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Mandatory corporate social responsibility and foreign institutional investor preferences

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ABSTRACT

This study examines whether the heterogeneity among foreign institutional investors (FIIs) matters when investing in socially responsible investee firms. Exploiting a mandated corporate social responsibility (CSR) regulation in India and using manually collected CSR expenditure data, the results of a quasi-natural experiment confirm that firms that comply with the CSR mandate attract greater investment from FIIs. This positive nexus holds for both existing and new FIIs. However, the heterogeneity of FIIs plays a significant moderating role because FIIs from civil law origin countries and those considered independent and long-term investors invest more in mandated CSR firms.

“Society is demanding that companies, both public and private, serve a social purpose. To prosper over time, every company must not only deliver financial performance but also show how it makes a positive contribution to society. Contribute to society, or risk losing our support.”

BlackRock CEO Laurence D. Fink (New York Times, January 15, 2018)

1. Introduction

In the aftermath of the 2008 financial crisis, engagement in environmental, social, and governance (ESG)-associated metrics has become an important dimension in assessing firms' financial and sustainability performance for analysts and investors. As such, professional asset managers are increasingly integrating firms' corporate social responsibility (CSR) pursuits in their investment allocation decisions (Amel-Zadeh and Serafeim, 2018). Analysts are also increasingly demanding that firms disclose more CSR-related information (Ioannou and Serafeim, 2015).

To meet the demands of external investors, regulatory bodies around the world are mandating that firms disclose and report their CSR activities (Ioannou and Serafeim, 2017). This study examines how heterogeneous foreign institutional investors (FIIs) react when investee firms are mandated to not only disclose their CSR activities but are also legally obliged to engage with and spend a certain

Abbreviations: CSR, Corporate Social Responsibility; ESG, Environment, Social and Governance.

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proportion of their profits on CSR projects. Motivated by recent literature, we examine whether FIIs of different legal origins and with different investment objectives invest differently in mandated CSR firms (Dyck et al., 2019; Liang and Renneboog, 2017).

Sound economic conjectures suggest that a greater level of CSR activities could positively reduce information asymmetry for investors, thus mitigating the severity of agency concerns (Cui et al., 2018; Dhaliwal et al., 2011). A better information environment should reduce agency concerns for FIIs and lessen the information gap between FIIs and domestic institutional investors (DIIs) (Tsang et al., 2019). If higher levels of CSR engagement mitigate agency concerns for FIIs by improving transparency and encouraging better governance, then mandatory CSR requirements for domestic investee firms should attract greater levels of investment from FIIs.

To the best of our knowledge, this study is the first to use actual CSR expenditure data and exploit a mandated CSR regulation to examine the following two questions. First, on an aggregate basis, we consider whether investee firms complying with mandatory CSR regulations attract more FIIs' (existing and new) investment relative to firms that do not have to comply. We refer to this as the *CSR engagement attraction* hypothesis. Second, since the literature emphasizes that legal origin can play a key role in explaining variations in CSR activities (Liang and Renneboog, 2017), we examine whether heterogeneous FIIs based on different legal origins react differentially to the CSR regulatory mandate. We also investigate whether the heterogeneous investment styles and objectives of FIIs differentially influence investment decisions following mandated CSR regulations. We refer to these as *FIIs' heterogeneity* hypotheses.

We answer these questions on the basis of mandatory Indian CSR regulations. India enacted Section 135 of the Companies Act 2013 (hereafter "S-135"), which mandates firms that meet a certain size threshold to comply with specific CSR-related provisions, including expenditure of at least 2% of their net profit on CSR projects (Manchiraju and Rajgopal, 2017). The mandate also enforces severe criminal and financial penalties for violating CSR provisions. As S-135 imposes strict CSR provisions and exogenously determines the treated (firms that need to comply) and control groups (firms that do not need to comply), we examine the S-135 regulatory shock and actual CSR expenditure in our empirical analysis using a sample of listed Indian non-financial firms for the period 2012–2017. We use two quasi-natural experimental approaches as an empirical identification strategy: the propensity score matched difference-in-differences (PSM-DiD) and multivariate regression discontinuity design (MRDD).

Our robust quasi-natural experiments yielded the following findings. First, the results support the CSR engagement attraction hypothesis at the aggregate level as FIIs significantly increase their investment stakes in treated firms compared to control firms in the post-CSR regulatory mandate period. In economic terms and drawing on different specifications, we find that, on average, the change in FIIs ownership in treated firms' ranges between 7.5% and 8.5% (this translates into an average increase in the range of INR 6502.5 billion to INR 7369.5 billion).¹ Further analysis shows that CSR firms not only attract new FIIs but existing FIIs increase their share of ownership in these firms in the post-CSR reform period.²

Second, we also find support for the *FIIs' heterogeneity* hypotheses, as FIIs domiciled in civil law origin jurisdictions are more likely to increase their investments in treated firms in the post-CSR mandate period compared to common law origin jurisdictions. In addition, our results show that independent FIIs (who are generally active monitors) and pension funds who are FIIs (having long investment horizons) are more likely to invest in firms complying with the mandated CSR regulation. This is consistent with the argument that CSR mandates improve transparency and reduce monitoring costs since the regulator has monitoring responsibilities in mandated CSR regulations. The main results are robust to several robustness checks, including the use of alternative measures of FIIs' ownership (year-on-year change), alternative treatment groups based on firms' actual CSR expenditure, and placebo tests.

This study makes several contributions to the literature. First, most existing studies, based on voluntary CSR practices and ESG indices, examine the effect of institutional investors on firms' CSR activities.³ However, we show that improvements in CSR activities, in the form of compliance with regulatory mandates and, more notably, actual expenditures on CSR projects, attract higher levels of investment from FIIs.⁴ This is our fundamental contribution. This study extends the literature by showing that CSR has become an important concern for shareholders and is now seen as a crucial metric in institutional investment decisions. Second, we demonstrate that conditional on their heterogeneity (depending on legal origin and/or institution type), FIIs react differentially to the same mandated CSR regulations.⁵ From an empirical point of view and to the best of our knowledge, this is the first study to exploit a CSR

¹ Applying the average market capitalization figure of INR 86,700 billion during the post-regulation period of three years (INR refers to Indian Rupees).

² Using a mandatory CSR disclosure regulation in China, Yu and Zheng (2020) find that foreign institutional ownership increases following the regulation. Our study is different from theirs as the CSR regulation in China does not require firms to actually engage in CSR, whereas S-135 specifically mandates firms to engage with and expend a minimum threshold of their profit on approved CSR projects (Dharmapala and Khanna, 2018). While CSR disclosure requirement may help reduce some level of information asymmetry for FIIs, we conjecture that actual CSR engagement should benefit FIIs more by providing them with easier access to capital, insurance against various risks, and overall better financial returns through the reputation and social capital channels of CSR (Albuquerque et al., 2019; Lins et al., 2017).

³ For instance, Dyck et al. (2019) show that FIIs promote CSR activities as insurance against event risk and negative financial shocks. Hoepner et al. (2018) find that institutional investors reduce their downside risk by pushing their investee firms' CSR activities. Nguyen et al. (2020) empirically demonstrate that institutional investors drive better firm level CSR performance as it reduces the earnings volatility of firms. Finally, Chen et al. (2020) study whether institutional investors make responsible investments to generate a social impact.

⁴ Two important sources of bias may question the empirical credibility of results using rating indices. The first is *reverse causality* as studies show investors themselves could influence CSR activities (Chen et al., 2020). Second is the issue of *construct validity*, whereby these indices/ratings may capture other aspects of the firm. This is a similar problem to that of the governance index, see Atanasov and Black (2016).

⁵ Hartzmark and Sussman (2019) show that individual investors generally value sustainability as they tend to buy (sell) funds with higher (lower) sustainability ratings. Our study is different from theirs as we investigate whether firms' mandatory CSR activities induce FII investments and, more importantly, whether heterogeneous FIIs make differential investment choices in CSR firms following the CSR mandate.

regulatory mandate and use unique firm-level CSR expenditure data to investigate the link between heterogeneous FIIs and firm-level CSR engagement.

Finally, from a policy point of view, our study offers insights into whether mandated CSR regulations can attract FIIs (of specific types) and suggests that regulators should be sensitive to investor preferences. To this end, our study advances our understanding of the implications of policy changes in globally connected financial markets and shows that CSR mandates have influenced international fund flows. This is particularly important for capital-constrained emerging markets as extensive evidence suggests that higher foreign investment flows lower the cost of capital, thereby contributing to the real economic growth of the economy (Bekaert and Harvey, 2003; Henry, 2000).

The remainder of this paper is organized as follows. Section 2 summarises the CSR regulatory shock, followed by a discussion of the relevant literature and hypothesis development in Section 3. Detailed discussions on the data and variables are presented in Section 4. Section 5 describes the empirical strategy (near-randomization quasi-natural experiment technique), and Section 6 discusses the empirical findings. Finally, Section 7 concludes the paper.

