

Discerning Influence: Which Foreign Institutional Investors Shape Environmental Disclosures?

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Abstract

This study examines the impact of foreign institutional investors (FIIs) on investee firms' environmental disclosures. In line with prior research, we find that aggregate FIIs are generally associated with improved environmental disclosures; however, this effect masks important differences across investor types. Using data from listed firms in India, we examine three environmentally-aligned attributes: being a PRI signatory, being an independent investor, and originating from a country with high environmental social norms. If FIIs are classified using only one of these characteristics, we find a positive effect on disclosure. However, a deeper analysis shows that the impact is entirely driven by FIIs with all three attributes. FIIs with even one non-aligned attribute do not have an impact on investee firms' environmental disclosures. Despite holding smaller ownership stakes than less-aligned investors, our results suggest that it is only a small group of highly aligned FIIs that are responsible for driving improved environmental disclosures.

Keywords: foreign institutional investors, environmental disclosures, social norms, responsible investment, climate change

JEL Classification: G23, G32, Q54, O13

1. Introduction

Companies play a central role in the global transition to net-zero emissions, and the disclosure of environmental data is essential for assessing and guiding their progress. These disclosures are critical as they demonstrate accountability to the public and reaffirm the firm's dedication to addressing and reducing climate risks (Bolton et al., 2021; Flammer et al., 2021). By disclosing more environmental information, firms can reduce their cost of capital (Ilhan et al., 2023) and improve firm valuation (Matsumura et al., 2014). Furthermore, environmental disclosures lower information asymmetry between managers and shareholders, allowing organisations to avoid risks such as regulatory penalties, legal obligations, and reputational harm, which may negatively influence shareholder value (Tsang et al., 2019). A firm's disclosure of quality climate information gives market participants crucial signals about its commitment to sustainability and enhances its environmental reputation. (Hasseldine et al., 2005).

However, not all firms voluntarily disclose environmental information. Adverse selection theory (Grossman and Hart (1980); Grossman (1981); Milgrom (1981) suggests that firms with superior environmental performance have little to gain and, potentially, much to lose by withholding environmental information. The obvious question, then, is why firms would choose not to disclose this information. One of the primary reasons is proprietary costs (Verrecchia, 1983). Voluntary or mandatory climate disclosures entail both direct and indirect costs. Direct costs, which are visible, arise from the compilation and dissemination of such disclosures and may be made at the expense of shareholders. Indirect costs (proprietary costs), on the other hand, are generally invisible but may reduce the competitive advantage of the disclosing firm (Barg et al., 2024; Flammer et al., 2021; Ilhan et al., 2023). For example, environmental disclosures could reveal commercially sensitive information that companies would prefer to avoid disclosing to their competitors (such as exposure to high temperatures, which could impact the firm's supply chain). Second, environmental disclosures may give rise to litigation and compliance costs due to the risks associated with disclosed information

(Flammer et al., 2021). Moreover, compared to financial disclosures, environmental disclosures are often harder to compare and standardize. However, they reach a broad audience and provide crucial externality benefits beyond the firms (Christensen et al., 2021).

Currently, asset markets underestimate climate risk (Stroebel & Wurgler, 2021). Despite increasing empirical evidence that investors consider climate risks, integrating these risks into the investment process remains challenging. This difficulty arises from the complexities in pricing and hedging climate risks, inadequate firm disclosures, and the limited availability of appropriate hedging instruments (Krueger et al., 2020). However, the efficiency of financial markets relies on the timely and accurate disclosure of information related to a firm's risk exposures, particularly increasingly critical climate-related risks (Ilhan et al., 2023). In response to these mounting concerns, climate shareholder activism has gained traction in recent years (Flammer et al., 2021). Institutional investors are now demanding more robust environmental disclosures, and evidence suggests they play a pivotal role in driving corporate actions on emission reductions and improved climate risk transparency.(Ilhan et al., 2023; Krueger et al., 2020; Stroebel & Wurgler, 2021) .

Yet, recent studies reveal a nuanced shift: not all institutional investors contribute equally to improved environmental disclosures. In particular, domestic institutional investors (DIIs) appear less likely to drive such improvements (Bose et al., 2024; Döring et al., 2023). Motivated by this heterogeneity in investor influence, in this study, we specifically focus on foreign institutional investors (FIIs) and their impact on environmental disclosures for several reasons. The existing literature indicates that FIIs can substantially impact many elements of corporate governance and performance (Aggarwal et al., 2011; Gillan & Starks, 2003; Huang & Zhu, 2015). For example, FIIs are known to raise market liquidity, lower companies' equity costs, and boost real investment growth (Kacperczyk et al., 2021). Additionally, they play a crucial role in corporate governance by influencing practices such as the termination of CEOs for poor performance (Aggarwal et al., 2011), promoting firm innovation (Luong et al., 2017), improving voluntary disclosures (Tsang et al., 2019), and

strengthening internal control quality (Li, Wang, Wu, et al., 2021). Additionally, FIIs impact board monitoring (Neupane et al., 2024), enhance firm valuation, reduce capital expenditures, and improve operating performance (Ferreira & Matos, 2008).

Given their wide-reaching influence, researchers in climate finance have also studied FIIs and have documented the positive impact of FIIs in improving environmental performance (Dyck et al., 2019) and reducing carbon emissions. Döring et al. (2023) show that FIIs based in civil law jurisdictions improve the scope and quality of reporting greenhouse gas emissions. Similarly, Bose et al. (2024) find that FIIs positively impact firms' climate change disclosure quality.

Nonetheless, institutional investors are not homogeneous, even within the FII and DII categories. They differ in their views, incentives and environmental priorities (Barg et al., 2024; Safiullah et al., 2022). Recent studies indicate that a particular group of climate-conscious institutional investors, which includes institutional investors who are expected to follow stewardship codes in their home countries designed to promote corporate sustainability, universal owners, and institutional investors from high social norm countries, drive improvements in environmental disclosure (Ilhan et al., 2023). Dyck et al. (2019) argue that investment managers in communities prioritising high environmental standards may encourage firms to disclose more environmental information than is financially optimal. This behaviour is driven by the desire to align with community values, thereby earning social approval and avoiding disapproval. In essence, FIIs originating from countries with high social norms drive environmental outcomes. However, the literature has also shown that other FII characteristics are also salient, such as being a signatory of the United Nations-supported Principle of Responsible Investment (Gibson Brandon et al., 2022; Humphrey & Li, 2021), independent investor (Dyck et al., 2019), and being a “big 3” institutional investor (Azar et al., 2021).

It is unlikely that the large groups of investors identified in prior literature are all responsible for improved corporate environmental actions. Rather, a much smaller subset of these investors is

likely to be driving the results. Thus, instead of considering FIIs as a homogenous group, we focus on the characteristics of FIIs that are likely to indicate a real commitment to improved environmental performance and therefore require better environmental disclosures by investee firms.¹ First, those originating from countries with higher social norms, as prior literature suggests that these FIIs “transplant” their social norms to investee firms. The second characteristic is being a PRI signatory. Empirical evidence has shown that PRI signatories drive firms to reduce carbon emissions and improve environmental performance (Dyck et al., 2019; Gibson Brandon et al., 2022; Humphrey & Li, 2021). Lastly, the third group constitutes independent investors. Prior evidence suggests that independent investors are more likely to improve environmental performance compared to grey investors. (Dyck et al., 2019; H.-D. Kim et al., 2019; Marshall et al., 2022; Safiullah et al., 2022). We collectively refer to these traits: origin from high social norms, being a PRI signatory, and being an independent investor, as “environmentally aligned attributes” and their counterparts (e.g., non-PRI signatories, grey investors, or those from low social norm countries) as “non-environmentally aligned attributes.” Prior literature finds that the latter group exerts no significant effect on investee firms’ environmental outcomes.

In this study, we examine the impact of FIIs on environmental disclosures by Indian firms, with a particular emphasis on identifying exactly which FIIs are responsible for improved disclosures. We investigate whether FIIs with specific environmentally-aligned attributes, individually or in combination, enhance environmental disclosures in investee firms.

Why India? Developing countries contribute 63% of current carbon emissions,² with China leading and India surpassing the European Union in becoming the third-largest source of global emissions in 2023.³ India faces severe climate change impacts, including extreme heat waves,

¹ This is discussed in detail in Section 3.

² <https://www.cgdev.org/media/developing-countries-are-responsible-63-percent-current-carbon-emissions>

³ <https://www.iea.org/reports/co2-emissions-in-2023/the-changing-landscape-of-global-emissions>

droughts, and unpredictable rainfall, which threaten the food security of 1.4 billion people. Economically, climate change could reduce India's GDP by up to 4.5% by 2030 due to decreased labour productivity from high heat and humidity.⁴ Additionally, 34 million jobs could be lost due to a heat stress-related productivity decline.

Furthermore, while developed countries have the means to tackle climate change, developing countries do not. At COP 28, this concern was acknowledged, and it was further suggested that increasing funds for climate change in these countries would be critical. Moreover, the advantage of a single market study is that it ensures that country-specific factors are not driving the results.

We first examine whether FIIs, in aggregate, act as a catalyst for environmental disclosures among Indian firms. Our first general finding is that foreign ownership positively impacts environmental disclosures. This effect is, however, insignificant for domestic institutional investors. To substantiate a causal interpretation, we examine additions to the MSCI All Country World Index (ACWI) as an instrument variable and find evidence of a causal relationship between FIIs and increased environmental disclosures. Our findings underscore the imperative role of FIIs in advancing environmental disclosure practices in India.

We then move to the core of our analysis: identifying which FIIs drive improvements in environmental disclosures. We find that individual environmentally aligned attributes - being a PRI signatory, an independent investor, or originating from a high-social-norm country - are each associated with higher environmental disclosures. However, our key finding is that the strongest improvements in environmental disclosure are driven by FIIs that possess all three environmentally aligned attributes. The presence of even a single non-environmentally aligned attribute - being a non-PRI signatory, a grey investor, or originating from a low-social-norm country - substantially weakens or negates the effect. These results indicate that the relationship between the characteristics of FIIs and

⁴ <https://website.rbi.org.in/documents/87730/30842423/RCF03052023395faf37181e40188bad3afa59bf3907.pdf>

environmental disclosures is not as straightforward as perhaps suggested in prior research, and not all FIIs equally drive improvements in environmental disclosures.

The economic significance of this finding becomes clearer when we consider average ownership across investor categories. FIIs with all three environmentally aligned attributes hold just 1.54% of the average firm's equity, compared with 3.87% for otherwise similar investors who differ only in originating from a low-social-norm country. This contrast suggests that a relatively small group of highly motivated investors, despite holding a modest fraction of equity, exerts a disproportionate influence on firms' environmental disclosure practices. We also conduct a series of additional tests to assess both the scope and robustness of our results. First, we explore whether the influence of environmentally aligned FIIs is more substantial in contexts where disclosure is most critical, namely, in polluting industries. Consistent with this expectation, we find that their impact is significantly amplified in such sectors.

Second, we examine the role of the Big Three institutional investors. While their ownership is positively associated with environmental disclosure overall, this effect does not vary systematically between polluting and non-polluting industries. In contrast, the impact of environmentally aligned FIIs remains concentrated in environmentally sensitive sectors, suggesting a more targeted form of influence. Third, we incorporate additional governance and transparency controls, including analyst coverage and Big Four auditor presence, both of which are significant predictors of disclosure. Importantly, the effect of environmentally aligned FIIs remains positive and significant even after accounting for these factors. Fourth, to ensure that our findings are not driven by the dominance of FIIs from the U.S. and the UK, we re-estimate our models excluding these investors and find the main results unchanged. Finally, robustness checks using fractional logit and Tobit models confirm that our main findings hold.

