source: <i>Compustat and CRSP</i>)	
Advertising intensity	The ratio of advertising expenditure to total sales
Blue state dummy	Equal to 1 if a firm's headquarter is located in a state where voters predominantly support the Democratic Party
Book-to-market	The book value of equity divided by the market value of equity
Capital expenditure	A firm's capital expenditure scaled by total sales
Cash holdings	Cash balances scaled by total assets
Dividends	Cash dividends over book assets
Firm age	The number of years since the firm was first covered by the Compustat fundamental annual file
Leverage	Total debt divided by total assets
Total assets	The natural logarithm of total assets
Log SG&A expenses	The natural logarithm of SG&A expenses
Log (SG&A-advertising)	The natural logarithm of SG&A expenses minus advertising expenses
Net income	The fiscal period income or loss disclosed by a firm
R&D	R&D expenditures scaled by total assets
R&D dummy	Equal to 1 if R&D expenditure is missing, and 0 otherwise
ROA	Ratio of income before extraordinary items to total assets
Prior-Year return	Past one-year returns
Sales per employee	A firm's total sales scaled by its number of employees
SG&A	A firm's selling, general, and administrative expenses
SG&A/revenues	SG&A expenses divided by revenue

Appendix: Variable Definitions—Continued

Variable	Definition
<i>Institutional-level and Analyst Data (Source: Thomson Reuters 13F, PRI and IBES)</i>	
Dedicated	Institutional investors with holding periods equal to or longer than two years
Transient	Institutional investors with holding periods fewer than two years
Top	Institutional investors that rank in the top five in terms of average ownership of the parent firm of the rater
Bottom	Institutional investors that rank in the bottom five in terms of average ownership of the parent firm of the rater
Active	A large shareholder who is an active player in the fund industry
Passive	A large shareholder who is a passive player in the fund industry
Sister	Equal to 1 if a firm is a large investee firm owned by the rater's large shareholder, and 0 otherwise
Closer Sister	Equal to 1 if a firm represents at least 5% of the rater's large shareholder's portfolio in a year, and 0 otherwise
Pseudo-Sister	Equal to 1 for large investee firms of large shareholders before a rater was acquired and started to provide ESG ratings, and 0 otherwise
Become Sister	Equal to 1 if a firm becomes a sister firm in a year after 2009, and 0 otherwise
Become Pseudo-Sister	Equal to 1 if a firm becomes a sister firm in a year before 2009, and 0 otherwise
Become Outsider	Equal to 1 if a firm is no longer a sister firm in a year after 2009, and 0 otherwise
Become Pseudo-Outsider	Equal to 1 if a firm is no longer a sister firm in a year before 2009, and 0 otherwise
Institutional ownership	The average of a firm's total institutional ownership across a year
PRI Signatories	Equal to 1 if a rater's stockholder is a signatory of the Principles for Responsible Investment (PRI), and 0 otherwise
PRI Tenure	The number of years since a stockholder joined PRI
Analyst Coverage	The natural logarithm of (1+ the number of financial analysts following the firm)