2. CSR regulation: Section 135

Section 135 (S-135) was introduced as part of India's Companies Act in 2013 (Dharmapala and Khanna, 2018). Initially, in 2009, the Ministry of Corporate Affairs (MCA) issued voluntary CSR guidelines as part of the new Companies Bill. However, voluntary CSR provision failed, as Indian firms were unfamiliar with socially responsible activities (Van Zile, 2012). As a result, it has become essential for authorities to formulate a set of mandatory CSR regulations. On August 31, 2010, the Parliamentary Standing Committee on Finance introduced the concept of mandatory CSR regulation as part of a company's bill, along with the thresholds above which companies would be mandated to undertake CSR activities (Manchiraju and Rajgopal, 2017).

Although there was substantial initial resistance from corporate bodies, the Government of India went ahead with mandatory CSR reforms under S-135 of the revised Companies Bill in December 2011. This bill was eventually passed by both Houses of Parliament and received consent from the President of India on August 29, 2013, to become the Companies Act 2013. The provisions of S-135 became applicable from the fiscal year 2014–2015, beginning April 1, 2014.

Dharmapala and Khanna (2018) identify five important provisions of S-135 that may be relevant for outside investors: i) a CSR committee of three directors of which one should be independent; ii) disclosure of the committee's conformation, iii) formulation of a CSR policy for the recommended CSR activities by the committee, iv) the board should approve and publicize the CSR policy, and v) the board should ensure that the firm spends at least 2% of the previous three years' net profit on CSR activities, as approved by the MCA, or explain non-compliance. The first four of these provisions are compulsory, whereas the CSR expenditure is on a "comply or explain" basis, which means that a firm might choose not to spend the prescribed amount or might choose to spend a portion of the prescribed amount and explain its non-compliance or partial compliance.⁶ Any violation of these provisions would result in severe penalties for the affected firms and responsible personnel.

The main provisions relevant to our study are that any company satisfying at least one of the three size thresholds (net worth of INR 5 billion or more, sales of INR 10 billion or more, or net profit of INR 50 million or more) in any specific year from the effective date of the Companies Act 2013 (i.e., April 1, 2014) would be obliged to comply with the provisions listed in S-135. Thus, we take the calendar year 2014 as the effective year (or the fiscal year ending in 2015 in India). It is noteworthy that once a firm comes under the obligations of S-135, it will remain obligated under this rule for the succeeding three years, and only if none of the thresholds are satisfied in any of these three consecutive years will the company not be required to apply S-135.⁷ The term "net profit" implies "profit before tax," which means that the previous three-year average profit will be calculated based on earnings before tax (EBT) and not profit after tax (PAT).⁸

3. Related literature and hypotheses development

3.1. CSR engagement attraction hypothesis: CSR and FIIs

Based on agency theory, it can be argued that CSR is merely a manifestation of a managerial agency problem, wherein managers undertake CSR activities simply for their private benefit by pleasing crucial non-investing stakeholders at the cost of investors (Masulis and Reza, 2015; Tirole, 2001). Consequently, CSR activities raise concerns about over-investment, which can be costly and value-destroying for shareholders (Di Giuli and Kostovetsky, 2014; Masulis and Reza, 2015). Hence, CSR engagement is perceived as a negative market signal (Krüger, 2015). Therefore, if FIIs are assumed to have a short-term view, they would be inclined to underinvest in mandated CSR firms (Bena et al., 2017). By contrast, CSR good governance theory argues that socially responsible firms can obtain financial benefits through various channels as they maintain amicable relationships with key non-investing stakeholders (Turban and

⁶ The "comply or explain" rule does not make CSR expenditure voluntary under S-135 primarily for two reasons. First, mandated firms must show credible reason and provide legitimate explanation if they are unable to spend the prescribed amount in CSR. Second, firms must expend their prescribed amount in MCA-approved CSR projects only.

⁷ For instance, if a firm goes above any of the above-mentioned thresholds in 2015, it has to comply with the CSR rule in the consecutive fiscal years 2015, 2016, and 2017, and it will only be considered non-compliant if it fails to satisfy any of the thresholds for any consecutive three years from 2016.

⁸ See S-135 of India's Companies Act 2013 at <http://www.mca.gov.in/Ministry/pdf/CompaniesAct2013.pdf> for detailed provisions.

Greening, 1997; Waddock and Graves, 1997). This mitigates conflicts of interest between managers and non-investing stakeholders, which, in turn, should improve firms' financial performance (Allen et al., 2015; Dimson et al., 2015; Ferrell et al., 2016; Magill et al., 2015).

We argue that in the case of FIIs in emerging markets, the CSR good governance view should be more prevalent as there can be substantial differences in the investment choices of FIIs and DIIs, primarily as FIIs have greater information asymmetry relative to DIIs (Ferreira and Matos, 2008; Tsang et al., 2019). Information asymmetry, which may originate from differences in language, culture, legal environments, and disclosure requirements between FIIs' and DIIs' jurisdictions, hinders FIIs from assessing the risk-adjusted economic value of overseas firms' equity, thus increasing their monitoring costs. This can lead to inefficient asset allocation (Leuz et al., 2009) and may induce FIIs to underweight foreign stocks relative to their theoretically prescribed weights (Baik et al., 2013; Coval and Moskowitz, 2001).

Studies suggest that CSR activities could play a positive role in mitigating the friction of information asymmetry (Cui et al., 2018; Dhaliwal et al., 2011; El Ghouli et al., 2011). In the case of a mandated CSR regulation, which improves firm-level disclosures and transparency (Ioannou and Serafeim, 2017), this will reduce the information gap between FIIs and the DIIs (Tsang et al., 2019).⁹ Further, CSR activities build social capital and trust for firms, which can expedite financial contracts by alleviating adverse selection and moral hazards (Knack and Keefer, 1997; La Porta et al., 1997; Lins et al., 2017). Such CSR-induced social capital could impart valuable insurance against various risks, particularly unexpected negative financial shocks, and help product market differentiation (Albuquerque et al., 2019).¹⁰ This is also supported by institutional investors, who appear to promote CSR activities to develop firms' social capital (Chen et al., 2020; Dyck et al., 2019; Hoepner et al., 2018).

Given these arguments, we hypothesize (H_1) that firms that need to comply with S-135 provisions attract higher levels of investment from FIIs. We refer to this as the *CSR engagement attraction hypothesis*.

H_1 . *Firms that comply with the CSR mandate attract greater levels of FII investments, relative to firms that do not comply.*

3.2. FIIs' heterogeneity hypothesis: Legal origins

Liang and Renneboog (2017) show that a country's legal origin is a stronger institutional feature in explaining variations in CSR activities compared to other firm- and country-level characteristics such as profitability, ownership structure, market institutions, and degree of globalization. They find that firms belonging to civil law origin countries, particularly Scandinavian civil law, engage in higher levels of CSR activities compared to firms originating from countries of common law origin.

Given the evidence linking legal origin influencing firms' CSR activities, we argue that FIIs from civil law countries should invest more in overseas CSR-oriented firms relative to FIIs from other legal origin jurisdictions.¹¹ This argument is based on two broad levels of literature. First, studies note that the regulatory environment in common-law countries mostly promotes private market outcomes through unrestricted private dealing, whereas civil-law countries typically depend on "policy implementing" mechanisms through socially accustomed conventions (La Porta et al., 2008). This suggests that FIIs with a "socially accustomed" civil law background would be more familiar with mandated CSR provisions and more likely to invest in mandated CSR firms, compared to FIIs from common law countries (Huberman, 2001).

Second, Dyck et al. (2019) show that cultural origins and social norms matter in FIIs' preference for CSR commitments. Thus, investors with high social norm backgrounds tend to be more demanding in their firm-level CSR activities (Guiso et al., 2006). Moreover, beneficiaries of investment firms with strong socially oriented beliefs and ideologies may actively demand that their asset managers invest in domestic and overseas firms that undertake CSR activities (Hart and Zingales, 2017).

Influenced by the strong CSR ideology of civil-law societies, FIIs from civil-law countries are more likely to invest in foreign firms with better CSR performance (Akerlof and Kranton, 2005). Moreover, investors from civil-law countries embrace or are mandated to embrace a more stakeholder-oriented philosophy owing to their legal heritage (La Porta et al., 2008). Dyck et al. (2019) provide evidence that investors from civil-law countries generally maintain stronger CSR philosophies than those from common-law countries.