Our paper contributes to the literature on environmental disclosures and non-financial reporting, with climate risk being a crucial element (Christensen et al., 2021). Moreover, our research extends the prior findings of Döring et al. (2023) and Bose et al. (2024), who shows that FIIs act as a catalyst to improve environmental disclosures by firms and Dyck et al. (2019) who find firms with FIIs from countries with high social norms have higher environmental and social ratings. Another study closely related to our work, Ilhan et al. (2023) highlights that a specific group of climate-conscious institutional investors drives improvements in environmental disclosures. Our contribution is to show that not all FIIs are equally potent. Only those FIIs who simultaneously exhibit all three characteristics – (i) are signatories to the PRI, (ii) are independent, and (iii) originate from countries with strong social norms, drive enhanced environmental disclosures. However, FIIs that exhibit even one non-environmentally aligned characteristic do not enhance investee firms' environmental disclosures. This means that, for example, just having PRI signatory FIIs is not sufficient to drive improved environmental disclosures; it is a much smaller subset of PRI signatories that is required for this improvement.

Our paper also contributes to the growing literature on climate finance (Barg et al., 2024; Flammer et al., 2021; Ilhan et al., 2023; Krueger et al., 2020) by identifying the investors that are key to driving climate improvement, particularly in a developing market context. In addition, we contribute to the literature exploring the impact of FIIs on corporate finance (Ferreira & Matos, 2008; Kacperczyk et al., 2021) Lastly, we contribute to the literature on social norms and culture (Guiso et al., 2006) by showing that social norms alone are not enough to drive responsible behaviour, but a small subset of FIIs from high social norms countries that also exhibit other environmentally-aligned traits are needed. Overall, our research provides novel insights into the relationship between FIIs and environmental disclosures. Most importantly, it highlights the critical role FIIs play, especially in emerging markets like India, which contribute significantly to the world's greenhouse gas emissions.

The remainder of the paper is organized as follows. Section 2 provides an overview of institutional ownership in India. Section 3 reviews the related literature and develops the hypotheses. Section 4 describes the sample, data, and variable measurements. Section 5 presents the descriptive statistics and empirical results on the impact of aggregate foreign institutional investors (FIIs) on environmental disclosures, whereas Section 6 examines the heterogeneity across different types of FIIs. Section 7 reports additional analyses to test the robustness of our findings. Finally, Section 8 concludes.

2. Institutional Ownership in India

According to the OECD (2020), institutional investor ownership has increased in most Asian economies since 2000. Although institutional investors have historically played a smaller role in India compared to several OECD markets, their growing influence is increasingly evident, particularly among the top 500 listed companies by market capitalisation. Institutional investors in India now account for an estimated investment of approximately USD 400 billion in the public equity market, representing about 30 % of the country's total market capitalisation.

In 2018, institutional investors held around 34% of the total equity by market capitalisation in the top 500 Indian listed firms. Specifically, the share of institutional equity holdings in Indian companies increased from 14% in 2001 to 26% in 2018. In terms of market value, institutional ownership rose from 24% in 2008 to 34% in 2018. The Securities and Exchange Board of India (SEBI) plays a central role in regulating institutional investments in India. Within the overall institutional ownership landscape, banks have consistently accounted for the largest share across all listed companies, maintaining a stake of over 30% since 2006. Mutual funds have also expanded their presence notably, with their holdings in the top 500 companies growing from 18% in 2013 to 30% by 2018 (OECD, 2020).

FIIs have shown sustained interest in Indian capital markets, driven by the country's developed primary and secondary market infrastructure. A significant increase in FIIs was observed between 2002

and 2007. Since 2010, both the number of shares held by FIIs and their proportion within total institutional ownership in India have increased steadily.

In line with these developments, the OECD (2022) report highlights that as of March 2020, the aggregate market value of institutional investors' shareholdings in the top 500 listed companies was nearly 2.5 times higher than in 2007.

3. Related literature and Hypothesis development

3.1 Foreign Institutional Investors and Environmental Disclosures

FIIs are generally more likely to pressurise firms to disclose financial and non-financial information than domestic investors. This can be attributable to three different reasons. First, unlike domestic institutional investors, FIIs may face heightened information asymmetry due to differences in language, culture, geography, and legal frameworks (J.-B. Kim et al., 2019; Li, Wang, & Wu, 2021; Tsang et al., 2019). To reduce this information gap, FIIs demand greater firm-level transparency. Second, compared to DIIs, FIIs are less likely to have close business ties with their investee firms. This independence allows them to monitor and control investee firms more effectively (Cao et al., 2023; Döring et al., 2023; Tsang et al., 2019). Lastly, FIIs often operate from countries with high social norms, well-established corporate social responsibility (CSR) practices and environmental reporting standards, which they seem to promote in the investee firms (Dyck et al., 2019).

Prior literature primarily documents a positive relationship between CSR and FIIs. For example, Li, Wang and Wu (2021) find that in the Chinese market, qualified foreign institutional investors (QFIIs) exert pressure on firms to improve their CSR practices and disclosures. Empirical evidence has also shown a positive association between FIIs and improving environmental performance. For instance, Cao et al. (2023) argue that having FIIs results in reduced CO₂ emissions for investee companies, while the presence of domestic institutions does not have such an effect. Similarly, Ren et al. (2023) demonstrate that QFIIs exert a more significant influence in reducing greenhouse gas (GHG)

emissions than domestic institutional investors. Furthermore, Dyck et al. (2019) find that FIIs from countries with high social norms significantly enhance the environmental and social performance of investee firms.

Numerous studies have examined the impact of institutional investors in general on the disclosure of climate change risks,⁵ and that FIIs are also important in driving environmental disclosures in the international context. For instance, Döring et al. (2023) provide evidence that FIIs contribute to improving both the scope and quality of corporate greenhouse gas reporting. Bose et al. (2024) find that FIIs positively impact the quality of climate change disclosures.

We begin our analysis by ensuring that these results from prior literature hold in the Indian financial markets before moving to our primary analysis. Based on the preceding arguments, we hypothesise that:

H1: FIIs positively impact the environmental disclosure of investee firms.

3.2 Foreign Institutional Investor Heterogeneity and Environmental Disclosures

Prior studies often argue that not all FIIs equally impact environmental disclosures because they differ in their views and incentives (Barg et al., 2024; Safiullah et al., 2022). For instance, Ilhan et al. (2023) demonstrate that a specific group of climate-conscious institutional investors, including universal owners, investors from countries with high social norms, and those expected to adhere to stewardship codes promoting corporate sustainability in their home countries, have a positive influence on environmental disclosures. In this context, we argue that identifying climate-conscious FIIs is a complex task that cannot be approached with a one-size-fits-all framework. Prior studies have

⁵ Ilhan et al. (2023) shows that institutional investors value climate disclosures and actively engage with firms to improve them. Similarly, Flammer et al. (2021) find that even if there are no mandatory disclosure requirements, environmental shareholder activism initiated by institutional investors enhances the demand for voluntary disclosure of climate change risks. Furthermore, Cohen et al. (2023) point out firms with institutional owners who are CDP signatories disclose more to CDP, and such disclosure translates into lower firm carbon emissions (Recent evidence by Barg et al. (2024) shows that institutional dual holders (owning both equity and debt) enhance firms' GHG emissions disclosures.

identified particular characteristics of institutional investors which result in significantly positive environmental disclosures. In this paper, we focus on three distinct characteristics (environmentally-aligned attributes): social norms, PRI signatories, and independent investors.

First, we argue that a country's social norms influence how institutional investors may prioritise environmental outcomes. In this context, Guiso et al. (2006) provide a link between economic and cultural outcomes. They define culture as "those customary beliefs and values that ethnic, religious and social groups transmit fairly unchanged from generation to generation." Hart and Zingales (2017) demonstrate that social norms are significant if institutional investors attempt to mirror their beneficiaries' preferences. Dyck et al. (2019) contend that if a community takes a consistent stance on environmental disclosures, investment managers are more likely to incorporate those preferences into their interactions with corporations. This alignment would impact managers' interaction with firms, perhaps promoting more environmentally friendly behaviours that mirror the investing community's common beliefs. They show that institutional investors from countries with high social norms play a significant role in shaping the environmental and social ratings of investee firms. Similarly, Ilhan et al. (2023) identify investors from countries with high social norms as climate-conscious investors who improve firms' climate risk disclosure. Following these arguments, we believe FIIs from countries with high social norms are more likely to make environmental disclosures in investee firms.

A second important characteristic is being a signatory to the United Nations-supported Principles for Responsible Investment. PRI signatories are institutional investors who pledge to incorporate environmental, social and governance (ESG) factors into their investment decisions. Gibson Brandon et al. (2022) demonstrate that PRI signatories who incorporate ESG factors into their investment portfolios tend to have higher ESG scores than non-signatories. Humphrey and Li (2021) show that mutual fund families who sign the PRI have lower greenhouse gas emissions than non-signatory families after signing the PRI. Dyck et al. (2019) show that firms with larger ownership by PRI signatories have higher environmental and social ratings. Dimson et al. (2021) study the coordinated

engagements of PRI signatories and conclude that collective action among institutional investors promotes better corporate governance and ESG practices. Dikolli et al. (2022) report that ESG funds within PRI families show a significantly higher propensity to support ESG proposals than non-ESG funds within these families. Building on this stream of literature, we argue that FIIs who are PRI signatories positively influence the firms' environmental disclosures.

Last, we focus on the type of institution. According to Ferreira and Matos (2008), not all institutional investors actively manage their funds, which they refer to as distinct "colours", based on their ability to monitor managers' decision-making. Institutional Investors can be essentially categorised into two types: independent and grey. Independent institutional investors, such as mutual funds, pension funds, and investment advisors, often use active investing strategies and do not seek a business relationship with the firms they invest in. Moreover, independent institutional investors face lower monitoring costs due to their large-scale operations and specialised analytical capabilities. As a result, they benefit from economies of scale, which reduces their marginal oversight costs.

Unlike independent investors, grey investors such as bank trusts and insurance companies tend to follow a more passive approach because they seek a business relationship with the firm they invest in. These relationships can lead to conflicts of interest. Consequently, grey investors may need to invest additional resources to gather information, leading to high monitoring costs and the risk of losing existing or potential business (Almazan et al., 2005; Chen et al., 2007; Ferreira & Matos, 2008).

There is a consensus among prior literature that independent institutional investors improve CSR and environmental performance. Conversely, grey institutional investors have no significant impact (Dyck et al., 2019; H.-D. Kim et al., 2019; Marshall et al., 2022; Safiullah et al., 2022). We, therefore, expect firms with independent FIIs to have better environmental disclosure because of active monitoring than firms with grey FIIs, who follow a more passive approach.

Given these different sets of institutional investors' characteristics, an important question arises: which attributes matter most in emerging markets like India? (Christensen et al., 2021) argue that the demand and supply for climate disclosures should depend on the benefits and costs associated with such disclosures. Since firms do not fully internalise these disclosure benefits such as enhanced reputation, better access to capital, and improved stakeholder relationships, pushing firms for such disclosures is not equally rewarding for all investors (Ilhan et al., 2023).