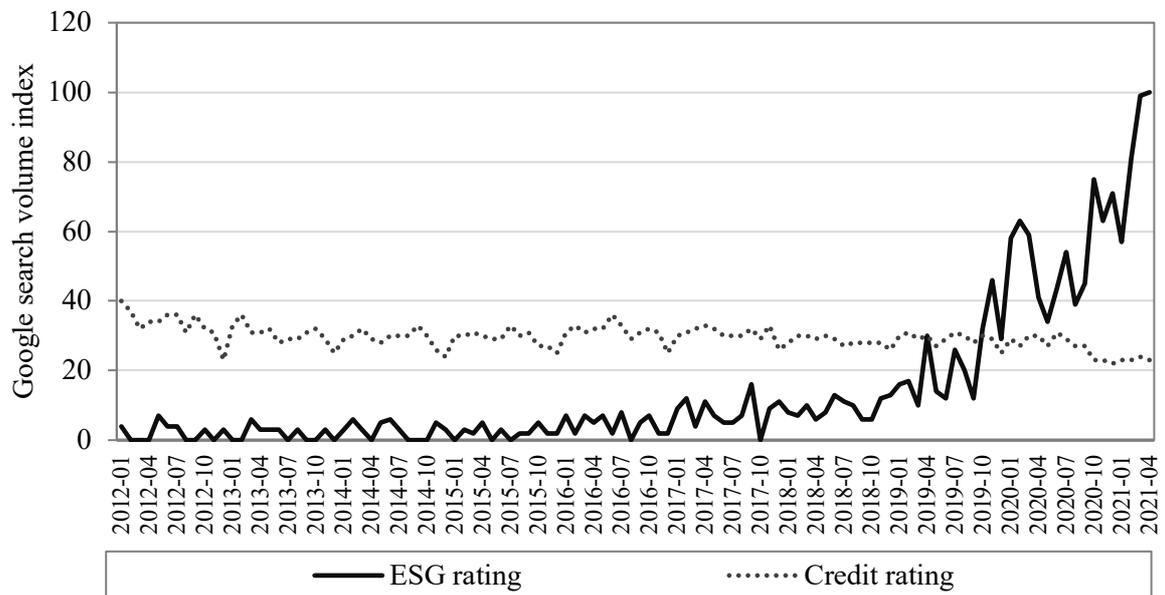


Figure 1. Google search volume index: ESG rating vs. credit rating. This figure depicts the monthly times series trends of the Google Search Volume Index of the phrases “ESG rating” and “Credit rating” from January 2012 to April 2021.

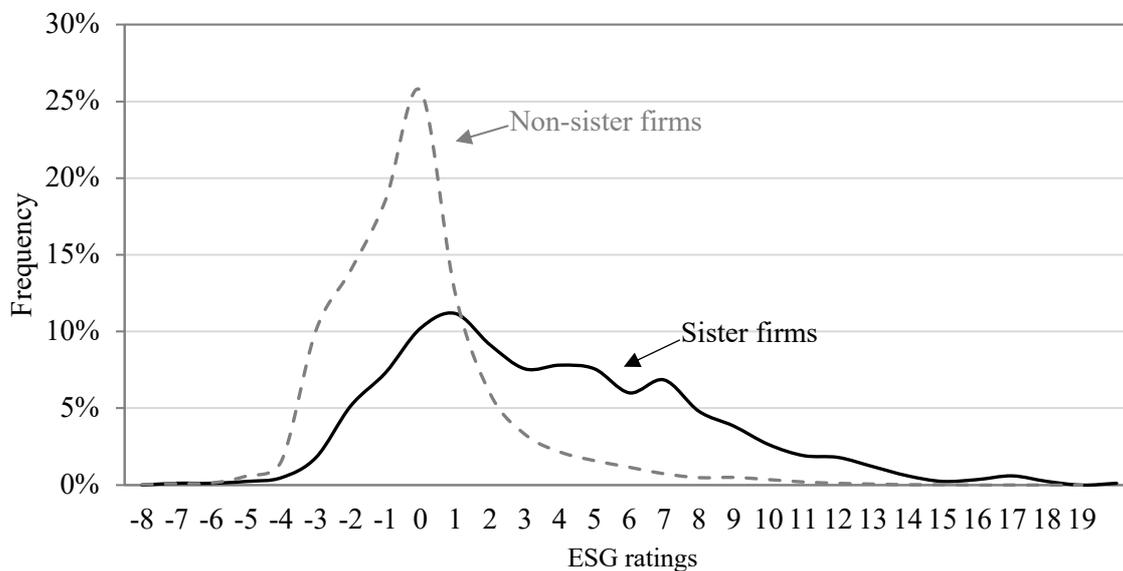


Figure 2. The ESG rating histogram: Sister vs. non-sister firms. This figure shows the distribution of the ESG ratings for sister and non-sister firms after the ESG rater was acquired. The sample period is 2010–2015. A sister firm is defined as a firm that is a large investee firm held by a rater’s large shareholder. The black solid line represents sister firms, while the dotted gray line represents non-sister firms. The horizontal axis indicates the numerical values of the ESG ratings. The Kolmogorov-Smirnov test statistic is 0.3748, which is statistically significant at the 1% level.