Given these complementary arguments on the preferences of investors from different legal origins, we expect FIIs from civil-law countries to invest more in firms complying with CSR mandates. Accordingly, we propose our first *FIIs' heterogeneity hypothesis*:

H_2 . *Compared to FIIs from common law countries, FIIs from civil law countries invest more in firms that comply with the CSR mandate.*

⁹ DIIs may not gain any further advantage over such corporate disclosures as they are already better equipped to deal with the informational opacity of local firms through private channels, such as managers and local analysts (DeFond et al., 2011; Leuz et al., 2009).

¹⁰ Studies empirically show that during economic turmoil (e.g. the 2008 financial crisis), firms with higher CSR performance had better financial performance than firms with lower social capital (Lins et al., 2017).

¹¹ The literature suggests that the differential investment philosophy and preferences originating from countries with different legal regimes are reflected in those countries' FIIs as well. For instance, common law countries tend to emphasize more on investor protection and shareholder wealth maximization (La Porta et al., 2008). Thus, having such shareholder oriented attitudes, FIIs from common law countries seem to promote better corporate governance (Aggarwal et al., 2011). Similarly, if civil law countries promote better stakeholder protection and are more CSR oriented (Liang and Renneboog, 2017), then FIIs from such countries should have more stakeholder oriented views and, consequently, invest more in mandated CSR firms.

3.3. FIIs' heterogeneity hypothesis: Monitoring role and investment horizon

We further analyze the impact of the CSR engagement mandate on FIIs' heterogeneity based on their broad-based investment styles and horizons. In the first group, we classify FIIs into two major categories based on their investment styles: independent foreign investors (mutual funds and independent investment advisors) and grey foreign investors (banks, insurance companies, and other institutions) (Chen et al., 2007; Ferreira and Matos, 2008).

It is argued that independent institutional investors tend to be "pressure-resistant," and grey institutional investors tend to be "pressure-sensitive" or loyal toward the corporate management of investee firms. The literature suggests that independent investors tend to actively monitor and influence firms' corporate governance mechanisms (Chen et al., 2007; Ferreira and Matos, 2008). Furthermore, independent institutional investors compete for their financial capital by attracting higher inflows of funds through good financial performance and social channels such as networking and building a higher reputation (Dyck et al., 2019). As CSR can improve a firm's reputation by holding CSR-oriented firms in their portfolios, independent investors can also benefit by garnering a greater reputation as socially responsible investors (Fombrun and Shanley, 1990; Turban and Greening, 1997). Consequently, such a reputation induces beneficiaries of FIIs to be more loyal toward more socially responsible investment funds (Hartzmark and Sussman, 2019; Renneboog et al., 2011). Additionally, independent FIIs benefit further because of the reduction in their monitoring costs as they will be monitored by governments/regulators. Thus, the provisions of S-135 should result in reduced "private information seeking and monitoring" costs, making it more attractive for FIIs to invest in these mandated CSR firms.

In contrast, grey institutional investors tend to be reluctant in terms of being activist monitors of their investee firms as they have closer ties with the management and generally maintain docile business relationships with their investee firms (Chen et al., 2007; Ferreira and Matos, 2008). Since grey investors, compared to independent investors, maintain closer ties with firm insiders and in turn, have better access to inside information, they may not substantially benefit from the additional information generated by the mandated CSR activities. Thus, we conjecture that independent FIIs should invest more in firms with greater CSR engagement than grey FIIs, as proposed in the first FIIs' heterogeneity hypothesis:

H_{3a} : Compared to grey FIIs, independent FIIs invest more in firms that comply with the CSR mandate.

We also classify FIIs into two groups based on their investment horizons: institutions with a long investment horizon, such as pension funds, and those with a relatively shorter investment horizon, such as hedge funds.¹² Studies argue that since CSR-oriented firms can better align their interests with those of non-investing stakeholders, they can acquire higher competitiveness, which, in turn, should help them generate enhanced financial returns in the long run (Allen et al., 2015; Magill et al., 2015). Consequently, investors with a long-term investment horizon (such as pension funds) would be more likely to increase their investment stakes in firms that comply with CSR regulations.

In addition, long-term-oriented investors tend to incur considerable monitoring expenses and are more prone to downside risks in the long run (Chen et al., 2007; Nguyen et al., 2020). Evidence indicates that mandated CSR engagement may help reduce monitoring costs through increased transparency and significantly mitigate downside risks (Hoepner et al., 2018). As a result, we should expect long-term-oriented FIIs (such as pension funds) to increase their investments in firms affected by CSR mandates. On the other hand, since short-term-oriented FIIs (such as hedge funds) have a myopic investment choice and a propensity to seek increased earnings in the short run (Bushee, 2001), they would be less likely to be attracted by CSR activities undertaken by mandated firms. These short-term oriented investors, potentially having superior private information, are interested in frequent trading, shorter profit horizons, and turnaround and are thus not willing to monitor a firm's management (Yan and Zhang, 2009). Consequently, short-term-oriented FIIs, relative to long-term FIIs, may not materially gain from mandatory CSR-induced information production and disclosure.

Given the argument that, relative to their short-term counterparts, long-term investors are more concerned with CSR engagement, we propose the second FIIs' heterogeneity hypothesis:

H_{3b} : Compared with FIIs with a short-term investment horizon, FIIs with a long-term investment horizon invest more in firms that comply with the CSR mandate.

4. Data and descriptive statistics

Our sample period spans six years from fiscal year-end 2012 to 2017 and comprises 23,694 firm-year observations, which include 4168 non-financial firms listed on either the Bombay Stock Exchange (BSE) or the National Stock Exchange of India Ltd. (NSE).¹³ We obtain ownership and financial data from S&P Capital IQ (CIQ) and the Prowess database, maintained by the Center for Monitoring Indian Economy (CMIE). In addition to using the exogenously imposed threshold to separate the treated and control groups, we also collected unique actual CSR expenditure data from several sources. The data sources are CMIE Prowess and manually collected CSR expenditure for the top 500 market-capitalized companies from the Business Responsibility Report (BRR) and the individual firms'

¹² We obtain FIIs' ownership data from S&P Capital IQ (see Section 4.1 for details). Consistent with other institutional investor databases, Capital IQ classifies each FII based on its institution type. Following the literature, we use Capital IQ classifications to re-classify each FII into a broader category such as independent/grey investors (Dyck et al., 2019; Ferreira and Matos, 2008). Table A1 in the Appendix lists all the unique FIIs' types as classified by Capital IQ and the broad classifications to which they belong.

¹³ The fiscal year begins on April 1 and ends on March 31 of the following calendar year.

annual reports for years prior to FY2015.¹⁴ We further integrate the CSR data available from the MCA, Government of India website,¹⁵ for 7334 companies for fiscal year 2014–15, and 5097 companies for fiscal year 2015–16. Finally, we include the publicly available comprehensive CSR data of all companies available on the CSR portal maintained by the Government of India for the fiscal years ending 2015, 2016, and 2017 (<https://csr.gov.in>).

4.1. Dependent variable

The data for our dependent variable are obtained from the CIQ, which tracks individual global institutional investors' ownership data. The set of variables includes investor identification, country of investor domicile (hence, legal origin), investor types (such as hedge funds, pension funds, mutual funds, banks, etc.), and the name and domicile of the investee firms. At the individual investor level, we denote a particular foreign investor's holding as FIO_{jit} , whereby the foreign institutional investor (FII j) holds equity ownership (in the percentage of total shares outstanding) of the Indian investee firm i for fiscal year-end t .¹⁶ In line with the existing literature (Bena et al., 2017; Dyck et al., 2019) we use the investee firm-level aggregate measure as defined by eq. (1):

$$FIO_{it} = \sum_{j=1}^n FIO_{jit} \quad (1)$$

where FIO_{it} is the aggregated ownership (percentage of total shares outstanding) of FIO_{jit} for year t . Moreover, in the spirit of Tsang et al. (2019), we also take the year-on-year change in FIO_{it} (represented as ΔFIO_{it} hereafter) as any temporal trend, for example, general over time growth in FIO_{it} , which may falsify or inflate the divergence observed in the post-S-135 period for the level of FIO_{it} .

4.2. Key independent variable

Our main variable of interest, reflecting the impact of S-135 on FIO_{it} , is the interaction of the two dummy variables ($Treat_i \times Post_t$). $Treat_i$ is the treated group firm that satisfies at least one of the three size thresholds of the S-135 requirements (net worth of INR 5 billion or more, sales of INR 10 billion or more, or net profit of INR 50 million or more) in any specific year from the effective date of the Companies Act 2013 (i.e., April 1, 2014). The firms that are not required to comply with S-135 are control firms.¹⁷ The second dummy variable $Post_t$ takes a value of one for the post-CSR mandate period (i.e., 2015–2017) and zero otherwise (2012–2014).