We argue that the motive to improve environmental disclosures in investee firms is expected to be higher for FIIs with environmentally-aligned attributes. FIIs who are not PRI signatories, are grey investors, or originate from countries with lower social norms may lack the motivation necessary to promote robust environmental disclosure practices. These characteristics, which we refer to as non-environmentally aligned attributes, may be less likely to drive firms toward greater transparency in environmental reporting. Prior studies suggest that these non-aligned investor types have no significant impact on firms' environmental outcomes (Dyck et al. (2019).

While our primary argument focuses on the positive impact of environmentally aligned attributes, it is important to acknowledge that these characteristics rarely operate in isolation. In practice, an FII may embody a mix of both aligned and non-aligned traits. For instance, Dyck et al. (2019) show that independent institutional investors from high social norm countries improve firms' environmental and social ratings, whereas independent institutional investors from low social norm countries do not have a significant impact. This raises the question of whether the presence of non-environmentally aligned attributes within a single FII might offset the positive influence of their environmentally aligned characteristics. Such dilution may arise because of conflicting incentives, including the absence of formal sustainability commitments, reliance on passive investment strategies, or weaker norms in the investor's home country. This can reduce their motivation to push firms toward greater transparency. For instance, an investor who is PRI-affiliated and originates from a high social norm country may still fail to exert pressure for environmental disclosure if the investor also maintains

close business ties with the firm (i.e., is a grey investor). This is because grey investors often pursue passive strategies and avoid confrontation due to their commercial relationships. Similarly, a PRI signatory who is independent but originates from a low social norm country may face weaker societal and regulatory expectations around environmental transparency. Thus, the effectiveness of any environmentally aligned attribute may be contingent on the absence of conflicting incentives that stem from non-aligned characteristics. This insight provides a more refined understanding of how investor heterogeneity may shape environmental disclosure outcomes. Therefore, we hypothesise that:

H2: Only FIIs with several environmentally-aligned attributes positively influence the investee firm's environmental disclosures.

4. Sample Data and Variables Measurement

4.1 Data

We first collect data on environmental disclosure scores from Bloomberg, starting from 2014. Although coverage of Bloomberg environmental disclosure scores begins in 2010, data availability is sparse prior to 2014 for Indian firms. We then merge environmental disclosures data with institutional ownership data obtained from CMIE Prowess and S&P Capital IQ. Our final sample period spans 2014-2023 and comprises 2,832 firm-year observations, which include an unbalanced sample of 327 non-financial firms. These are constituents of the top 500 firms from the National Stock Exchange and the Bombay Stock Exchange.

4.2 Variable Measurement

4.2.1 Environmental Disclosures

Following prior studies (Christensen et al., 2022; Li et al., 2018; Ng & Rezaee, 2020; Qiu et al., 2016), we obtain data on environmental disclosure scores from Bloomberg.⁶ This score measures the

⁶ For details on Bloomberg's methodology, see: <https://hr.bloombergdria.com/data/files/Pitanja%20i%20odgovori%20o%20Bloomberg%20ESG%20Scoreu.pdf>

extent to which a company reports environmental information publicly. The score ranges from 0 to 100, with 0 being assigned for no disclosure and 100 for complete disclosure. This data is collected from annual reports, corporate sustainability reports, CDP reports, proxy voting and other corporate governance documents and company websites. The environmental disclosure score comprises both quantitative and qualitative disclosures related to a firm's environmental practices and commitments. Quantitative disclosures include measurable information such as greenhouse gas emissions, energy and water consumption. In contrast, qualitative disclosures reflect policy-based information, including the presence of air emissions policies, energy efficiency initiatives, waste reduction efforts, and green building strategies. This combination allows for a comprehensive evaluation of the extent and nature of a firm's environmental disclosures. Additionally, these scores are tailored according to industry sectors, ensuring that companies are assessed based solely on information relevant to their specific industry.

4.2.2 Institutional Ownership

We obtain our primary measure of FII ownership from S&P Capital IQ. The database provides detailed investor-level ownership data, including the names of investors, their holdings, and the type and location (Marshall et al., 2022). We use this information to construct annual measures for not only overall FII ownership but also for ownership by different FII categories. We define ownership as the percentage of shares held by that investor category. We gather information from individual institutional investors and then aggregate this data to the firm level to determine the percentage of ownership. Prior studies in the Indian context have commonly used CMIE Prowess data to measure institutional ownership. To ensure consistency with existing literature and robustness of our results, we also utilise the CMIE Prowess database, which provides only aggregate percentages of shareholdings by FIIs and DIIs.

To classify FIIs as PRI signatories, we manually match each FII to a list of signatories from the PRI website.⁷ After matching, we aggregate the percentage shareholdings of all PRI (PRI) and non-PRI (Non-PRI) signatories at the firm level. Similarly, for independent (IND) and grey (GREY) FIIs, we aggregate the percentage of their shareholdings at the firm level based on classification as shown in Appendix 2.

Next, we categorise FIIs originating from high environmental social norm (HSN) or low environmental social norm countries (LSN). We follow (Dyck et al., 2019; Ilhan et al., 2023) and use the Environmental Performance Index (EPI) from the Yale Centre for Environmental Law (Yale University) and the Centre for International Earth Science Network (Columbia University), for the year 2014, as our sample starts from 2014. Dyck et al. (2019) find that the differences in environmental norms across countries are strongly persistent, and that there was a strong correlation between country rankings in 2004 and 2014. Appendix 3 reports the environmental performance index scores across countries. A higher EPI value indicates better environmental performance in a country. The Top 5 countries, based on the EPI score, are Switzerland, Luxembourg, Australia, Singapore, and Czechia. Of the top ten countries, eight are from Europe, while most Asian countries score lower on EPI. We categorise the FIIs into high and low social norm groups based on whether they are domiciled in a country with a score above or below the median. Following Dyck et al. (2019), we assume that the investment manager's ultimate beneficiaries live in the country where the investing fund is located.

We construct continuous firm-level ownership variables by aggregating the percentage shareholdings of investors falling into each category. These variables are not binary (dummy) indicators, but rather continuous measures derived from distinct combinations of investor characteristics. As we are more interested in the mix of environmentally aligned characteristics, Figure 2 presents a Venn diagram illustrating all possible combinations of the three FII characteristics. The

⁷ We use the latest signatory report of November 2024 to determine PRI signatory status. The latest signatory list can be downloaded from: <https://www.unpri.org/signatories/signatory-resources/signatory-directory>

aggregated measures capture the intersection of investor attributes, allowing us to examine how specific investor profiles are associated with firm-level environmental disclosures. For instance, “PRI & IND” denotes the percentage of a firm’s shares held by investors that are both PRI signatories and independent, whereas “Non-PRI & IND” reflects holdings by investors that are independent but not PRI signatories. This method ensures that each investor is uniquely assigned based on their individual characteristics, thereby preventing double-counting.

[Insert Figure 2 about here]

4.2.3 Control variables

We calculate Promoter Ownership⁸ (*PO*) as the percentage of shares held by promoters. Distinct from other markets, promoters are the dominant shareholder type in India, justifying a separate category for them within our analysis. We also control for firm characteristics such as leverage, return on assets, tangibility, size, exports, age, and market-to-book ratio, which are in line with prior literature. For additional analysis, we also control for analyst coverage and big4 auditors. We construct these variables based on CMIE Prowess data. Definitions of the variables are presented in Appendix 1. To reduce the influence of outliers, we winsorize all variables at the 1% and 99% levels

5. Empirical Results

5.1 Descriptive Statistics

Panel A of Table 1 reports descriptive statistics for the key variables. Our primary variable of interest, the environmental disclosure score (*EnvDiscScore*), has a mean of 20.909 and a standard deviation of 21.116. In our sample, the average foreign institutional ownership is approximately

⁸ According to Sub-Clause (69) of Clause (2) of the Companies Act, 2013, a promoter is defined as a person who: (a) is named as such in a prospectus or identified by the company in its annual return; (b) has direct or indirect control over the company's affairs, whether as a shareholder, director, or otherwise; or (c) provides advice, directions, or instructions that the Board of Directors typically follows, except when acting in a professional capacity. The SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2018, offer a similar definition of a promoter. Often, controlling shareholders are regarded as promoters, as noted in the "Consultative Paper on Review of Corporate Governance Norms in India" (2013) by SEBI.

10.38% based on S&P Capital IQ data and 13.5% according to the CMIE Prowess database. Figure 1 presents the graph of FIIs' shareholding over time, sourced from the CMIE Prowess database, which is the most commonly used database in the context of studies set in India. Similarly, the average domestic institutional ownership is around 11.05% and 11.6%, as reported by S&P Capital IQ and CMIE Prowess, respectively. Promoters own the majority of shares, 56.5% of ownership. The distributions of other variables are consistent with the prior literature. Panel B of Table 1 reports the summary statistics of the environmental disclosure score by industry (GICS Industry Classification). On average, energy companies have the highest environmental disclosures, 28.60, while communication services have the lowest at 12.17. Panel C reports the pairwise correlations among variables. The correlation between FIIs and environmental disclosure scores is positive. Additionally, no other variables exhibit high correlations, and the Variance Inflation Factors (VIFs) for FII and DII data, sourced from both S&P Capital IQ and CMIE Prowess, are all below 10, suggesting that multicollinearity is unlikely to be a concern in our analysis.

[Insert Table 1 about here]

[Insert Figure 1 about here]

Table 2 provides summary statistics for ownership by the different FII characteristics. As discussed previously, the three main categories are: social norms, PRI signatories and, independent investors. The average ownership by FIIs from high (HSN) and low (LSN) social norm countries is 2.14% and 0.85%, respectively. Similarly, the average ownership by PRI (Non-PRI) and IND (GREY) FIIs is 5.02 % (5.30%) and 8.64% (1.08%), respectively. It is also interesting to observe the ownership levels for different intersections of the FII characteristics. The average ownership is 1.61% for HSN & PRI (corresponding to label 4 of the Venn diagram), while it is 3.19% for LSN & PRI suggesting FII ownership is higher among PRI investors coming from LSN than those coming from HSN. It is worth noting here that HSN & PRI is not an interaction of two dummy variables, but it is the ownership

of FIIs who come from HSN and are PRI Signatories. Similarly, the average ownership is 1.54% for HSN & PRI & IND (corresponding to label 3 of the Venn diagram) relative to the 3.02% for LSN & PRI & IND.

[Insert Table 2 about here]

5.2 Aggregate Foreign Institutional Ownership

We begin by examining the relationship between aggregate or overall foreign institutional ownership and environmental disclosure. To this end, we use the following baseline regression model:

$$\begin{aligned} \text{EnvDiscScore}_{i,t} = & \beta_0 + \beta_1 \text{FII}_{i,t-1} + \beta_3 \text{DII}_{i,t-1} + \beta_4 \text{PO}_{i,t-1} + \beta_5 \text{LEV}_{i,t-1} + \beta_6 \text{ROA}_{i,t-1} + \\ & \beta_7 \text{TANGIBILITY}_{i,t-1} + \beta_8 \text{EXP}_{i,t-1} + \beta_9 \text{SIZE}_{i,t-1} + \beta_{10} \text{AGE}_{i,t-1} + \beta_{11} \text{MB}_{i,t-1} + \text{YearFE} + \\ & \text{IndustryFE} + \epsilon_{i,t} \end{aligned} \quad (1)$$

where, EnvDiscScore_{it} , is the environmental disclosure score taken from Bloomberg. The independent variables are the percentage of foreign institutional investors (FII) in the previous year, $\text{Z}_{i,t-1}$ is a vector of control variables including domestic institutional ownership (DII), promoter ownership (PO), Leverage (LEV), return on assets (ROA), tangibility (TANGIBILITY), size (SIZE), exports (EXP), age (AGE), and market-to-book ratio (MB). We also include year and industry-fixed effects. Table 2 reports the results of our main regression.