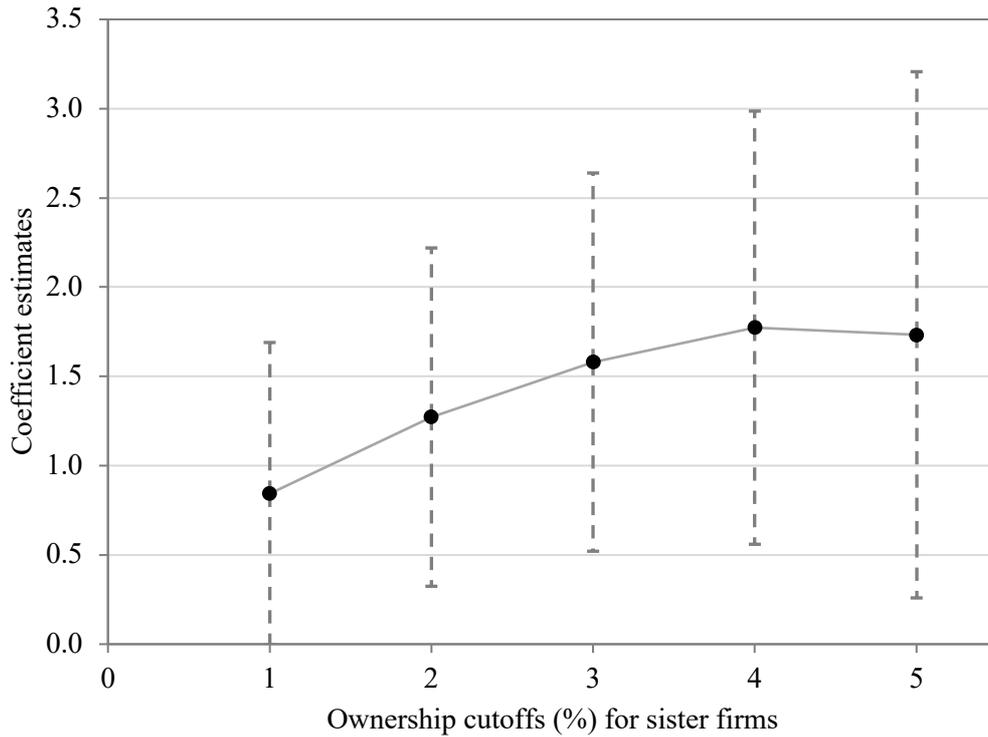


Figure 3. Coefficient estimates from different definitions of sister firms. This figure reports the regression coefficients on the *Sister* dummy estimated from our baseline model. A sister firm is defined as a firm that accounts for 1% to 5% (as shown in the horizontal axis) of the portfolio of one of the rater’s large shareholders. We plot the coefficients on the *Sister* dummy, which are the estimates representing the differences in trends in ratings between sister firms and other firms. The error bars use standard errors clustered at the firm level. All specifications include industry times year-fixed effects.

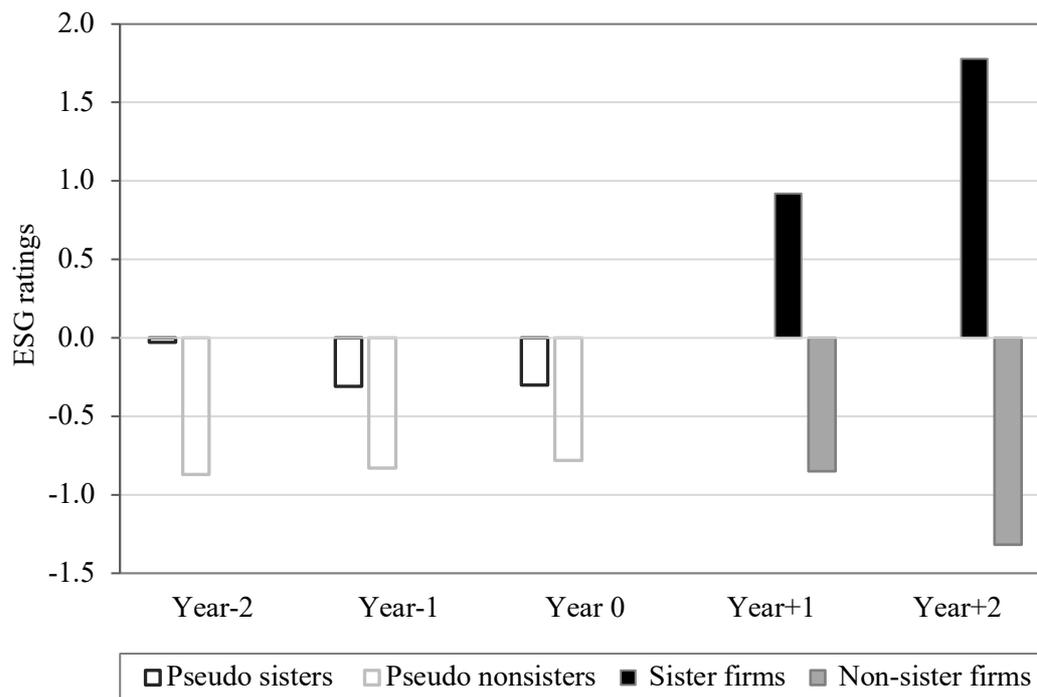


Figure 4. ESG ratings of sister vs. non-sister firms. This figure displays the annual average of the ESG rating for sister firms and the average of the ESG rating for other firms after the ESG rater was acquired. A sister firm is defined as a large investee firm held by the ESG rater’s large shareholder. The figure also reports the annual average of the ESG rating for pseudo-sisters and the annual average of the ESG ratings for other firms before the rater was acquired. Pseudo-sisters are firms held by the same large shareholders pre-acquisition.