4.3. Covariates

We use several covariates for two reasons. First, using the propensity score matching (PSM) approach we use the covariates to generate highly comparable control and treated groups before observing the changes in the outcome variable (FIO_{jit}) (Angrist and Pischke, 2008; Rosenbaum and Rubin, 1983, 1985). The credibility of causality depends on this important pre-estimation evaluation as we control for any heterogeneous expectations of the treated and control groups in the post-S-135 period (Rubin, 1997, 2007). This near-randomization procedure controls for all possible time-varying and time-invariant factors within the DiD framework, which may explain changes in FIO in the treated and control groups in the post-S-135 period (Rubin and Waterman, 2006). Second, the use of covariates generates more precise estimates, as the inclusion of covariates generates smaller residual variance (Angrist and Pischke, 2008).

Drawing on the literature, we use several key covariates. Dahlquist and Robertsson (2001) show that foreign investors prefer to invest in firms that are larger in size and cash positions, have a greater presence in international markets, and exhibit less concentrated ownership. We expect larger firms and firms with a higher cash position to attract more investments from FIIs because large firms tend to be more visible and considered more trustworthy, whereas a greater cash position signals financial strength to investors (La Porta et al., 1997). Similarly, investee firms with a greater international presence, which induces greater innovation output, should attract higher FIIs investments (Salomon and Shaver, 2005). Concentrated ownership, denoting higher control over corporate resources, may

¹⁴ 'The Security Exchange Board of India's (SEBI) Mandate' in 2012 requires the top 100 market capitalization companies listed on the NSE and BSE to file BRR. BRR follows the National Voluntary Guidelines on Social, Environmental and Economic responsibilities of business, as notified by the MCA, Government of India. It includes firms' responses to practices and performance on key principles defined by Regulation 34(2)(f) of SEBI (Listing Obligations and Disclosure Requirements) Regulations 2015, covering topics across environment, governance, and stakeholder relationships. We collect the top 500 market capitalization companies as we observed that companies with lower market capitalization prior to 2015 do not have publicly disclosed CSR expenditure details. We assume the expenditure value to be zero for all the companies with no CSR expenditure information.

¹⁵ www.mca.gov.in/MinistryV2/csrdatasummary.html.

¹⁶ We follow the foreign portfolio investor (FPIs) definition under SEBI regulations, and only consider FPIs as FIIs whose maximum holdings are not >10% of the equity capital of a company on a fully diluted basis. Holdings above 10% are considered to be foreign direct investments under SEBI regulations.

¹⁷ A potential concern associated with S-135 is whether firms would endogenously choose to be affected or remain unexposed by the regulation. One scenario could be that firms might self-select to be affected or unaffected by the mandate by increasing or lowering their accounting figures above or below the threshold level. However, Manchiraju and Rajgopal (2017) do not find any strategic manipulation in the accounting data of Indian firms around the threshold levels.

motivate insiders to derive higher utility from private benefits, thus leading to poor corporate governance (Leuz et al., 2009). We expect FIIs' ownership to be lower when the ownership concentration is higher (Ferreira and Matos, 2008; Leuz et al., 2009).

We include firm size (*Size*) by taking the natural logarithm of total assets (Leuz et al., 2009), *Cash* as the sum of year-end cash and short-term securities scaled by total sales (Roy et al., 2022), international presence (*Exports*) taking foreign sales as a percentage of total sales (Bena et al., 2017), and ownership concentration (*OwnCon*) as the proportion of total shares held by promoters (Koirala et al., 2020; Thapa et al., 2020).¹⁸

Furthermore, Leuz et al. (2009) suggest that leverage and growth potential are significant factors influencing the investment decisions of FIIs. Firms with higher leverage tend to be more financially vulnerable and as a result, undertake less value-enhancing corporate risk-taking (Acharya et al., 2011). Thus, we expect the variable *Leverage*, taken as the ratio of the book value of debt to equity, to have a negative correlation with the ownership of FIIs (Ferreira and Matos, 2008). Similarly, foreign investors appear to buy and hold growth stocks because such stocks tend to experience higher past intangible returns (Leuz et al., 2009). Thus, we include the book-to-market value of equity (*B/M*), calculated as the book value per share over the year-end market share price, as a proxy for growth potential and expect it to have a negative association with ownership of FIIs (Leuz et al., 2009).

Following Aggarwal et al. (2005), we also use return on assets (*ROA*), a proxy for profitability computed as earnings before interest and taxes (*EBIT*), scaled by the book value of total assets, and expect it to be positively associated with ownership of FIIs. Finally, Chen et al. (2015) note that any decline in analyst coverage exacerbates agency problems and reduces the quality of firm governance, which should further lead to value-destruction activities. This discourages FIIs from investing in such firms. We include the number of analysts covering the firm in any year (*Analyst*), which is expected to be positively associated with ownership of FIIs (DeFond et al., 2011). We include all covariates in our empirical analysis by taking one-year lagged values (Bena et al., 2017).¹⁹

4.4. Descriptive statistics

Table 1 reports different summary statistics for the entire sample as well as the average values for the pre-CSR (2012–2014) and post-CSR (2015–2017) subsamples for all key variables. These statistics are presented at the investee firm (*i*) level in Panels A and B followed by the FII (*j*) level in Panel C.

Panel A of Table 1 shows the summary statistics for FIO_{it} and ΔFIO_{it} . For a typical listed Indian firm, the average FIO_{it} is approximately 2.30% of the total outstanding share.²⁰ In terms of pre- and post-CSR figures, with the difference being statistically significant at the 1% level, the statistics suggest that the average FIO_{it} significantly increases from 2.16% to 2.43% in the post-CSR mandate period compared to the pre-CSR mandate period. This change represents an increase of 11.74% $[(2.43-2.16)/2.30]$ compared to the overall average, or INR 10,178.58 billion in terms of market value for the sample period.²¹ Furthermore, there is also a significant positive difference observed in ΔFIO_{it} between the pre- and post-S-135 periods of 4.43% (an increased from 7.11% to 11.54%) compared to the overall sample average of 9.31%.

Panel B of Table 1 reports the summary statistics for all covariates, as described in Subsection 4.3. The mean value of *Size* increases significantly in the post-CSR mandate period, suggesting that firms' net investment in assets has increased (Cheng et al., 2014). On the other hand, three covariates, namely *B/M*, *Leverage* and *ROA*, decline in the post-CSR mandate period. The decline in *B/M* indicates that the market value of firms could have increased in the post-CSR mandate period (Ferrell et al., 2016).

Further, the reduction in *Leverage* could indicate that after the CSR mandate, CSR firms' reliance on debt capital reduced as they may have acquired easier access to equity capital (with a reduced cost of equity) (Cheng et al., 2014; El Ghouli et al., 2011). Moreover, the decline in profitability (*ROA*) in the post-S-135 period could be induced by the inclusion/increase in CSR expenditure in income statements by CSR firms (Chen et al., 2018). We also observe that overall CSR expenditure has a mean value of INR 15.59 million, with this expenditure increasing significantly by 74.30% in the post-S-135 mandate. This provides us with a strongly indicates that mandated S-135 has led to a significant increase in CSR expenditure by firms. Finally, the remaining covariates (*OwnCon*, *Cash*, *Analyst*, and *Exports*) remain almost unchanged in the post-CSR mandate period.²²

Panel C of Table 1 shows the investor-level statistics of FIIs' heterogeneity based on legal origin (common vs. civil), investee-firm monitoring role (independent vs. grey investors), and investment horizon (short-term vs. long-term). At the aggregated firm level, we find that, on average, each firm receives about 1.62% (0.58%) of investments by common (civil) law-origin FIIs. The pre- and post-S-135 differences in these averages across the heterogeneity show that, except for common law origin, grey, and short-term investors, the

¹⁸ Promoters are dominant shareholders (including family owners) owning large controlling stakes in the firm.

¹⁹ For definitions and sources of all key variables, see Table A2 in the Appendix.

²⁰ For the US market, Baik et al. (2013) report a mean FIIs' ownership of 2.62% per firm. Thus, in relative terms and as FIIs are generally sophisticated investors and therefore selective in investing in foreign stocks, the average FIO of 2.30% per Indian equity is comparable and economically meaningful (Bekaert and Harvey, 2003). Further, and as noted earlier, FIIs are one of the major categories of outside investors in India owning approximately 40% of the free float Indian market capitalization. Source: *Financial Times*, April 13, 2015.

²¹ Applying the average market capitalization figure of INR 86,700 billion during the post-regulation period of three years.

²² It can be observed that the standard deviation of most of these variables is large, suggesting wide variations in size, profitability, leverage, etc. Potentially, this also indicates that the treatment and control groups could vary significantly in their characteristics in the pre-treatment period (see Panel B of Table 2). Thus, applying DiD to the entire sample may lead to comparing treatment and control groups containing firms with wide variations and invalidate the identical expectation and common support assumption of near randomization. This leads us to generate a near-randomized approach using a standard and robust matching technique (see Section 5).