[Insert Table 3 about here]

Column (1) of Table 3 shows a positive relation between FIIs and environmental disclosure, without any controls, and the coefficient on FII is statistically significant at the 1% level. In Column (2), we introduce industry and year-fixed effects without controls, and the coefficient on FII remains positive and significant. In Column (3), we introduce control variables, and our coefficient of interest

remains significantly positive. To verify the robustness of our results and ensure comparability with prior literature, we next utilise data from the CMIE Prowess to identify FII and DIIs (columns 3 to 6), and our findings remain unchanged: the FII coefficient is positive and significantly related to environmental disclosures. Meanwhile, domestic institutional ownership and promoter ownership are insignificant, indicating no relation with environmental disclosures. As for the control variables, while leverage and exports are negatively related, size, age and market-to-book are positively related to environment disclosure.

These findings provide preliminary evidence in support of our first hypothesis, which suggests that foreign institutional investors (FIIs) have a positive impact on the environmental disclosure of investee firms.

5.3 Endogeneity Concerns- Instrumental Variable Approach

Following prior literature, (Aggarwal et al., 2011; Bena et al., 2017; Dyck et al., 2019), we use the addition of stocks to the MSCI All-Country World Index (ACWI) as an instrument for foreign institutional ownership. The coverage of this index extends to 23 developed and 24 emerging markets, including India. Stocks are included in the index based on their relative free-float-adjusted market capitalization, which is not related to environmental disclosures. When a stock is added to this index, the firm typically sees an increase in foreign institutional ownership, as many international portfolio managers closely monitor the index. Thus, the relation between inclusion in the index and FII ownership, but the disconnect with environmental disclosure, makes for an ideal setting for instrument variables estimation.

We define MSCI as a dummy variable that takes the value of one if a firm is a member of the MSCI ACWI in year t and zero otherwise. In the first stage, we regress FII on $MSCI$ and other control variables. Results are presented in Table 4. Our coefficient of interest, FII , is significantly positive in Column (1). In the second stage, Column (2), we regress environmental disclosures on Predicted FII

(instrumented foreign ownership) and find a significant impact on environmental disclosures. CMIE Prowess results are reported in Columns (3) and Columns (4). Our results are identical in sign and significance regardless of whether we use the S&P Capital IQ or CMIE Prowess data. We can, therefore, conclude that the presence of FIIs causes an increase in firms' environmental disclosures.

Subsequently, we compute the Kleibergen-Paap LM statistic for under-identification. The values are 8.49 ($p < 0.003$) and 20.95 ($p < 0.001$) for FII and DII, respectively, using data from S&P Capital IQ and CMIE Prowess. These results reject the null hypothesis that our instrument is under-identified, indicating that the instrumental variable is correlated with the endogenous variable. Additionally, we compute the Cragg-Donald Wald F-statistic and the Kleibergen-Paap Wald F-statistic, both of which exceed the critical values using data from either database. These tests further confirm that the MSCI instrument is not weak.

[Insert Table 4 about here]

6. Heterogeneity analysis: Which foreign institutional investor matters?

After establishing the overall impact of FIIs on environmental disclosure, this section explores the cross-sectional heterogeneity of FIIs. As discussed previously, we use S&P Capital IQ institutional investors' data at the individual level and aggregate the FIIs based on the PRI signatory status (PRI and non-PRI signatory), monitoring cost status (Independent versus Grey) and country's social norms (High and Low). To systematically examine our second hypothesis, we begin by estimating a series of baseline regressions that separately isolate the individual, two-way and three-way characteristics of FIIs.

6.1 Environmental Social Norms

We begin this section by examining the role of social norms. Table 5 reports the impact of FIIs from high environmental social norms (HSN) versus low environmental social norms (LSN) countries on environmental disclosures. In Figure 2, labels 3, 4, 6, and 7 represent FIIs from HSN countries,

whereas labels 1, 2, 5, and 8 represent FIIs from LSN countries. Column (1) reports the results without controls, and Column (2) with controls; we find that having FIIs from high social norms is positively and significantly associated with environmental disclosure scores. Not surprisingly, there is no significant impact of FIIs from low social norms countries on environmental disclosures. Another interesting thing to note is that the coefficient on DII is insignificant, which is in line with India being classified as low social norms (See Appendix 3). As a result, the DIIs originating from India have no significant impact on environmental disclosures. Results relating to control variables are similar to those observed in Tables 3 and 4.

[Insert Table 5 about here]

6.2 PRI Signatories and Environmental Social Norms.

Next, we examine the impact of FIIs as PRI or Non-PRI. In Figure 2, label 1 represents FIIs who are PRI signatories, whereas labels 2, 3, 4, 5, and 6 represent FIIs who are non-PRI signatories. We first test whether FIIs that are PRI signatories are associated with higher environmental disclosures compared to non-PRI signatories. Columns (1) and (2) of Table 6 show the regression results based on PRI signatory foreign institutional ownership and non-PRI foreign institutional ownership without and with controls, respectively. The results suggest that FIIs that are PRI signatories positively impact environmental disclosures. However, there is no impact of non-PRI FIIs on environmental disclosures. This aligns with Dyck et al. (2019), who find that firms with greater ownership by PRI signatories tend to exhibit higher environmental and social ratings.

In column (3), we split the holdings by PRI and non-PRI signatories into those originating from high and low social norm countries, thus creating holdings for four separate investor categories. In Figure 2, labels 3 and 4 represent HSN & PRI, labels 1 and 2 represent LSN & PRI, labels 5,8 represent Non-PRI & LSN, and labels 5 and 6 represent Non-PRI & LSN. The results suggest that only PRI signatory FIIs from countries with high social norms positively impact environmental disclosures. It

is not surprising to observe that non-PRI FIIIs that come from LSN countries FIIIs do not exert a meaningful impact. More notably, even investors from HSN countries who are non-PRI signatories (HSN & Non-PRI) do not seem to exert any impact. This suggests that the presence of a non-aligned characteristic attenuates the influence of FIIIs on environment disclosure. Importantly, the ownership levels of these non-aligned investors are not trivial; as shown in Table 2, the average ownership of LSN & PRI is 3.19%. Our results are consistent with those of Brandon et al. (2022), who find that PRI signatories' portfolios have higher ESG scores than non-signatories, except for signatories from the USA (recall the USA is a low-social norms country).

[Insert Table 6 about here]

6.3 Independent Investors and Environmental Social Norms.

Based on Marshall et al. (2022), we next decompose FIIIs into independent (IND) and grey(GREY), as described in Appendix 2. In Figure 2, label 5 represents FIIIs classified as IND, whereas labels 1, 2, 3, 4, 6, and 8 represent FIIIs classified as GREY. We begin by testing whether independent FIIIs, irrespective of their country of origin, are associated with higher environmental disclosures. Table 7 presents the regression results for independent and grey FIIIs, both without and with controls. Column (1) shows that independent FIIIs are positively and significantly associated with environmental disclosures. We introduce controls in Column (2), and the coefficient on IND remains positive, although significant at 10%. Furthermore, grey FIIIs have an insignificant impact on environmental disclosures, whether or not we include controls.

Column (3) disaggregates FIIIs into four distinct groups based on two attributes: their investment type (independent vs. grey) and the environmental social norms of their home country (HSN vs LSN). In Figure 2, labels 3 and 6 represent IND & HSN, labels 2 and 5 represent IND & LSN, labels 4 and 7 represent Grey and HSN, and labels 1 and 8 represent Grey and LSN. The findings reveal that only independent FIIIs from high social norm countries are significantly associated with

improvements in environmental disclosures. In contrast, independent FIIs from low social norm countries, as well as all grey FIIs - regardless of social norms - do not exhibit a significant effect. As in the preceding analysis, these findings indicate that non-aligned characteristics diminish the effect of FIIs on environmental disclosure, despite their substantial ownership stakes (The average ownership is 2.51% for HSN & IND relative to 5.70% for LSN & IND)

[Insert Table 7 about here]

6.4 PRI, Independent and Environmental Social Norms

To further explore the combined influence of FII characteristics, we examine the intersection of PRI signatory status and investor independence. In Figure 2, labels 2 and 3 represent PRI & IND, labels 1 and 4 represent PRI & GREY, labels 5 and 6 represent non-PRI and IND, and labels 7 and 8 represent non-PRI and GREY. Table 8 (columns 1 without controls and 2 with controls) shows that only FIIs who are both PRI signatories and independent investors have a positive and significant impact on environmental disclosures. All other combinations – GREY & PRI, GREY & non-PRI, or IND & non-PRI – do not exhibit significant effects.

[Insert Table 8 about here]

Finally, we test the combined relevance of all three environmentally aligned characteristics (PRI, investor independence, and high social norms) as well as non-environmentally aligned attributes (non-PRI, grey investor, and low social norms) of interest. Figure 2, labels 1-8, shows all possible combinations. Results are in Table 9. Our results show that independent investors who are PRI signatories and come from countries with high social norms (HSN & PRI & IND) have a strong and positive impact on environmental disclosures (column 1). In contrast, any other combination of FIIs, including those with one or more non-environmentally aligned characteristics (grouped as “All other FIIs”), exhibits an insignificant effect. These findings hold even when the other combinations of triple

interactions are analysed separately rather than grouped. These results become even more important when we consider the average ownership of these different categories (Table 2). The HSN & PRI & IND holds just 1.54% on average, compared to 3.87% for the LSN & PRI & IND category. This suggests that a small group of highly motivated investors is driving the changes we observe in our results.

Our results show that it is only the FIIs with all three environmentally aligned attributes that are driving the environmental disclosures. This is clearly seen if we examine the coefficients across the results tables. Coefficients monotonically increase as we remove FIIs who exhibit non-environmentally aligned characteristics, rising from 0.530 when we include all PRI investors (Column 2, Table 5), to 0.994 (Column 3, Table 5) when we focus in on PRI investors from high social norm countries (Table x), and peaking at 1.057 when the PRI investor operates in a high social norm country and is also classified as independent (Column 1, Table 8). Referring back to Figure 2, it is only the FIIs in the area labelled 3 that are pertinent.

[Insert Table 9 about here]

7. Robustness checks and Additional Analyses

7.1 Polluting Industries

We conduct a cross-sectional analysis to examine the impact of FIIs on environmental disclosure in polluting industries compared to non-polluting ones. If FIIs, and particularly those aligned with environmental concerns, are genuinely concerned about environmental issues, their influence should be stronger in polluting firms where disclosure is more critical. Using the classification of the Central Pollution Control Board, the Ministry of Environment, Forest and Climate Change, and define a firm as polluting =1 if it is in a polluting industry and 0 otherwise (Chakrabarti and Gupta, 2025). We manually match each industry based on the National Industrial Classification (NIC) code.