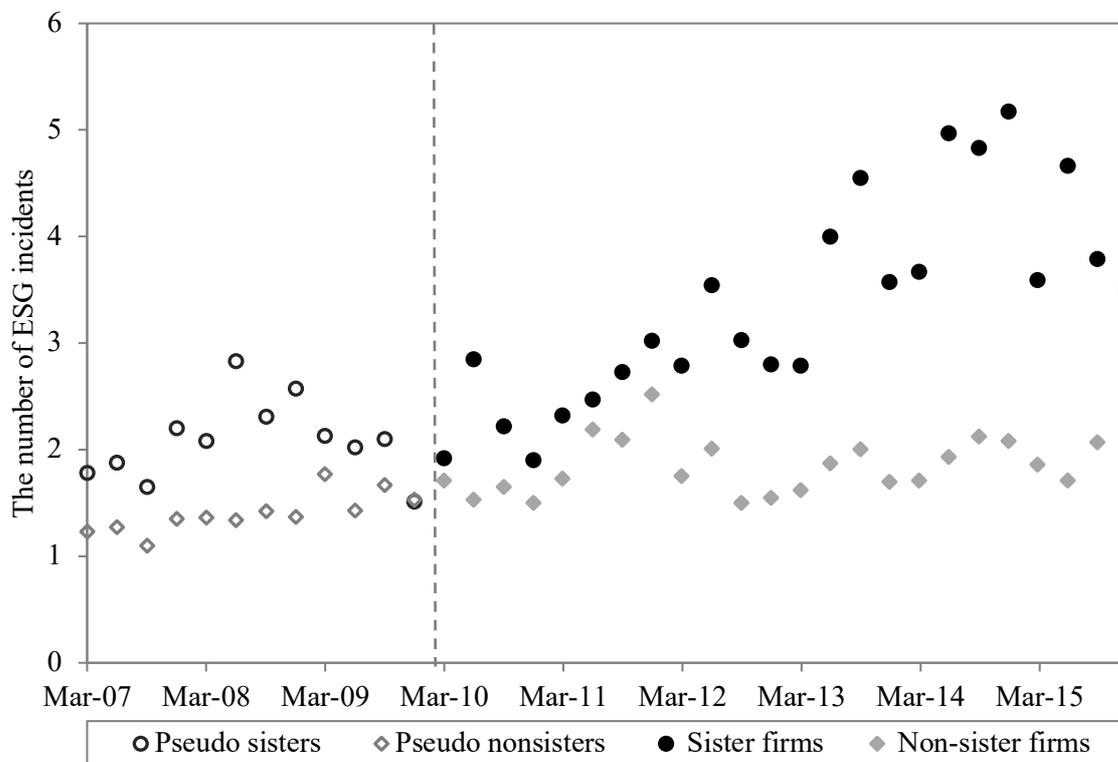


Figure 5. ESG incident counts: Sister vs. non-sister firms. This figure depicts the number of ESG incidents made by sister and non-sister firms in 2010–2015 and the number of ESG incidents by pseudo-sister and pseudo-non-sister firms in 2007–2009.