Table 1
Descriptive statistics.

Variable	Observations	Mean	Median	Std. Deviation	Minimum	Maximum	Before S-135	After S-135	Diff	t-stat	p-value
Panel A: FIIs' ownership variables											
FIO	23,694	2.30	0.00	6.12	0.00	37.60	2.16 (11,974)	2.43 (11,720)	0.27***	3.37	0.001
Δ FIO	23,502	9.31	0.00	71.60	-100	864.15	7.11 (11,830)	11.54 (11,672)	4.43***	4.74	0.000
Panel B: Covariates and other independent variables											
Size	23,120	6.93	6.97	2.37	1.16	11.62	6.84 (11,736)	7.03 (11,384)	0.19***	6.17	0.000
OwnCon	20,116	49.20	35.77	21.30	0.62	85.27	48.98 (9913)	49.41 (10,203)	0.44	1.46	0.144
B/M	18,554	0.92	0.15	2.49	-2.43	11.67	1.05 (9047)	0.80 (9507)	-0.24***	-6.69	0.000
Leverage	20,707	1.04	0.40	1.77	0.00	9.01	1.08 (10,590)	1.00 (10,117)	-0.08***	-3.56	0.000
Cash	20,309	0.26	0.04	0.69	0.00	3.50	0.27 (10,168)	0.25 (10,141)	-0.02*	-1.79	0.074
ROA	22,981	0.41	1.24	11.11	-45.52	27.29	0.72 (11,624)	0.09 (11,357)	-0.62***	-4.24	0.000
Analyst	23,694	1.25	0.00	5.09	0.00	51.00	1.25 (11,974)	1.24 (11,720)	-0.01	-0.21	0.833
Exports	23,123	11.38	0.00	30.42	0.00	100.00	11.73 (11,732)	11.02 (11,391)	-0.71*	-1.79	0.073
CSR Expenditures	23,694	15.59	0.00	108.30	0.00	1707.60	11.40 (11,974)	19.87 (11,720)	8.47***	6.02	0.000
Panel C: FIIs' ownership heterogeneity											
FIO (Common law)	23,694	1.62	0.00	4.47	0.00	24.05	1.59 (11,974)	1.65 (11,720)	0.06	1.00	0.315
FIO (Civil law)	23,694	0.58	0.00	2.39	0.00	14.74	0.49 (11,974)	0.67 (11,720)	0.18***	5.79	0.000
FIO (Scandinavian)	23,694	0.06	0.00	0.39	0.00	4.68	0.04 (11,974)	0.07 (11,720)	0.03***	6.03	0.000
FIO (Other civil)	23,694	0.51	0.00	2.31	0.00	9.83	0.43 (11,974)	0.59 (11,720)	0.16***	5.25	0.000
FIO (Independent)	23,694	1.26	0.00	3.55	0.00	18.96	1.20 (11,974)	1.32 (11,720)	0.12***	2.63	0.008
FIO (Grey)	23,694	1.04	0.00	4.91	0.00	16.65	1.45 (11,974)	1.44 (11,720)	-0.01	0.10	0.923
FIO (Long-term)	23,694	0.05	0.00	0.30	0.00	3.84	0.03 (11,974)	0.06 (11,720)	0.03***	8.69	0.000
FIO (Short-term)	23,694	0.15	0.00	0.86	0.00	7.39	0.15 (11,974)	0.16 (11,720)	0.01	0.76	0.444

This table reports the mean values of all variables used in this study for the overall sample period (i.e., 2012 to 2017) and is also segregated into two periods, i.e., before the enforcement of S-135 (2012–2014) and after the enforcement of S-135 (2015–2017) for which the number of observations is presented in parentheses. Panels A and B respectively report the statistics for the main dependent variables (i.e., foreign institutional ownership variables) and firm level covariates. *FIO* is the total institutional ownership (% of total outstanding shares) of Indian firms held by all foreign institutional investors (FIIs). Δ *FIO* is the year-on-year change in total foreign institutional ownership (*FIO*). Covariates are as defined in Table A2. Panel C provides the summary statistics of aggregated ownership by heterogeneous FIIs. *, ** and *** denote statistical significance at the 10%, 5% and 1% significance levels, respectively. Data sources: S&P Capital IQ (CIQ) and the Centre for Monitoring Indian Economy (CMIE) database.

average investments significantly increase after the CSR S-135 mandate. These results provide us with an initial indication that S-135 may have influenced FII investments in India.

5. Propensity score matched (PSM) randomization

Although we exploit S-135 as an exogenous shock for our DiD approach, we need to have two highly comparable groups of treated and control firms which should, as far as plausible, have homogeneous expectations and be exposed to similar economic environments in the post-CSR reform period. To check the baseline differences in their characteristics, we run *t*-tests of mean differences in key covariates (*Size*, *OwnCon*, *B/M*, *Leverage*, and *Cash*) between the treated and control firms for the pre-S-135 period (i.e., 2012–2014) to see if they were comparable. Panel A of Table 2 presents the results.

Panel A of Table 2 indicates that the treated and control group firms differ significantly in terms of covariate characteristics. Thus, we created near-randomized treated and control groups using the PSM approach, in which we carried out the standard steps prescribed in the literature (Bena et al., 2017; Koirala et al., 2020; Roy et al., 2022). We first run a probit regression in the pre-CSR mandate period (Fiscal Years 2012–2014) as per specification (2), where the $Treat_{it}$ dummy is the dependent variable. X_{it} is the vector of five key covariates for PSM matching: *Size*, *OwnCon*, *B/M*, *Leverage*, and *Cash*.²³ ϑ_k is the industry fixed effects using the Fama-French 17 industries classification in eq. (2):

$$Treat_{it} = \alpha + X_{it}\beta' + \vartheta_k + \varepsilon_{it} \quad (2)$$

We apply the nearest neighbor caliper algorithm method with replacement to identify a matching set of highly comparable treated and control firms prior to the enforcement of the CSR mandate (Rosenbaum and Rubin, 1985; Smith and Todd, 2005).²⁴ PSM outcome results for 469 pairs of matched treated and control firms. To test whether PSM decreases the potential noticeable variances between the treated and control firms prior to the mandate, we rerun specification (2) on the matched subsample. The results of both the pre-matched and post-matched sample probit estimations are shown in Panel B of Table 2.

As reported in Columns (1,2) of Panel B of Table 2, the matched treated and control group firms are not significantly different from each other. The pseudo- R^2 drops significantly from 0.33, observed in the pre-match probit (Model [1]) to only 0.02 in the post-match diagnostics (Model [2]). This finding suggests that the explanatory power of the probit model with matched firms is significantly reduced. We conducted further PSM diagnostic tests to validate the comparability of our PSM-matched treated and control group firms. This additional analysis is described in Section 1 of the Online Appendix and Figure OA1. Overall, the tests indicate no statistically significant difference between the treated and control firms in the matched sample.

6. Empirical results

6.1. Mandated CSR engagement and FIIs: Difference-in-differences results

We begin our empirical examination by plotting the yearly mean value of FIO_{it} and the year-on-year change in FIO_{it} , that is, ΔFIO_{it} for the PSM-matched treated and control firms. As shown in Fig. 1, FIO_{it} and ΔFIO_{it} for PSM-matched treated and control firms move in tandem in the pre-CSR S-135 enactment period. However, this parallel trend has a significant divergence from 2015 (the fiscal year is April 1, 2014–March 31, 2015) when S-135 came into force. Although FIO_{it} and ΔFIO_{it} continue to fall for the control group firms, we see an increase in the trend of FIO_{it} and ΔFIO_{it} for the treated firms. We argue that the differential increment observed in FIO_{it} for the treated group is potentially attributed, at least partially, to the CSR reform S-135, thus offering some preliminary support in favor of the CSR engagement attraction hypothesis H_1 .

Given the highly restricted PSM procedure described in Section 5, our PSM-DiD attempts to be as randomized as possible; hence, any time-invariant or time-variant factor other than S-135 should affect the treated and control groups identically without disturbing the parallel trend. Such a credible set-up reduces the concern of our result being driven by any alternative explanations to changes in FIO_{it} among treated firms post-S-135.

Next, we present the univariate DiD estimates for FIO_{it} and ΔFIO_{it} in Panel A of Table 3. The DiD estimates show, Relative to the control firms, what the differential change is in the average FIO_{it} and ΔFIO_{it} among the treated firms in the post-S-135 period. The univariate DiD coefficients for both FIO_{it} (0.331) and ΔFIO_{it} (10.581) are positive and significant at the 1% level. When we compare the 0.33% increase relative to the average mean value of all firms in the pre-S-135 period, this is a material increase of almost 15% for the

²³ The PSM results do not alter in any significant manner when we include all the covariates instead of the five key covariates. However, we do include all the covariates in the DiD regression estimations to improve the quantitative accuracy of the estimates.