Column 1, Table 10 presents the results where we update Table 9 by including an interaction between the Polluting industry dummy and the PRI & HSN & IND variable, alongside the Polluting dummy itself. The interaction term is both positive and statistically significant at conventional 5% significance levels, indicating that the effect of disclosures is more pronounced in industries where disclosures are more critical. Notably, the coefficient on the interaction term is 1.118, which is larger than the 1.07 reported in Table 8, suggesting a stronger effect in polluting industries.

To delve deeper into our results, we examine whether *PRI & HSN & IND* ownership, as well as environmental disclosure, differ between polluting and non-polluting industries. On average, polluting industries have slightly lower PRI high independent ownership (mean = 1.33, SD = 2.24, N = 1,869) compared to non-polluting industries (mean = 1.96, SD = 2.72, N = 963). A two-sample t-test confirms that this difference is statistically significant (difference = 0.62, $p < 0.001$). Environmental disclosure scores are slightly higher in polluting industries (mean = 21.22) than in non-polluting industries (mean = 20.30). These differences in baseline means are relatively small, suggesting that the stronger effect of PRI high independent investors in polluting industries observed in the regressions is unlikely to be driven by pre-existing differences in ownership or disclosure levels.⁹

[Insert Table 10 about here]

7.2 The Big 3

Next, we investigate the role of Big3 in environmental disclosures in India, given their importance (Azar et al., 2021). In column (2) of Table 10, we add the average ownership of the Big 3 investors as an additional explanatory variable. Consistent with prior studies, we find that ownership of the Big 3 investors is positively associated with improved environmental disclosures. Importantly,

⁹ Sample sizes are unequal (66% polluting vs. 34% non-polluting), which affects precision but not the direction of coefficient estimates, and therefore does not drive the observed heterogeneity in the regression results.

even after controlling for Big 3 ownership, the combined effect of PRI signatory status, home country social norms, and investor independence (*PRI & HSN & IND*) remains positive and statistically significant. Column (3) examines further heterogeneity by introducing an interaction term between the Polluting industry dummy and the Big 3 ownership. While the interaction between Polluting industry and *PRI & HSN & IND* remains positive and significant, the analogous interaction with Big 3 variable is not significant. This finding suggests that investors with strong environmental alignment (*PRI & HSN & IND*) maintain a focused influence on firms in environmentally sensitive sectors, whereas the Big 3 investors' impact does not vary systematically across polluting and non-polluting industries.

7.3 Additional controls

To ensure the robustness of our findings, we include analyst coverage and the presence of Big Four auditors as additional control variables. Both variables may jointly influence disclosure practices and attract foreign investors, raising concerns of omitted variable bias. For instance, Jing et al. (2022) show that lower analyst coverage increases firms' toxic emissions, while Tsang et al. (2019) show that Big Four auditors are associated with higher ESG disclosures. As shown in Column (1) of Table 11, both analyst coverage and Big Four auditor presence are statistically significant predictors of environmental disclosures, consistent with their roles in enhancing corporate transparency and governance. This aligns with prior literature showing that analyst coverage improves information transparency and that Big Four auditors enhance the credibility and quality of environmental disclosures. Importantly, even after accounting for these factors, the positive impact of environmentally aligned FIIs remains robust and significant.

7.4 Excluding the U.S. and U.K. Investors

A potential concern is that our results may be influenced by the dominance of FIIs from the U.S. and the UK, as these two countries account for the majority of FIIs in the sample. To address the issue and test the robustness of our results, we re-run the results after excluding investors from the U.S. and the UK. As shown in Column (2) of Table 11, the main results remain robust: FIIs with all three

environmentally-aligned attributes, PRI signatories, independent investors, and originating from countries with high environmental social norms, continue to have a significant and positive impact on environmental disclosures. This suggests that the positive influence of the triple-aligned FIIs is not solely attributable to investors from these dominant markets.

7.5 Alternative Model Specifications

Our dependent variable, the environmental disclosure score (EnvDiscScore), is bounded between 0 and 100. This bounded nature implies that the impact of covariates is nonlinear, with some observations potentially concentrated at the minimum or maximum values. A potential concern with using OLS is that it treats the dependent variable as unbounded, which can result in predicted values that are below 0 or above 100. Such predictions are not meaningful for a bounded score and can lead to biased or inconsistent estimates (Papke & Wooldridge, 1996). To address this issue, we follow prior studies (de Pilla et al., 2025; Wulff & Villadsen, 2020) and rescale EnvDiscScore to lie between 0 and 1 by dividing by 100, and estimate a fractional logit model. For this analysis, we use the raw values¹⁰ of EnvDiscScore rather than winsorized values to preserve the full variation in environmental disclosure. The fractional logit model employs a logit link function to ensure that predicted values remain within the $[0, 1]$ interval, while allowing for robust inference. As shown in Column (3) of Table 11, our variable of interest, *PRI & HSN & IND*, remains positively associated with environmental disclosures. Although the fractional logit coefficients are smaller than those from OLS, the direction and significance of the effects are consistent, indicating robust results. Additionally, we also estimate a Tobit (censored) model, which accounts for natural censoring at the lower and upper bounds (0 and 100) by modelling a latent variable underlying EnvDiscScore. As shown in Column (4) of Table 11, The Tobit results are also consistent with both OLS and fractional logit results, showing positive and

¹⁰ Our results remain qualitatively the same when we use winsorized values of EnvDiscScore.

statistically significant effects of *PRI & HSN & IND*, confirming the robustness of our findings across different estimation methods.

[Insert Table 11 about here]

8. Conclusion

Using data from 327 listed firms in India over the period 2014-2023, we find that the presence of FIIs results in improved environmental disclosures by investee firms. Extending prior research, we identify which types of FIIs are responsible for driving these improvements.

We categorize FIIs based on three environmentally aligned attributes: (i) PRI signatory status, (ii) investor independence, and (iii) country-level environmental social norms. We find that PRI signatories, independent FIIs, and FIIs from countries with high environmental norms are each individually associated with improved firm-level environmental disclosures. However, our heterogeneity analysis further reveals that only FIIs exhibiting all three attributes simultaneously (PRI signatory status, independence, and origin from high-norm countries) significantly enhance environmental disclosures. FIIs lacking even one of these attributes show no measurable impact. We also investigate an important fourth characteristic: Big 3 firms. These investors are PRI signatories and independent, but come from a low social norm country (the USA). Big 3 firms also drive environmental disclosures. Thus, we find that it is only FIIs with at least three environmentally-aligned attributes that are completely responsible for the results found by prior literature.

We also demonstrate that the influence of fully aligned FIIs is particularly pronounced in polluting industries. While Big 3 ownership is positively associated with environmental disclosures overall, their influence does not vary between polluting and non-polluting sectors. Overall, our findings indicate that, even with relatively low ownership stakes, highly aligned FIIs exert a meaningful influence on environmental reporting practices in India.

This study has several limitations that open avenues for future research. First, environmental disclosures are measured solely using Bloomberg data. While alternative ESG data providers such as Refinitiv and CDP currently offer limited coverage of Indian firms, future studies could conduct sensitivity analyses using multiple data sources as coverage improves. Second, the study is subject to sample selection limitations, as it focuses exclusively on the top 500 listed firms in India. These firms are typically larger and may have greater resources and incentives to disclose environmental information. As data availability improves, future research could extend the analysis to small-cap firms, which may exhibit different patterns of investor influence and disclosure behaviour. Finally, in constructing environmental social norms, we follow Dyck et al. (2019) in assuming that investors reside in the country where the FII is domiciled. Due to the lack of data on the ultimate origin of the ultimate investors, this assumption may oversimplify investor dynamics. Future research could revisit this approach if more granular ownership data becomes available.

The findings of this study offer significant policy and managerial implications. India, as one of the largest global emitters of greenhouse gases, presents a critical context in which domestic investor groups, including DIIs and promoters, do not exert a statistically significant influence on environmental disclosures. In contrast, our results reaffirm prior evidence that FIIs can enhance environmental disclosure, with the important caveat that this effect is concentrated among a small subset of highly environmentally-aligned FIIs. These findings could be of particular importance to other emerging markets, where regulatory enforcement is still evolving and social norms around environmental performance are less developed. In contrast, in countries with high environmental social norms, domestic investors may play a more prominent role in shaping corporate environmental behaviour. Therefore, future research could explore these dynamics across different institutional contexts to better understand the interplay between investor types, regulatory environments, and corporate sustainability practices. Taken together, our findings contribute to a deeper understanding of

how investor composition and institutional context shape corporate environmental disclosure, offering insights for both scholars and practitioners seeking to advance sustainability in emerging economies.

Data availability: The authors have chosen not to share the data, as it is sourced from commercial providers and is subject to third-party restrictions.

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Table 1: Summary Statistics

This table represents summary statistics of various datasets used in the paper. Panel A reports the firm-year summary statistics of the variables used in the study. The dependent variable is the Environmental Disclosure Score (*EnvDiscScore*) taken from Bloomberg. The independent and control variables are as follows: Foreign Institutional Investors (*FII*) is the percentage of shareholdings held by foreign institutional investors. Domestic Institutional Investors (*DII*) is the percentage of shareholdings held by domestic institutional investors. The dataset for FII and DII is obtained from two sources, S&P Capital IQ and CMIE Prowess. Promoter Ownership (*PO*) is the percentage of shares held by promoters. Leverage (*LEV*) is the total debt scaled by total assets. Return on Assets (*ROA*) is defined as profit before interest and tax scaled by total assets. Tangibility (*TANGIBILITY*) is the Net property, plant, and equipment scaled by total assets. Size (*SIZE*) is the logarithmic value of total assets. Exports (*EXP*) is the foreign sales of the firm as a percentage of total sales. Age (*AGE*) is the natural logarithmic value of the number of years since the firm was established. Market-to-Book Ratio (*MB*) is defined as the stock's closing price scaled by book value per share. All variables are winsorized at the 1% and 99% levels. Panel B represents the summary statistics of the Environmental Disclosure Score by Industry (GICS Industry Classification). Panel C represents the Pearson correlation among variables.