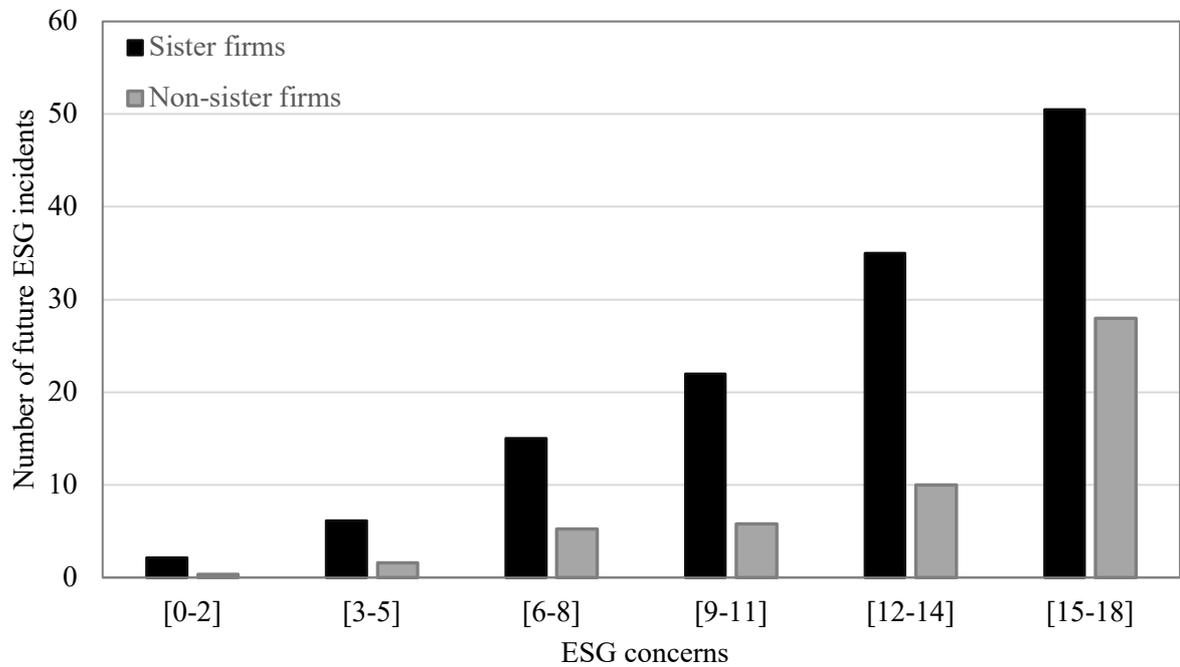


Figure 6. ESG concern ratings and ESG incident count: Sister vs. non-sister firms. This figure depicts the average number of ESG incidents by prior-year ESG concern rating ranges in 2010–2015. A sister firm is defined as a large investee firm held by the rater’s large shareholder. The black bar represents sister firms and the gray bar represents non-sister firms.

Table 1. Summary Statistics

The summary statistics for the main ESG variables used in this study. Panel A presents the summary statistics of ESG ratings. The ESG rating is the sum of ratings across the environment, social, and governance categories, which is the number of ESG strengths minus ESG concerns. Panel B presents the results of univariate analysis of the ESG ratings and firm characteristics of sister and non-sister firms. A firm is defined as a sister firm if it represents at least 0.25% of the large shareholder's portfolio of the rater in a given year, while other firms represent all the other firms in the sample. The last column displays p-values from the mean difference tests of the two groups. The sample ranges from 2010 to 2015. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: ESG Measures						
Characteristics	N	Mean	Median	Std	Min	Max
ESG strengths	11,145	1.61	0	2.79	0	22
ESG concerns	11,145	1.47	1	1.58	0	16
ESG rating	11,145	0.13	0	2.74	-8	19

Panel B: Sister vs. Non-Sister Firms			
	Sister	Non-Sister	<i>t</i> -stat of the difference
ESG rating	2.70	-0.07	2.77***
Total assets	9.28	7.13	2.15***
Book-to-Market	0.31	0.54	-0.23***
Firm age (in years)	3.33	2.98	0.35***
Sales per employee	0.57	0.45	0.12***
ROA	0.08	0.01	0.07***
Prior-Year return	0.26	0.24	0.02
Capital expenditure	0.10	0.12	-0.02*
R&D	0.06	0.15	-0.09***
R&D missing dummy	0.26	0.38	-0.12***
Dividends	0.02	0.01	0.01***
Cash holdings	0.16	0.19	-0.03***
Leverage	0.22	0.21	0.01**
Advertising intensity	0.02	0.01	0.01***
Institutional ownership	0.70	0.67	0.03***
Analyst coverage	3.19	2.29	0.90***
Blue state dummy	0.68	0.60	0.08***