²⁴ As treated firms are generally bigger in size, we do not apply an exact matching technique for PSM. Instead, we use a nearest neighbor matching algorithm with a highly restricted caliper radius of 0.01% to generate near-randomized and highly comparable treated and control groups. We refer to this as the NN-PSM-0.01% approach. We are able to apply such a restrictive approach for PSM as our sample contains a total of 1916 treated and 2070 control firms as exogenously determined by S-135 (almost evenly distributed). We acknowledge that the NN-PSM-0.01% approach significantly reduces the number of treated and control firms in our matched sub-sample. However, by following such a highly restrictive near-randomization process, we are able to obtain almost identical treated and control groups that are immune to size bias. Further, matching with replacement minimizes the PSM distance between the matched control group firms and the treatment group firms, thus helping in reducing bias (Dehejia and Wahba, 2002).

Table 2
Propensity score matching (PSM).

Panel A: Mean differences in covariates between treated and control firms in the pre-S-135 period						
Variable	Control	Treated	Diff (T-C)	t-stat	p-value	
Size	6.00 (1.72) 6093	7.74 (2.70) 5643	1.74***	41.97	0.000	
OwnCon	46.69 (21.07) 4979	51.29 (21.02) 4934	4.60***	10.88	0.000	
B/M	0.62 (2.01) 4408	1.45 (2.93) 4639	0.83***	15.49	0.000	
Leverage	1.26 (1.99) 5362	0.90 (1.49) 5228	-0.36***	-10.37	0.000	
Cash	0.30 (0.77) 5996	0.23 (0.59) 4172	-0.08***	-5.30	0.000	

Panel B: Pre-match propensity score regression and post-match diagnostic regression			
	Dummy = 1 if affected by S-135; 0 if unaffected		
	Pre-match		Post-match
	[Model 1]		[Model 2]
Size	0.564*** (21.79)		0.010 (0.29)
OwnCon	-0.001 (-0.55)		-0.001 (-0.29)
B/M	-0.089*** (-4.63)		-0.021 (-0.63)
Leverage	-0.208*** (-9.33)		-0.007 (-0.24)
Cash	0.110** (2.19)		-0.032 (-0.46)
Constant	-3.841*** (-17.92)		0.266 (0.98)
Industry FE	Yes		Yes
Pseudo R ²	0.33		0.02
p-value of χ^2	0.00		0.38
Observations	2748		938

Panel A reports the t-test of mean differences in covariates between treated and control firms in the pre-S-135 period and Panel B shows a probit model for PSM as per the following specification: $Treat_i = \alpha + \mathbf{X}_{it} \beta' + \vartheta_k + \varepsilon_{it}$

Where $Treat_i$ is a categorical variable that takes the value of one if the firm is affected by S-135 and zero otherwise. \mathbf{X}_{it} is the vector of covariates comprising *Size*, *OwnCon*, *B/M*, *Leverage*, and *Cash* used for matching. *Size* is the natural logarithm of total assets, *OwnCon* is the proportion of total shares held by promoters, *B/M* is the book value per share over the year-end market share price, *Leverage* is the ratio of book value of debt-to-equity, *Cash* is the sum of year end cash and short-term securities scaled by total sales. ϑ_k is the industry fixed effects using the Fama-French 17 industries classification. Model [1] presents the probit model predicting the likelihood of being a treated firm from the entire sample of firms with no missing covariates in the pre-S-135 period. Model [2] presents the probit likelihood model for matched treated and comparison firms using PSM with replacement. Heteroskedasticity robust t-stats are presented in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% significance levels, respectively. Data sources: CIQ and CMIE database.

treated firms compared to the control firms in the post-S-135 period. To improve the precision of the DiD estimates, we run the following multivariate DiD regression:

$$FIO_{it} = \alpha + \beta \cdot (Treat_i \times Post_t) + \lambda \cdot Treat_i + \rho \cdot Post_t + \mathbf{X}_{it-1} \delta' + \gamma_i + \tau_t + \varepsilon_{it} \quad (3)$$

where, FIO_{it} is the dependent variable (FIO_{it} or ΔFIO_{it}) and the key independent variable ($Treat_i \times Post_t$), the DiD term, is the interaction between the $Treat_i$ and $Post_t$ dummy variables. \mathbf{X}_{it-1} is a vector of covariates. γ_i and τ_t allow for firm- and year-fixed effects in the panel regressions. Standard errors are clustered at the firm-level.

It could be credibly argued that the shorter the sample period, the more precise the DiD estimates; with time, it is empirically challenging to isolate the effect of S-135 from other factors. However, once a firm meets the regulatory threshold of S-135 and becomes legally obliged, it remains obligated for the next three years. Therefore, we estimate specification (3) for both shorter (2013–2016) and longer periods (2012–2017). Accordingly, the pre-CSR mandate period is 2013–14 for the shorter period and 2012–2014 for the longer period ($Post_t = 0$), whereas the post-CSR mandate period is 2015–2016 for the shorter period and 2015–2017 for the longer period

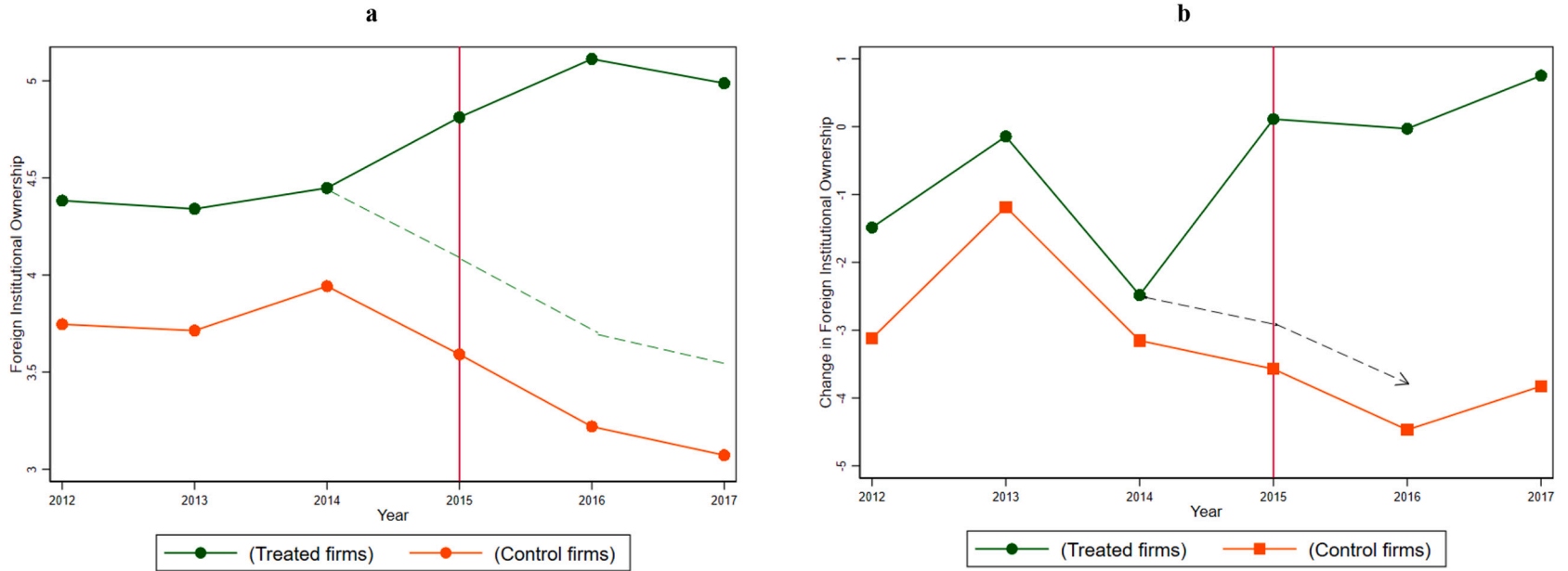


Fig. 1. Treated and control firms' annual mean values of foreign institutional ownership.

Fig. 1 shows the trend of the annual mean values of Foreign Institutional Ownership of treated and control firms before and after the introduction of CSR mandate reform enforced from year 2015. Fig. 1a shows the trend for the Foreign Institutional Ownership (FIO_{it}) and Fig. 1b shows the trend for changes in foreign institutional ownership (ΔFIO_{it}). The dashed arrow in Fig. 1a and b shows the expected path of the treated firms' trend line in the absence of S-135 shock. The sample period is 2012 to 2017. Data sources: CIQ and CMIE database.

Table 3
Mandated CSR and FIIs: Propensity scored matched – DiD regression.