Panel A: Descriptive Statistics					
	N	Mean	Std. Dev.	Min	Max
Environmental Disclosures					
<i>EnvDiscScore</i>	2832	20.909	21.116	0	73.543
Ownership					
<i>FII</i> (S&P Capital IQ)	2832	10.377	8.088	0	39.73
<i>DII</i> (S&P Capital IQ)	2832	11.054	7.714	0	36.15
<i>FII</i> (CMIE Prowess)	2782	13.448	9.987	0	44.279
<i>DII</i> (CMIE Prowess)	2782	11.636	8.166	0.01	36.09
<i>PO</i>	2782	56.588	15.79	13.15	89.93
Firm Characteristics					
<i>LEV</i>	2569	0.188	0.182	0	0.901
<i>ROA</i>	2825	0.126	0.093	-0.095	0.45
<i>TANGIBILITY</i>	2803	0.247	0.168	0.003	0.645
<i>EXP</i>	2825	8.41	19.498	0	90.671
<i>SIZE</i>	2825	11.155	1.349	8.496	14.932
<i>AGE</i>	2832	3.619	0.568	1.946	4.754
<i>MB</i>	2804	5.79	6.558	-0.384	39.846

Panel B: Summary Statistics of Environmental Disclosure score by Industry (GICS Industry Classification)

GICS Classification	N	Mean	Sd	Min	Max
Communication Services	12	12.172	14.901	0	53.821
Consumer Discretionary	52	21.596	20.702	0	73.543
Consumer Staples	28	19.836	19.703	0	68.197
Energy	13	28.603	22.572	0	73.543
Health Care	34	20.186	20.508	0	67.502
Industrials	66	17.272	19.217	0	73.543
Information Technology	21	23.86	21.991	0	73.543
Materials	72	22.791	22.228	0	73.543
Real Estate	11	15.803	18.977	0	66.204
Utilities	18	27.047	24.655	0	73.543
Total no. of Firms	317				

Panel C: Correlation Statistics of Key Variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) <i>EnvDiscScore</i>	1.000										
(2) <i>FII (S&P Capital IQ)</i>	0.123	1.000									
(3) <i>DII (S&P Capital IQ)</i>	0.145	0.217	1.000								
(4) <i>PO</i>	-0.100	-0.538	-0.488	1.000							
(5) <i>LEV</i>	-0.112	-0.123	-0.117	0.043	1.000						
(6) <i>ROA</i>	0.052	0.034	-0.058	0.033	-0.414	1.000					
(7) <i>TANGIBILITY</i>	-0.048	-0.098	-0.026	-0.052	0.345	-0.056	1.000				
(8) <i>EXP</i>	-0.149	0.092	0.030	-0.134	-0.001	0.087	-0.000	1.000			
(9) <i>SIZE</i>	0.502	0.119	0.167	-0.032	0.160	-0.199	0.065	-0.103	1.000		
(10) <i>AGE</i>	0.156	-0.041	0.221	-0.109	-0.115	0.019	0.044	-0.039	0.086	1.000	
(11) <i>MB</i>	0.064	0.017	-0.125	0.141	-0.154	0.377	-0.146	-0.077	-0.236	-0.072	1.000

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) <i>EnvDiscScore</i>	1.000										
(2) <i>FII (CMIE Prowess)</i>	0.166	1.000									
(3) <i>DII (CMIE Prowess)</i>	0.258	0.104	1.000								
(4) <i>PO</i>	-0.098	-0.535	-0.468	1.000							
(5) <i>LEV</i>	-0.111	-0.133	-0.157	0.041	1.000						
(6) <i>ROA</i>	0.051	0.103	-0.033	0.035	-0.416	1.000					
(7) <i>TANGIBILITY</i>	-0.045	-0.090	0.030	-0.051	0.346	-0.059	1.000				
(8) <i>EXP</i>	-0.150	0.090	-0.018	-0.133	-0.001	0.087	-0.001	1.000			
(9) <i>SIZE</i>	0.502	0.188	0.246	-0.033	0.170	-0.205	0.073	-0.103	1.000		
(10) <i>AGE</i>	0.157	-0.080	0.245	-0.114	-0.115	0.021	0.047	-0.039	0.084	1.000	
(11) <i>MB</i>	0.062	0.075	-0.130	0.143	-0.153	0.380	-0.145	-0.077	-0.242	-0.074	1.000

Table 2: Summary Statistics: Ownership by Different FII categories (S&P Capital IQ)

This table represents summary statistics of various FII categories. The figures represent the percentage of shareholdings by individual, two-way and three-way characteristics of FIIs. The variables represent specific classifications of FIIs based on their institutional attributes. PRI denotes FIIs that are signatories to the Principles for Responsible Investment, while Non-PRI denotes FIIs that are not signatories. HSN and LSN capture FIIs domiciled in countries with high and low environmental social norms, respectively. IND represents FIIs classified as independent, and GREY denotes FIIs identified as grey investors. For categories combining multiple attributes (e.g., IND & HSN), the measure reflects the aggregated percentage shareholdings of FIIs possessing all listed characteristics. All variables are winsorized at the 1% and 99% levels.

Ownership	Mean	Median	SD	p10	p25	p75	p90
<i>FII</i>	10.38	8.94	8.09	1.51	4.32	14.20	20.78
<i>HSN</i>	2.14	1.24	2.63	0.00	0.19	3.02	5.66
<i>LSN</i>	0.86	0.18	1.51	0.00	0.00	1.04	2.59
<i>PRI</i>	5.02	4.04	4.59	0.17	1.48	7.32	10.97
<i>Non-PRI</i>	5.31	4.16	4.70	0.47	1.83	7.45	11.77
<i>IND</i>	8.64	7.48	6.94	1.15	3.25	12.06	17.53
<i>GREY</i>	1.08	0.40	1.55	0.00	0.00	1.51	3.16
<i>PRI & HSN</i>	1.61	0.69	2.47	0.00	0.04	1.95	4.66
<i>PRI & LSN</i>	3.19	2.58	2.84	0.04	0.86	4.80	7.09
<i>IND & HSN</i>	2.51	1.53	3.04	0.00	0.37	3.36	6.40
<i>IND & LSN</i>	5.70	4.80	4.60	0.52	2.07	8.30	11.89
<i>PRI & IND</i>	4.82	3.72	4.68	0.13	1.28	7.12	10.55
<i>Non-PRI & IND</i>	3.87	2.79	3.83	0.32	1.18	5.27	8.93
<i>PRI & HSN & IND</i>	1.54	0.63	2.43	0.00	0.03	1.80	4.51
<i>PRI & LSN & IND</i>	3.02	2.42	2.71	0.03	0.71	4.65	6.88

Table 3: Foreign Institutional Investors and Environmental Disclosure Score

This table presents the OLS regression results from estimating the impact of foreign institutional investors on the environmental disclosure score. The dependent variable is the environmental disclosure score taken from Bloomberg. The independent variable is foreign institutional investors (*FII*). Control variables include domestic institutional investors (*DII*), promoter ownership (*PO*), Leverage (*LEV*), return on assets (*ROA*), tangibility (*TANGIBILITY*), size (*SIZE*), exports (*EXP*), age (*AGE*), and market-to-book ratio (*MB*). The dataset for *FII* and *DII* is obtained from two sources, S&P Capital IQ and CMIE Prowess. Columns (1) to (3) present the results of utilising S&P Capital IQ data, and columns (4) to (6) present the results of utilising data from CMIE Prowess. The variable definitions are provided in Appendix 1. *t*-statistics are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorised at the 1% and 99% levels. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	<i>Dependent Variable: EnvDiscScore</i>					
	<i>FII & DII: S&P Capital IQ</i>			<i>FII & DII: CMIE Prowess</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>FII</i>	0.375*** (3.15)	0.516*** (4.63)	0.203* (1.87)	0.383*** (3.97)	0.502*** (5.42)	0.223** (2.35)
<i>DII</i>			-0.140 (-1.38)			0.054 (0.53)
<i>PO</i>			-0.094 (-1.65)			-0.024 (-0.38)
<i>LEV</i>			-9.492** (-1.98)			-8.234* (-1.75)
<i>ROA</i>			10.175 (1.45)			8.667 (1.21)
<i>TANGIBILITY</i>			-6.753 (-1.36)			-6.715 (-1.36)
<i>EXP</i>			-0.053** (-2.01)			-0.054** (-1.99)
<i>SIZE</i>			7.676*** (13.59)			7.361*** (12.50)
<i>AGE</i>			2.112* (1.71)			2.007 (1.61)
<i>MB</i>			0.274*** (2.82)			0.253*** (2.65)
Constant	18.545*** (13.70)	17.065*** (13.87)	-63.922*** (-7.47)	17.527*** (13.21)	15.909*** (12.79)	-66.932*** (-7.68)
Observations	2,493	2,493	2,198	2,448	2,448	2,179
Adjusted R-squared	0.020	0.345	0.533	0.032	0.361	0.534
Year Fixed Effect	No	Yes	Yes	No	Yes	Yes
Industry Fixed Effect	No	Yes	Yes	No	Yes	Yes

Table 4: MSCI Index additions – Instrumental Variable Approach

This table reports the IV estimates of Environmental Disclosure scores on foreign institutional investors and control variables. Instrumented with MSCI, a dummy variable that equals one if the firm is a member of the MSCI All Country World Index in the given year and zero otherwise. The dataset for FII and DII is obtained from two sources, S&P Capital IQ and CMIE Prowess. The environmental disclosure score is from Bloomberg. Columns (1) and (2) present the results utilising S&P Capital IQ data, and columns (3) and (4) present the results utilising data from CMIE Prowess. The variable definitions are provided in Appendix 1. *t-statistics* are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorized at the 1% and 99% level. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	S&P Capital IQ		CMIE Prowess	
	<i>FII</i>	<i>EnvDiscScore</i>	<i>FII</i>	<i>EnvDiscScore</i>
	(1)	(2)	(3)	(4)
<i>MSCI</i>	2.836*** (3.08)		4.960*** (5.23)	
<i>Predicted FII</i>		1.828** (2.21)		1.094** (2.53)
<i>DII</i>	-0.045 (-0.84)	-0.038 (-0.26)	-0.238*** (-4.41)	0.297* (1.89)
<i>PO</i>	-0.290*** (-9.62)	0.391 (1.52)	-0.397*** (-11.56)	0.336* (1.80)
<i>LEV</i>	-6.018*** (-3.04)	1.080 (0.15)	-8.707*** (-3.47)	0.273 (0.05)
<i>ROA</i>	-2.321 (-0.68)	12.215 (1.32)	5.748 (1.41)	1.945 (0.25)
<i>TANGIBILITY</i>	0.302 (0.12)	-7.194 (-1.15)	2.472 (0.83)	-8.902* (-1.65)
<i>EXP</i>	0.006 (0.48)	-0.066* (-1.78)	0.010 (0.65)	-0.064* (-1.88)
<i>SIZE</i>	0.940*** (3.15)	5.540*** (4.13)	1.841*** (5.95)	5.158*** (4.15)
<i>AGE</i>	-1.055* (-1.79)	4.037** (2.24)	-1.444** (-2.27)	3.444** (2.26)
<i>MB</i>	0.129*** (2.93)	-0.002 (-0.01)	0.240*** (4.23)	-0.018 (-0.11)
Constant	23.125*** (5.07)		25.755*** (4.82)	
Observations	2,198	2,198	2,179	2,179
Year Fixed Effect	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes

Table 5: Environmental Social Norms

This table presents the OLS regression results from estimating the impact of foreign institutional investors on environmental disclosure scores. The dataset for FII and DII is obtained from S&P Capital IQ. Foreign Institutional investors are classified as high or low environmental social norms based on the environmental performance of the foreign investor's country of domicile. Appendix 3 provides the social norm scores. The variable definitions are provided in Appendix 1. All regressions include controls for year and industry fixed effects. *t-statistics* are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorized at the 1% and 99% levels. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	<i>Dependent Variable: EnvDiscScore</i>	
	(1)	(2)
<i>HSN</i>	1.626*** (4.79)	1.025*** (3.59)
<i>LSN</i>	-0.368 (-0.99)	-0.440 (-1.15)
<i>DII</i>		-0.153 (-1.55)
<i>PO</i>		-0.091* (-1.74)
<i>LEV</i>		-8.347* (-1.79)
<i>ROA</i>		8.433 (1.21)
<i>TANGIBILITY</i>		-7.074 (-1.44)
<i>EXP</i>		-0.046* (-1.83)
<i>SIZE</i>		7.622*** (13.78)
<i>AGE</i>		2.004 (1.57)
<i>MB</i>		0.292*** (2.92)
Constant	-19.270*** (18.86)	-62.750*** (-7.46)
Observations	2,493	2,198
Adjusted R-squared	0.346	0.541
Year Fixed Effect	Yes	Yes
Industry Fixed Effect	Yes	Yes