Table 2. Determinants of ESG Ratings

The table reports the coefficients for linear regression models estimating determinants of ESG ratings. The dependent variable is the ESG rating. The control variables are defined in the same way as the appendix. Standard errors are clustered at the firm level. *t*-statistics are in parentheses. The sample period is 2003–2015, 2003–2009, and 2010–2015 in columns (1), (2), and (3), respectively. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG Ratings		
	2003–2015	2003–2009	2010–2015
	(1)	(2)	(3)
Total assets	0.350*** (8.62)	-0.018 (-0.40)	0.834*** (16.32)
Book-to-Market	-0.040 (-0.96)	-0.018 (-0.47)	-0.070 (-1.22)
Firm age	0.175*** (3.79)	0.118** (2.14)	0.288*** (5.16)
Sales per employee	-0.164* (-1.86)	-0.197* (-1.81)	-0.132 (-1.32)
ROA	0.371*** (2.76)	0.664*** (4.27)	-0.186 (-0.96)
Prior-Year return	-0.066*** (-2.89)	-0.099*** (-3.40)	-0.094*** (-2.74)
Capital expenditure	0.309*** (3.75)	0.517*** (4.71)	-0.001 (-0.01)
R&D	-0.002 (-0.06)	-0.016 (-0.39)	0.011 (0.27)
R&D missing dummy	-0.219*** (-2.73)	-0.131 (-1.33)	-0.338*** (-3.53)
Dividends	10.020*** (6.94)	8.413*** (4.69)	10.870*** (6.60)
Cash holdings	0.762*** (4.51)	0.316* (1.70)	1.277*** (5.56)
Leverage	-0.544*** (-3.05)	-0.580*** (-2.66)	-0.799*** (-3.73)
Advertising intensity	6.122*** (4.60)	6.486*** (4.21)	5.765*** (3.58)
Institutional ownership	-0.723*** (-4.98)	-0.497*** (-2.93)	-0.654*** (-3.75)
Analyst coverage	0.204*** (4.20)	0.125** (2.58)	0.244*** (3.17)
Blue state dummy	0.338*** (4.96)	0.389*** (4.90)	0.316*** (3.88)
Industry × Year FE	Yes	Yes	Yes
Adjusted R^2	0.207	0.096	0.385
Observations	25,814	14,691	11,123

Table 3. Sister Firms and ESG Ratings

The table reports the coefficients for linear regression models estimating the association between ESG rating and sister firms. The dependent variable is the ESG rating. The *Sister* dummy is equal to one if a firm represents at least 0.25% of the portfolio of a large shareholder of the rater in a year, and zero otherwise. An institutional investor is defined as a large shareholder if it owns at least 5% of the shares of the rater. Standard errors are clustered at the firm level. *t*-statistics are in parentheses. The sample period is 2010–2015. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG Ratings			
	(1)	(2)	(3)	(4)
Sister	2.775*** (10.38)		1.199*** (4.97)	0.795*** (3.78)
Total assets		0.799*** (24.33)	0.732*** (24.83)	0.783*** (15.66)
Book-to-Market				-0.054 (-1.01)
Firm age				0.289*** (5.25)
Sales per employee				-0.131 (-1.32)
ROA				-0.217 (-1.14)
Prior-Year return				-0.101*** (-2.91)
Capital expenditure				-0.002 (-0.03)
R&D				0.009 (0.23)
R&D missing dummy				-0.302*** (-3.19)
Dividends				10.070*** (6.33)
Cash holdings				1.217*** (5.44)
Leverage				-0.700*** (-3.32)
Advertising intensity				5.624*** (3.56)
Institutional ownership				-0.629*** (-3.66)
Analyst coverage				0.222*** (2.89)
Blue state dummy				0.294*** (3.62)
Industry × Year FE	No	No	No	Yes
Adjusted R^2	0.070	0.225	0.237	0.390
Observations	11,145	11,145	11,145	11,123

Table 4. Sister Firms and ESG Ratings—Robustness Checks

This table reports the results of the robustness tests between ESG rating and sister firms. The dependent variable is the ESG rating. In columns (1)–(4), the independent variable *Sister* is a dummy variable that equals one if a firm is a large investee firm held by a large shareholder of the rater, and zero otherwise. In column (1), we adopt an alternative definition of large shareholders. An institutional investor is defined as a large shareholder if it owns at least 4% of rater shares. In column (2), we use an alternative definition of *Sister*, which is equal to one if a firm represents at least 5% of the portfolio of a large shareholder of the rater in a year and zero otherwise. In column (3), we define the variable *Sister* as the average portfolio holding of large shareholders for each of their investees over a year. In column (4), we adopt the propensity score matching with the logit model to find control firms for sister firms. Propensity score matching is performed one year before the observation year with replacement. Each treatment firm (i.e., a sister firm) is matched to a control firm using the nearest neighbor. Standard errors are clustered at the firm level. *t*-statistics are in parentheses. The sample period is 2010–2015. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG Ratings			
	Alternative Large Shareholders	Alternative Sister Definitions	Continuous Measure of Connection	Propensity Score Matched Sample
	(1)	(2)	(3)	(4)
Sister	0.712*** (3.94)	1.773** (2.36)	0.272*** (3.14)	0.666** (2.47)
Control variables	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes
Adjusted R^2	0.389	0.386	0.387	0.407
Observations	11,123	11,123	11,123	1,541