Panel A: Univariate DiD estimates of PSM-matched treated and control firms for 2012–2017								
	Foreign Institutional Ownership (FIO)				Change in Foreign Institutional Ownership (ΔFIO)			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
	Treated	Control	Diff (T-C)	DiD	Treated	Control	Diff (T-C)	DiD
Before	3.486	0.895	2.590*** (16.31)	0.331*** (2.79)	8.084	6.892	1.193 (0.63)	10.581*** (3.88)
After	3.624	0.702	2.921*** (19.58)		11.130	-0.643	11.773*** (6.29)	

Panel B: Multivariate PSM-DiD regression estimates				
	Foreign Institutional Ownership (FIO)		Change in Foreign Institutional Ownership (ΔFIO)	
	2013–2016	2012–2017	2013–2016	2012–2017
	[1]	[2]	[3]	[4]
DiD ($Treat_t \times Post_t$)	0.316** (2.10)	0.431** (2.16)	7.505** (2.15)	8.465*** (3.06)
Size	0.347** (2.22)	0.564*** (2.85)	-4.424 (-0.59)	-3.027 (-0.79)
OwnCon	-0.030** (-2.56)	-0.050*** (-2.91)	0.505** (2.26)	0.386** (2.32)
B/M	0.002 (0.03)	-0.038 (-0.48)	-5.793*** (-3.32)	-2.592** (-2.27)
Leverage	-0.037 (-0.68)	0.013 (0.24)	-0.943 (-0.77)	-0.013 (-0.02)
Cash	0.117 (1.07)	0.121 (0.97)	2.819 (0.76)	3.470 (1.31)
ROA	0.663 (0.78)	-0.382 (-0.43)	5.952 (0.30)	24.580 (1.62)
Analyst	0.315*** (3.31)	0.440*** (3.13)	2.951 (1.18)	0.274 (0.13)
Exports	-0.001 (-0.09)	-0.006 (-0.56)	0.006 (0.05)	0.000 (0.00)
R ² (within)	0.026	0.025	0.017	0.009
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of Firms	863	903	863	903
Observations	3162	4706	3162	4706

This table reports the results from the propensity scored matched DiD regression as per the following specification: $FIO_{it} = \alpha + \beta \cdot (Treat_t \times Post_t) + \lambda \cdot Treat_t + \rho \cdot Post_t + \mathbf{X}_{it-1} \cdot \delta' + \gamma_i + \tau_t + \varepsilon_{it}$

Where FIO_{it} (ΔFIO_{it}) is the institutional ownership (change in ownership), held by all FIIs, of Indian firm i for the year t . $Treat_t$ is an indicator dummy variable that takes the value of one for firms that are affected by S-135 and zero otherwise. $Post_t$ is a categorical variable that takes the value of one for the post-CSR mandate period (2015–2017) and zero for the pre-S-135 period (2012–2014). The DiD is the interaction between the $Treat_t$ and $Post_t$ dummies. \mathbf{X}_{it-1} is a vector of the one year lagged covariates *Size*, *OwnCon*, *B/M*, *Leverage*, *Cash*, *ROA*, *Analyst* and *Exports*, all as defined in Table A2. γ_i and τ_t are the firm and year fixed effects respectively. All covariates are winsorized at 1% and 99% levels. Standard errors are clustered at the firm level and t-stats are presented in parentheses. *, ** and *** denote statistical significance at 10%, 5% and 1% significance levels, respectively. The study period ranges from 2012 to 2017. Data sources: CIQ and CMIE database.

($Post_t = 1$). For each sample period and measure of FIO_{it} and ΔFIO_{it} , we report the multivariate PSM-DiD regression results in Panel B of Table 3.

Table 3 Panel B shows that in the post-S-135 CSR mandate period, on average, FIO_{it} significantly increases in the range of 0.316% to 0.431%, and the ΔFIO_{it} in the range of 7.505% to 8.465%, among the treated firms when compared to the control group firms. These results are generally significant at 5% or better significance levels. Overall, the results in Table 3 support CSR *engagement attraction*

hypothesis H_1 that firms that comply with the CSR mandate attract more FIIs, relative to firms that do not comply.^{25,26} Most of the covariates carry predicted signs.

In an additional set of similar tests, we investigate how DIIs' ownership changes in the post-S-135 period. The parallel trend graph for DII ownership presented in Figure OA2 of the Online Appendix shows no discernible difference in the post-S-135 period between the treated and control firms. Similarly, the regression results show no significant change in DIIs' ownership.²⁷ These findings indicate that mandated CSR disclosure does not seem to provide any additional information for DIIs to influence their investment levels, potentially corroborating the view that DIIs already have greater levels of information relative to FIIs (Ferreira and Matos, 2008; Tsang et al., 2019).

6.2. Does actual CSR expenditure matter to FIIs?

S-135 requires firms to either comply by spending the required amounts on CSR projects or explain their complete or partial noncompliance. In our empirical setup under specification (3), the treated group may comprise firms that may choose to explain their reason for non-compliance, and hence, their inclusion may generate biased estimates. To overcome this potential issue within the treated firms, we conduct a PSM-matched double difference-in-differences (DiDiD) using specification (4), whereby we exploit the cross-sectional variations in the actual CSR expenditure:

$$FIO_{it} = \alpha + \beta_1 \cdot (Treat_i \times Post_t \times CSR_{exp}) + \beta_2 \cdot (Treat_i \times Post_t) + \lambda \cdot Treat_i + \rho \cdot Post_t + X_{it-1} \cdot \delta' + \gamma_i + \tau_t + \varepsilon_{it} \quad (4)$$

We follow two alternative approaches for estimating specification (4). In the first, we define CSR_{exp} as an indicator variable that takes the value of one if the firm's CSR expenditure is greater than zero, and the value of zero if the firm does not incur CSR expenditure. In the second alternative, we define CSR_{exp} as the natural logarithm of the actual value of CSR expenditure in million Indian rupees (INR). All other variables are specified in specification (3). Table 4 presents the results of these alternatives to specification (4).

The first alternative of specification (4), in which CSR_{exp} is a dummy variable, is shown in columns [1,2], and the second alternative is based on the actual scaled CSR expenditure value in columns [3, 4] of Table 4. We observe that the coefficient of DiDiD is positive and significant across all specifications (at 5% or higher significance levels). The positive signs of the estimates indicate that, on average, and in the post-reform period, the higher the actual CSR expenditure, the higher the FIO_{it} in the treated firms relative to the control firms. In economic terms, the additional attraction of FIO_{it} is 0.475% (0.371% for the alternative-scaled CSR model) and that of ΔFIO_{it} is 9.162% (6.721% for the alternative-scaled CSR model). The results provide evidence that FIIs place considerable importance on firms' actual CSR expenditure, further supporting CSR engagement attraction hypothesis H_1 .²⁸

6.3. New and existing FIIs - CSR engagement attraction

To provide additional support for our CSR engagement attraction hypothesis, we investigate whether CSR firms attract new FIIs in the post-S-135 period. As such, in specification (3), we consider three dependent variables: (i) the total number of FIIs, (ii) the number of new FIIs as a proportion of the total number of existing FIIs, and (iii) the total ownership held by new FIIs for the PSM-DiD regressions. Additionally, to see whether existing FIIs change their ownership in CSR firms, we set the total ownership by existing FIIs as the dependent variable and derive the estimates.

Table 5 shows that the DiD coefficients are positive and significant (at least at the 5% level) across all three proxies for new FIIs, indicating that S-135 significantly attracted new FIIs to invest in CSR firms in the post-S-135 period. Model [2] shows on average, when compared to non-CSR firms, there was an 11.9% increase in new FIIs among CSR firms post-S-135. We also find in Model [4] the DiD coefficient is positive and significant (at the 5% level) for the existing FIIs' ownership variable, whose proportion of ownership increased, on average, by 0.312% among CSR firms in the post-S-135 period when compared to non-CSR firms. Overall, the results indicate that CSR firms obtained higher FIIs' ownership in the post-S-135 period by attracting investments from both new and existing

²⁵ It is plausible that some of the affected firms were already engaged in CSR and if so, investments by FIIs should not be affected by the CSR mandate. Indeed, it can be argued that the impact for firms practicing voluntary CSR may have been negative. In order to address this concern, we conduct the following robustness test. We drop from the sample the firms that had voluntary CSR engagement prior to the enactment of S-135 and rerun our analysis on both full and PSM samples. The empirical results, presented in Table OA1 and discussed in Subsection 2.1 of the Online Appendix, confirm that the higher fund flows from FIIs are primarily attracted by the mandated CSR firms in the post-S-135 period and not by the firms that were already engaged in voluntary CSR activities prior to the enforcement of S-135.

²⁶ For further robustness, we also run a regression in specification (3) where we take firm level yearly aggregate FIIs' ownership data from the CMIE Prowess database as our dependent variable. Presented in Table OA2 in the Online Appendix, the regression results are very similar, in terms of statistical significance and economic magnitude, to our main results in Table 3.