Table 6: PRI Signatories and Environmental Social Norms

This table represents the impact of PRI foreign institutional investors and non-PRI foreign institutional investors on the environmental disclosure score. The environmental disclosure score is from Bloomberg. The dataset for FII and DII is obtained from S&P Capital IQ. The independent variables are PRI FII and non-PRI FII. PRI Signatories are manually matched from the latest signatory status (November 2024). Column (1) to Column (2) provides results of the impact of PRI and non-PRI FII on environmental disclosures without a split, and Column (3) provides results with a split into high and low social norms. Foreign Institutional investors are sorted into high and low social norm groups based on the environmental performance of the foreign investor's country of domicile. Appendix 3 provides environmental social norm scores. The variable definitions are provided in Appendix 1. All regressions include controls for year and industry fixed effects. *t-statistics* are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorized at the 1% and 99% levels. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	<i>Dependent Variable: EnvDiscScore</i>		
	Without Split		With Split-High & Low Social Norm
	(1)	(2)	(3)
<i>PRI</i>	1.257*** (6.68)	0.530*** (2.97)	
<i>Non-PRI</i>	-0.139 (-0.86)	-0.045 (-0.28)	
<i>PRI & HSN</i>			0.994*** (3.44)
<i>PRI & LSN</i>			0.297 (1.19)
<i>Non-PRI & HSN</i>			0.283 (0.73)
<i>Non-PRI & LSN</i>			-0.123 (-0.70)
<i>DII</i>		-0.132 (-1.31)	-0.141 (-1.38)
<i>PO</i>		-0.085 (-1.51)	-0.081 (-1.45)
<i>LEV</i>		-8.061* (-1.75)	-7.498 (-1.63)
<i>ROA</i>		8.975 (1.27)	8.820 (1.28)
<i>TANGIBILITY</i>		-6.839 (-1.37)	-6.783 (-1.42)
<i>EXP</i>		-0.046* (-1.68)	-0.042 (-1.62)
<i>SIZE</i>		7.393*** (12.83)	7.470*** (13.17)
<i>AGE</i>		2.139* (1.76)	2.087* (1.70)
<i>MB</i>		0.265*** (2.73)	0.276*** (2.84)
Constant	16.951*** (14.27)	-61.878*** (-7.20)	-63.117*** (-7.50)
Observations	2,493	2,198	2,198
Adjusted R-squared	0.369	0.537	0.543
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes

Table 7: Independent Investors and Environmental Social Norms

This table represents the impact of independent and grey foreign institutional investors on the environmental disclosure score. The dataset for FII and DII is obtained from S&P Capital IQ. The independent variables are Independent FII and Grey FII. Appendix 2 outlines the criteria for categorising independent and grey foreign institutional investors. Column (1) to Column (2) provides results of the impact of Independent FII and Grey FII on environmental disclosures without a split, and Column (3) provides results with a split into high and low social norms. Foreign Institutional investors are sorted into high and low social norm groups based on the environmental performance of the foreign investor's country of domicile. Appendix 3 provides the environmental social norm scores. The variable definitions are provided in Appendix 1. All regressions include controls for year and industry fixed effects. *t-statistics* are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorised at the 1% and 99% levels. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	<i>Dependent Variable: EnvDiscScore</i>		
	Without Split		With Split-High & Low Social Norm
	(1)	(2)	(3)
<i>IND</i>	0.630*** (4.61)	0.242* (1.79)	
<i>GREY</i>	0.201 (0.43)	0.269 (0.57)	
<i>IND & HSN</i>			0.580** (2.05)
<i>GREY & HSN</i>			1.151 (1.51)
<i>IND & LSN</i>			0.088 (0.49)
<i>GREY & LSN</i>			-0.545 (-0.94)
<i>DII</i>		-0.142 (-1.42)	-0.159 (-1.60)
<i>PO</i>		-0.089 (-1.55)	-0.077 (-1.34)
<i>LEV</i>		-9.042* (-1.92)	-7.834* (-1.67)
<i>ROA</i>		9.454 (1.34)	8.288 (1.17)
<i>TANGIBILITY</i>		-6.886 (-1.41)	-7.345 (-1.54)
<i>EXP</i>		-0.055** (-2.06)	-0.047* (-1.87)
<i>SIZE</i>		7.642*** (13.28)	7.627*** (13.54)
<i>AGE</i>		2.147* (1.74)	1.998 (1.63)
<i>MB</i>		0.271*** (2.79)	0.300*** (3.03)
Constant	16.762*** (13.33)	-64.171*** (-7.46)	-64.394*** (-7.59)
Observations	2,493	2,198	2,198
Adjusted R-squared	0.350	0.534	0.540
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes

Table 8: PRI Signatories and Independent Investors

This table represents the impact of PRI independent versus PRI grey FIIs on environmental disclosure scores. The dataset for FII and DII is obtained from S&P Capital IQ. The independent variables are PRI FII and Grey FII. PRI Signatories are manually matched from the latest signatory status (November 2024). Appendix 2 outlines the criteria for categorising independent and grey foreign institutional investors. The variable definitions are provided in Appendix 1. All regressions include controls for year and industry fixed effects. *t-statistics* are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorised at the 1% and 99% levels. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	<i>Dependent Variable: EnvDiscScore</i>	
	(1)	(2)
<i>PRI & IND</i>	1.384*** (7.42)	0.570*** (3.01)
<i>PRI & GREY</i>	0.800 (0.39)	1.967 (0.85)
<i>Non-PRI & IND</i>	-0.307 (-1.58)	-0.118 (-0.62)
<i>Non-PRI & GREY</i>	0.220 (0.42)	0.198 (0.39)
<i>DII</i>		-0.131 (-1.30)
<i>PO</i>		-0.083 (-1.48)
<i>LEV</i>		-8.111* (-1.77)
<i>ROA</i>		8.327 (1.17)
<i>TANGIBILITY</i>		-6.707 (-1.37)
<i>EXP</i>		-0.046 (-1.63)
<i>SIZE</i>		7.318*** (12.57)
<i>AGE</i>		2.218* (1.83)
<i>MB</i>		0.253*** (2.64)
Constant	16.864*** (14.19)	-61.406*** (-7.18)
Observations	2,493	2,198
Adjusted R-squared	0.377	0.538
Year Fixed Effect	Yes	Yes
Industry Fixed Effect	Yes	Yes

Table 9: PRI Signatories and Independent Investors and Environmental Social Norms

This table represents the combined impact of PRI independent and social norms FIIs on environmental disclosure scores. The dataset for FII and DII is obtained from S&P Capital IQ. The independent variables are PRI FII and Grey FII. PRI Signatories are manually matched from the latest signatory status (November 2024). Appendix 2 outlines the criteria for categorising independent and grey foreign institutional investors. Foreign Institutional investors are sorted into high and low social norm groups based on the environmental performance of the foreign investor's country of domicile. Appendix 3 provides the environmental social norm scores. The variable definitions are provided in Appendix 1. All regressions include controls for year and industry fixed effects. *t-statistics* are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorised at the 1% and 99% levels. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	<i>Dependent Variable: EnvDiscScore</i>
	(1)
<i>PRI & HSN & IND</i>	1.057*** (3.58)
<i>PRI & LSN & IND</i>	0.297 (1.01)
<i>All Other FIIs</i>	-0.075 (-0.53)
<i>DII</i>	-0.148 (-1.50)
<i>PO</i>	-0.099* (-1.77)
<i>LEV</i>	-7.694* (-1.67)
<i>ROA</i>	8.509 (1.25)
<i>TANGIBILITY</i>	-7.045 (-1.47)
<i>EXP</i>	-0.041 (-1.63)
<i>SIZE</i>	7.481*** (13.08)
<i>AGE</i>	2.018* (1.67)
<i>MB</i>	0.286*** (2.91)
Constant	-61.020*** (-7.39)
Observations	2,198
Adjusted R-squared	0.542
Year Fixed Effect	Yes
Industry Fixed Effect	Yes

Table 10: Polluting Industries & the Big 3

This table represents the impact of PRI, independent and social norms FIIs on environmental disclosure scores. The dataset for FII and DII is obtained from S&P Capital IQ. PRI Signatories are manually matched from the latest signatory status (November 2024). Appendix 2 outlines the criteria for categorising independent and grey foreign institutional investors. Foreign Institutional investors are sorted into high and low social norm groups based on the environmental performance of the foreign investor's country of domicile. Appendix 3 provides the environmental social norm scores. The variable *Polluting* is an indicator for firms operating in environmentally intensive industries, and interaction terms (e.g., PRI & HSN & IND $\times$ Polluting, Big 3 $\times$ Polluting) capture whether investor effects differ for such firms. The variable definitions are provided in Appendix 1. All regressions include controls for year and industry fixed effects. *t*-statistics are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorised at the 1% and 99% levels. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	<i>Dependent Variable: EnvDiscScore</i>		
	(1)	(2)	(3)
<i>PRI & HSN & IND $\times$ Polluting</i>	1.188** (2.19)		1.078** (2.00)
<i>PRI & HSN & IND</i>	0.381 (0.91)	0.941*** (3.23)	0.324 (0.81)
<i>BIG3 $\times$ Polluting</i>			0.693 (0.65)
<i>Big3</i>		2.404*** (3.39)	1.922* (1.96)
<i>PRI & LSN & IND</i>	-2.203 (-1.01)	-0.237 (-0.80)	-0.250 (-0.86)
<i>All Other FIIs</i>	0.272 (0.95)	-0.108 (-0.74)	-0.080 (-0.56)
<i>Polluting</i>	-0.056 (-0.40)		-3.039 (-1.35)
<i>DII</i>	-0.152 (-1.54)	-0.134 (-1.38)	-0.136 (-1.39)
<i>PO</i>	-0.086 (-1.55)	-0.058 (-1.02)	-0.044 (-0.80)
<i>LEV</i>	-7.539* (-1.66)	-6.862 (-1.53)	-6.503 (-1.46)
<i>ROA</i>	8.640 (1.29)	9.133 (1.34)	9.562 (1.43)
<i>TANGIBILITY</i>	-6.507 (-1.37)	-7.005 (-1.45)	-6.407 (-1.34)
<i>EXP</i>	-0.042* (-1.67)	-0.050* (-1.96)	-0.052** (-2.01)
<i>SIZE</i>	2.114* (1.75)	2.064* (1.70)	2.165* (1.78)
<i>AGE</i>	7.363*** (13.03)	6.656*** (10.73)	6.525*** (10.55)
<i>MB</i>	0.271*** (2.73)	0.218** (2.23)	0.204** (2.06)
Constant	-59.522*** (-7.31)	-55.774*** (-6.66)	-53.654*** (-6.46)
Observations	2,198	2,198	2,198
Adjusted R-squared	0.546	0.548	0.552
Year Fixed Effect	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes

Table 11: Additional Controls, Excluding the US/UK Sample and Bounded Regressions

This table represents the impact PRI independent and social norms FIIs on environmental disclosure scores. The dataset for FII and DII is obtained from S&P Capital IQ. The independent variables are PRI FII and Grey FII. PRI Signatories are manually matched from the latest signatory status (November 2024). Appendix 2 outlines the criteria for categorising independent and grey foreign institutional investors. Foreign Institutional investors are sorted into high and low social norm groups based on the environmental performance of the foreign investor's country of domicile. Appendix 3 provides the environmental social norm scores. The variable definitions are provided in Appendix 1. All regressions include controls for year and industry fixed effects. *t-statistics* are shown in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level. All variables are winsorised at the 1% and 99% levels. ***, **, * denote statistical significance at 1%, 5% and 10% levels.