Table 5. Change in Sister Firm Status

The dependent variable is the ESG rating. In column (1), the dummy variable, *Pseudo-Sister*, is equal to one if a firm is a large investee firm of the rater's large shareholders before the rater was acquired. In column (2), *Become Sister (Become Pseudo-Sister)* is equal to one if a firm becomes a sister firm in a year after (before) 2009, and zero otherwise. In column (3), *Become Outsider (Become Pseudo-Outsider)* is equal to one if a firm is no longer a sister firm in a year after (before) 2009, and zero otherwise. The sample period is 2003–2015. Standard errors are clustered at the firm level. The corresponding *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG Ratings		
	(1)	(2)	(3)
Sister	1.791*** (8.28)		
Pseudo-Sister	-0.329** (-2.62)		
Become Sister		1.473*** (8.25)	
Become Pseudo-Sister		0.162 (0.83)	
Become Outsider			0.020 (0.14)
Become Pseudo-Outsider			-0.269 (-1.58)
Control variables	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes
Adjusted R^2	0.235	0.246	0.218
Observations	23,735	23,735	23,735

Table 6. ESG Ratings and Relationships

This table reports the results of regressions of ESG ratings on different measures of the relation among the rater, its large shareholders, and its sister firms. The dependent variable is the ESG rating. The *Sister* dummy is equal to one if a firm is a large investee firm held by a large shareholder of the rater, and zero otherwise. An institutional investor is defined as a large shareholder if it owns at least 5% of the shares of the rater. In columns (1)–(2), *Sister* is equal to one if a sister firm is owned by the rater's dedicated and transient large shareholders, respectively, and zero otherwise. Dedicated and transient shareholders are investors with holding periods over the rater for longer than and less than two years, respectively. In columns (3)–(4), *Sister* takes the value of one if a sister firm is held by the rater's large shareholders, which rank in the top five and bottom five in terms of average ownership on the rater, respectively. In columns (5)–(6), *Sister* is equal to one if a sister firm is held by a large shareholder who is an active and passive player in the fund industry, respectively, and zero otherwise. Standard errors are clustered at the firm level. *t*-statistics are in parentheses. The sample period is 2010–2015. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG Ratings					
	Investment Horizon		Ownership Size		Management Style	
	Dedicated	Transient	Large	Small	Active	Passive
	(1)	(2)	(3)	(4)	(5)	(6)
Sister	0.842*** (3.56)	0.273 (1.02)	1.098*** (3.88)	0.347 (1.18)	0.728*** (3.71)	0.669 (0.68)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.389	0.385	0.390	0.385	0.383	0.385
Observations	11,123	11,123	11,123	11,123	11,123	11,123

Table 7. Sister Firms and ESG by Institutional Investor UNPRI Status

This table shows whether favorable ESG ratings of sister firms are more informative. The *Sister* dummy is equal to one if a firm is a large investee firm held by a large shareholder of the rater, and zero otherwise. The dependent variable is the ESG rating. *UNPRI Signatory* is a dummy variable equal to one if a stockholder of the rater is a signatory of UN Principles for Responsible Investment (UNPRI), and zero otherwise. *UNPRI Tenure* is the number of years since a stockholder joined the UNPRI. The sample period is 2010–2015. Standard errors are clustered at the firm level, and *t*-statistics are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG Ratings	
	(1)	(2)
Sister * UNPRI Signatory	-0.786*** (-2.88)	
Sister * UNPRI Tenure		-0.384** (-2.44)
Sister	1.024*** (4.48)	0.995*** (4.35)
Control variables	Yes	Yes
Industry × Year FE	Yes	Yes
Adjusted R^2	0.390	0.390
Observations	11,123	11,123

Table 8. Sister Firms and ESG Rating by ESG Materiality

This table shows the results of analyzing the effect of sister-firm status on material and immaterial ESG. The firm-level ESG rating indicators are mapped using the Sustainability Accounting Standards Board (SASB) sector-specific values to classify the ESG indicators into financially material and immaterial categories. The SASB standards define sector-specific sustainability likely to materially affect the financial conditions or operating performances of companies. In columns (1)–(2), (3)–(4), and (5)–(6), ESG, ESG strengths, and ESG concerns ratings are classified into material and immaterial types according to the SASB Materiality Map. The sample period is 2010–2015. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

	ESG Ratings		ESG Strengths		ESG Concerns	
	Material (1)	Immaterial (2)	Material (3)	Immaterial (4)	Material (5)	Immaterial (6)
Sister	0.157 (1.63)	0.638*** (3.58)	0.213*** (2.66)	1.222*** (6.69)	0.056 (0.91)	0.584*** (6.02)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.257	0.362	0.327	0.454	0.381	0.442
Observations	11,123	11,123	11,123	11,123	11,123	11,123