	<i>Dependent Variable: EnvDiscScore</i>			
	OLS (+ controls)	OLS (without US & UK)	Fractional Logit	Tobit
	(1)	(2)	(3)	(4)
<i>PRI & HSN & IND</i>	0.819*** (2.61)	1.393*** (3.42)	0.074*** (4.37)	1.183*** (4.01)
<i>PRI & LSN & IND</i>	0.241 (0.77)	0.420 (0.60)	0.015 (0.87)	0.308 (1.03)
<i>All Other FIIs</i>	-0.113 (-0.84)	-0.249 (-0.76)	0.000 (0.00)	-0.065 (-0.45)
<i>DII</i>	-0.188* (-1.93)	-0.158 (-1.64)	-0.009 (-1.31)	-0.147 (-1.47)
<i>PO</i>	-0.087 (-1.58)	-0.122** (-2.34)	-0.004 (-1.17)	-0.096* (-1.69)
<i>LEV</i>	-5.467 (-1.24)	-8.828* (-1.89)	-0.543 (-1.62)	-7.158 (-1.51)
<i>ROA</i>	7.422 (1.12)	8.318 (1.21)	0.538 (1.23)	8.911 (1.27)
<i>TANGIBILITY</i>	-7.332 (-1.61)	-7.265 (-1.51)	-0.453 (-1.41)	-7.305 (-1.49)
<i>EXP</i>	-0.030 (-1.19)	-0.043* (-1.68)	-0.004* (-1.75)	-0.047* (-1.76)
<i>SIZE</i>	2.303* (1.91)	2.040 (1.63)	0.133* (1.68)	2.229* (1.80)
<i>AGE</i>	6.433*** (10.56)	7.671*** (13.68)	0.472*** (13.99)	7.804*** (13.30)
<i>MB</i>	0.165* (1.65)	0.296*** (3.01)	0.018*** (3.06)	0.292*** (2.87)
Big4	5.323*** (3.94)			
Analyst	4.102** (2.42)			
Constant	-54.722*** (-6.29)	-60.593*** (-7.19)	-8.530*** (-14.99)	-89.724*** (-10.36)
Observations	2,198	2,198	2,198	2,198
Adjusted R-squared	0.542	0.539		
Year Fixed Effect	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes

Appendix 1: Variable Definitions

Variables	Description	Source
Environmental Disclosure		
<i>EnvDiscScore</i>	Proprietary Bloomberg score based on the extent of a company's Environmental data disclosure. This score measures the amount of Environmental data a company reports publicly. The score ranges from 0 for companies that do not disclose any of the Environmental data included in the score, to 100 for those that disclose every data point.	Bloomberg
Ownership Measures		
<i>FII</i>	Percentage of shares held by foreign institutional investors.	CMIE Prowess /S&P Capital IQ
<i>DII</i>	Percentage of shares held by domestic institutional investors.	CMIE Prowess/S&P Capital IQ
<i>PO</i>	Percentage of shares held by promoters.	CMIE Prowess
Firm Characteristics		
<i>LEV</i>	Leverage is defined as total borrowings scaled by total assets.	CMIE Prowess
<i>ROA</i>	ROA is defined as profit before interest and tax scaled by total assets.	CMIE Prowess
<i>TANGIBILITY</i>	Tangibility is defined as Property, Plant, and Equipment scaled by total assets.	CMIE Prowess
<i>EXP</i>	Exports are defined as foreign sales as a percentage of total sales.	CMIE Prowess
<i>SIZE</i>	Size is defined as the natural logarithm of total assets.	CMIE Prowess
<i>AGE</i>	It is the natural logarithmic value of the number of years since the firm was established.	CMIE Prowess
<i>MB</i>	MB is defined as the market value of the share scaled by the book value of the share.	CMIE Prowess
FII Heterogeneity		
<i>IND</i>	Percentage of shares held by independent foreign institutional Investors.	S&P Capital IQ
<i>GREY</i>	Percentage of shares held by grey foreign Institutional investors.	S&P Capital IQ
<i>PRI</i>	Percentage of shares held by PRI foreign institutional investors.	S&P Capital IQ
<i>Non-PRI</i>	Percentage of shares held by non-PRI foreign institutional investors.	S&P Capital IQ
<i>HSN</i>	Percentage of shares held by foreign institutional Investors from high social norm countries.	S&P Capital IQ
<i>LSN</i>	Percentage of shares held by foreign institutional Investors from low social norm countries.	S&P Capital IQ

Additional Analysis

<i>Analyst</i>	Number of analysts following the stock.	S&P Capital IQ
<i>BIG4</i>	A dummy variable that takes the value 1 if the firm is audited by a Big 4 auditor, and 0 otherwise.	CMIE Prowess
<i>Polluting</i>	A dummy variable that takes the value 1 if the firm is categorised as polluting as per the classification of Central Pollution Control Board (CPCB), Ministry of Environment, Forest and Climate Change Government of India	Central Pollution Control Board

Appendix 2: FIIs type with classification based on S&P Capital IQ definitions

These definitions have been adapted from Marshall et al. (2022)

Independent	Grey
Corporate Pension Plan Sponsor	Investment Banking or Investment Firm
REIT or Real Estate Investment Manager	Endowment Fund Sponsor
Traditional Investment Manager	Family Office or Family Trust
Government Pension Plan Sponsor	Foundation Fund Sponsor
Hedge Fund Manager	Sovereign Wealth Fund
Union Pension Plan Sponsor	Other or Unknown
	Private Equity or Venture Capital
	Corporate Investors

Appendix 3: Environmental Social Norm Scores

Country	Environmental Social Norms adapted from Dyck et al. (2019)
Switzerland	87.67
Luxembourg	83.29
Australia	82.4
Singapore	81.78
Czechia	81.47
Germany	80.47
Spain	79.79
Austria	78.32
Sweden	78.09
Norway	78.04
Netherlands	77.75
UK	77.35
Denmark	76.92
Iceland	76.5
Slovenia	76.43
New Zealand	76.41
Portugal	75.8
Finland	75.72
Ireland	74.67
Italy	74.36
Greece	73.28
Canada	73.14
UAE	72.91
Japan	72.35
France	71.05
Hungary	70.28
Chile	69.93
Poland	69.53
USA	67.52
Malta	67.42
Saudi Arabia	66.66
Belgium	66.61
Israel	65.78
Kuwait	63.94
South Korea	63.79
Taiwan	62.18
Malaysia	59.31
Mauritius	58.09
Mexico	55.03
Turkey	54.91
South Africa	53.51
Russia	53.45
Thailand	52.83
Macedonia	50.41
Bahamas	46.58
China	43
Vietnam	38.17
India	31.23
Bermuda	na
Hong Kong	na
Liechtenstein	na
Cayman Islands	na
Jersey	na
Guernsey	na
BVI	na

We measure a country's environmental social norms based on the Environmental Performance Index obtained from the Yale Center for Environmental Law (Yale University) and Center for International Earth Science Information Network (Columbia University), 2014.

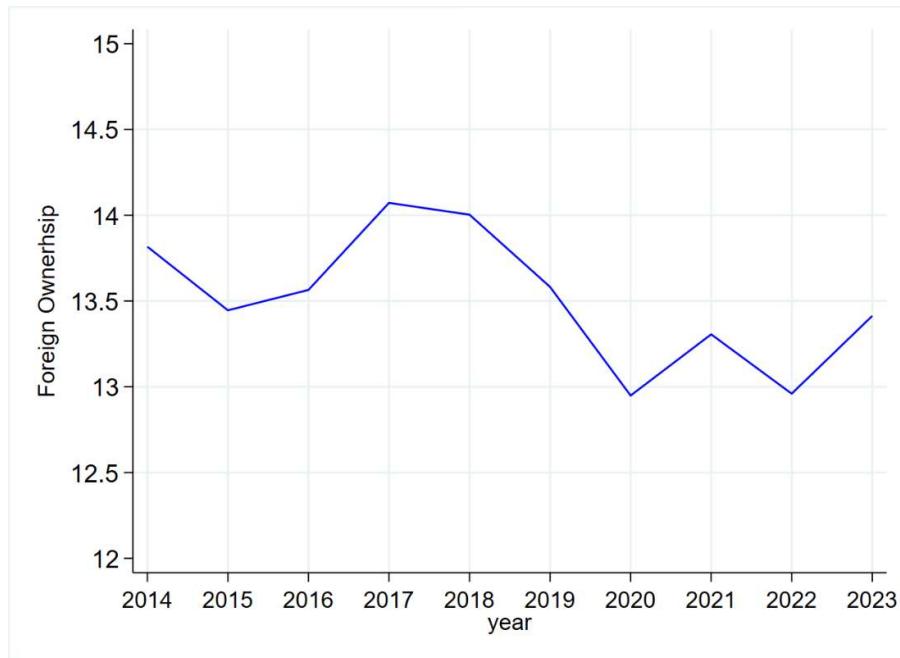


Figure 1: The cross-sectional average of FIIs over time (Source: CMIE Prowess)

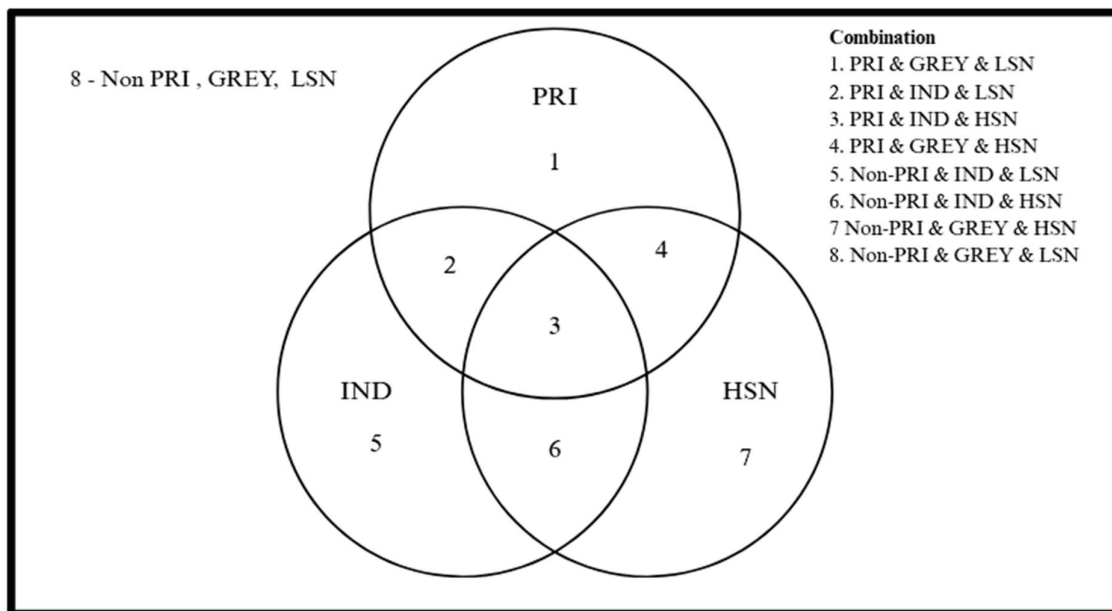


Figure 2: Venn Diagram of different combinations of FIIs