Table 9. Sister Firms and Benchmarked ESG Ratings

This table presents the results of employing alternative ESG ratings provided by Refinitiv as benchmark ratings. In column (1), the dependent variable, Benchmarked ESG, is defined as KLD ESG rankings minus Refinitiv ESG rankings. In columns (2)–(3), dependent variables are alternative ESG rankings provided by Refinitiv in the subsequent first and second years, respectively. Standard errors are clustered at the firm level. *t*-statistics are in parentheses. The sample period is 2010–2015. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Benchmarked ESG Year <i>t</i>	Alternative ESG Year <i>t</i> + 1	Alternative ESG Year <i>t</i> + 2
	(1)	(2)	(3)
Sister	1.226*** (2.88)	0.117 (1.26)	0.101 (1.05)
ESG		0.031*** (10.28)	0.030*** (9.71)
Sister × ESG		-0.012** (2.15)	-0.012* (1.96)
Control variables	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes
Adjusted <i>R</i> ²	0.144	0.168	0.165
Observations	3,882	3,882	3,882

Table 10. Incentive Alignment with Owner

This table reports how the relation between ESG rating and sister firms varies with the number of large shareholders holding a sister firm as well as with the total net assets of large shareholders. An institutional investor is defined as a large shareholder if it owns at least 5% of the shares of the rater. The dependent variable is the ESG rating. In column (1), the *Sister* dummy is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio and is held by multiple large shareholders in a year, and zero otherwise; in column (2), *Sister* is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio and is held by a single large shareholder in a year, and zero otherwise. In column (3), the *Sister* is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio and the asset under management (AUM) of the large shareholder is above the median compared to all large shareholders in a year, and zero otherwise. In column (4), *Sister* is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio and the AUM of the large shareholder is below the median compared to all large shareholders in a year, and zero otherwise. Standard errors are clustered at the firm level. The sample period is 2010–2015. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG ratings			
	Number of Large Shareholders		AUM of Large Shareholders	
	Multiple	Single	High	Low
	(1)	(2)	(3)	(4)
Sister	1.221*** (2.96)	0.458** (2.36)	1.038*** (3.42)	0.259 (1.16)
Control variables	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes
Adjusted R^2	0.388	0.386	0.388	0.385
Observations	11,123	11,123	11,123	11,123

Table 11. Large Shareholders' Incentives

This table reports the effect of large shareholders' incentives on ESG ratings. An institutional investor is defined as a large shareholder if it owns at least 5% of the shares of the rater. The dependent variable is the ESG rating. In column (1), the *Sister* dummy is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio, and the average number of CSR proposals presented by a large shareholders' important investee firms is above the median compared to all large shareholders, and zero otherwise. In column (2), *Sister* is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio, and the average number of CSR proposals presented by a large shareholders' important investee firms is below the median compared to all large shareholders, and zero otherwise. In column (3), *Sister* is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio, and a large shareholders' important investee firms encounter an above-average number of FTSE4 Good Index exclusion events, and zero otherwise. In column (4), *Sister* is equal to one if a firm represents at least 0.25% of the rater's large shareholder's portfolio and a large shareholders' important investee firms encounter a below-average number of FTSE4 Good Index exclusion events, and zero otherwise. Standard errors are clustered at the firm level. The sample period is 2010–2015. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG ratings			
	Number of CSR Proposals		Number of Index Exclusion Events	
	High	Low	High	Low
	(1)	(2)	(3)	(4)
Sister	0.951*** (9.07)	0.326** (2.29)	1.709*** (8.22)	0.735** (3.89)
Control variables	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes
Adjusted R^2	0.388	0.384	0.388	0.385
Observations	11,123	11,123	11,123	11,123

Table 12. Sister Firms and Future ESG Incidents

This table displays the count data model estimation results of the relationship between sister firms and future ESG risk incidents. The dependent variable is the count of ESG incidents for a firm in a year as captured by RepRisk. Poisson regressions and negative binomial regressions are estimated in columns (1)–(2), and (3)–(4), respectively. Standard errors are clustered at the firm level. The sample period is 2010–2015. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: ESG Incident Counts			
	Poisson Model		Negative Binomial Model	
	(1)	(2)	(3)	(4)
Sister	2.227*** (15.62)	0.189** (2.12)	2.639*** (14.40)	0.206*** (2.80)
ESG Concerns		0.178*** (12.02)		0.191*** (12.16)
Control variables	No	Yes	No	Yes
Industry × Year FE	Yes	Yes	Yes	Yes
Log pseudo likelihood	-15384.24	-6900.07	-8377.10	-6122.72
Observations	10,255	9,921	10,225	9,921