²⁷ For brevity we do not report the regression results, but these are available on request.

²⁸ Higher levels of profits normally attract higher FIIs. The S-135 provisions mean that these firms will have higher CSR expenditure, and the relationship between CSR and FIIs could only be due to spurious correlation. In order to mitigate this concern, we conduct an additional empirical analysis to test the impact of excess CSR expenditure, i.e., CSR expenditure over and above the mandated amount under S-135, on attracting FIIs. The results indicate that mandated CSR (treated) firms that spend on CSR over and above the mandated (prescribed) amount attract higher levels of FIIs' ownership on average, relative to all other firms. The results are presented in Table OA3 and discussed in detail in Subsection 2.2 of the Online Appendix.

Table 4
CSR expenditure and FIIs' ownership.

	<i>CSR_{exp} is an indicator variable</i>		<i>CSR_{exp} is log of CSR expenditure</i>	
	<i>(FIO)</i>	<i>(ΔFIO)</i>	<i>(FIO)</i>	<i>(ΔFIO)</i>
	[1]	[2]	[3]	[4]
DiDiD ($Treat_t \times Post_t \times CSR_{exp}$)	0.475** (2.47)	9.162*** (2.83)	0.371** (2.38)	6.721** (2.37)
DiD ($Treat_t \times Post_t$)	–	–	0.047 (0.18)	1.513 (0.44)
Size	0.543*** (2.74)	–3.416 (–0.88)	0.504** (2.55)	–4.106 (–1.07)
OwnCon	–0.051*** (–2.98)	0.366** (2.21)	–0.051*** (–2.97)	0.370** (2.24)
B/M	–0.034 (–0.44)	–2.517** (–2.20)	–0.029 (–0.37)	–2.419** (–2.13)
Leverage	0.015 (0.29)	0.032 (0.04)	0.023 (0.43)	0.176 (0.20)
Cash	0.127 (1.01)	3.585 (1.36)	0.123 (0.97)	3.502 (1.32)
ROA	–0.326 (–0.37)	25.750* (1.71)	–0.428 (–0.48)	23.750 (1.58)
Analyst	0.433*** (3.11)	0.143 (0.07)	0.408*** (2.94)	–0.305 (–0.15)
Exports	–0.006 (–0.59)	–0.003 (–0.04)	–0.005 (–0.55)	0.004 (0.04)
R ² (within)	0.025	0.009	0.028	0.012
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of Firms	903	903	903	903
Observations	4634	4634	4706	4634

This table reports the results from the propensity matched DiDiD regression as per the following specification: $FIO_{it} = \alpha + \beta_1 (Treat_t \times Post_t \times CSR_{exp}) + \beta_2 (Treat_t \times Post_t) + \lambda (Treat_t) + \rho (Post_t) + \mathbf{X}_{it-1} \delta' + \gamma_i + \tau_t + \varepsilon_{it}$

Where FIO_{it} (ΔFIO_{it}) is the institutional ownership (change in ownership), held by all FIIs, of Indian firm i for the year t . The DiDiD is the interaction among $Treat_t$, $Post_t$ and CSR_{exp} . In columns [1, 2], CSR_{exp} is an indicator variable that takes the value of one if a firm actually incurs CSR expenditure and zero otherwise. In columns [3, 4], CSR_{exp} is the log of a firm's actual CSR expenditure. $Treat_t$ and $Post_t$ are indicator variables as in Table 3. \mathbf{X}_{it-1} is a vector of the one year lagged covariates *Size*, *OwnCon*, *B/M*, *Leverage*, *Cash*, *ROA*, *Analyst* and *Exports*, all as defined in Table A2. γ_i and τ_t are the firm and year fixed effects respectively. All covariates are winsorized at 1% and 99% levels. Standard errors are clustered at the firm level and t-stats are presented in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% significance levels, respectively. The study period ranges from 2012 to 2017. Data sources: CIQ and CMIE database.

FIIs.

6.4. Robustness tests of CSR engagement attraction hypothesis (H_1)

6.4.1. Placebo test

Although our findings suggest that the implementation of S-135 directly caused exogenous variation in FIIs' ownership, these findings could have been due to cyclical trends or the persistence of prior exogenous variation. To address this concern, we conduct a placebo test by rerunning specification (3) for an alternative sample period of 2007–2012, with years 2007–2009 ($Post_t=0$) as the pre-shock period and years 2010–2012 ($Post_t=1$) as a false post-shock period. In addition to capturing any past exogenous or cyclical events, we assume that the S-135 effective year is 2010, which is a false shock year. Columns [1, 2] of Table 6 show that the DiD coefficients for both FIO_{it} and ΔFIO_{it} are insignificant, indicating that our main results presented in Table 3 are not confounded by their events and lessen concerns about any pre-existing trends in FIO_{it} and ΔFIO_{it} .

6.4.2. Alternative treated and control groups

Besides the S-135 treated firms, control firms that do not come under S-135 could voluntarily choose to undertake CSR expenditure.²⁹ Therefore, we reclassify the matched treated and control firms based on actual CSR expenditure. The assumption is that firms within the alternative treatment group that actually incur CSR expenditure can be considered more "socially responsible," regardless of their compliance with the new, mandated CSR regulation. Therefore, we redefine the indicator variable $Treat_t$ value as one for firms with CSR expenditure greater than zero, regardless of whether it satisfies the thresholds of S-135 (alternative treatment group firms), and those with no CSR expenditure take the value of zero (alternative control group firms). We test specification (3) using this alternative treatment group, and present the results in Columns [3, 4] of Table 6. We find that, in line with our main results, in the post-

²⁹ We find that 1503 treated firms and 614 control firms actually expend on CSR activities in the post-S-135 period.

Table 5
CSR engagement and FIIs' ownership: New and existing FIIs.

	Total FIIs	New FIIs /Existing FIIs	New FIIs' Ownership	Existing FIIs' Ownership
	[1]	[2]	[3]	[4]
DiD (Treat _t × Post _t)	0.230*** (4.10)	0.119*** (4.29)	0.169** (2.16)	0.312** (2.04)
Size	0.373*** (4.43)	-0.033 (-0.70)	-0.127 (-1.18)	0.683*** (2.96)
OwnCon	-0.007* (-1.91)	0.004* (1.88)	0.006 (1.08)	-0.044*** (-3.57)
B/M	-0.073*** (-2.69)	-0.045*** (-3.00)	-0.017 (-0.55)	0.060 (0.89)
Leverage	-0.063*** (-3.12)	-0.009 (-0.62)	-0.033 (-1.53)	0.040 (0.81)
Cash	0.119** (2.41)	0.031 (1.30)	0.050 (0.93)	0.027 (0.27)
ROA	0.222 (0.84)	0.229 (1.31)	0.548 (1.48)	-0.918 (-1.33)
Analyst	0.306*** (3.94)	-0.059*** (-2.71)	0.030 (0.53)	0.377*** (2.75)
Exports	-0.002 (-0.51)	-0.001 (-0.83)	-0.002 (-0.74)	-0.001 (-0.18)
R ² (within)	0.068	0.014	0.005	0.037
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of Firms	903	903	903	903
Observations	4706	4706	4706	4706

This table reports the DiD of propensity matched pairs of firms as per the following specification: $FIO_{it} = \alpha + \beta \cdot (Treat_t \times Post_t) + \lambda \cdot Treat_t + \rho \cdot Post_t + X_{it-1} \cdot \delta' + \gamma_i + \tau_t + \varepsilon_{it}$

Depending on the model, FIO_{it} is either the total number of FIIs, the number of new FIIs as a proportion of the total number of existing FIIs, the total ownership held by new FIIs or the total ownership held by existing FIIs of Indian firm i for the year t . $Treat_t$ and $Post_t$ are indicator variables as defined in Table 3. The DiD is the interaction between the $Treat_t$ and $Post_t$ dummies. X_{it-1} is a vector of the one-year lagged covariates *Size*, *OwnCon*, *B/M*, *Leverage*, *Cash*, *ROA*, *Analyst* and *Exports*, all as defined in Table A2. γ_i and τ_t are the firm and year fixed effects respectively. All covariates are winsorized at 1% and 99% levels. Standard errors are clustered at the firm level and t-stats are presented in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% significance levels, respectively. The study period ranges from 2012 to 2017. Data sources: CIQ and CMIE database.

CSR mandate period, FIO_{it} (ΔFIO_{it}) increases significantly on average by 0.652% (7.350%) among treatment group firms compared to alternative control group firms. These results further support the *CSR engagement attraction* hypothesis (H_1).³⁰

6.4.3. Multivariate regression discontinuity design (MRDD)

We supplement our PSM-DiD method with a regression discontinuity (RD) test around the cut-off thresholds of S-135 to estimate the localized effect of the treatment (i.e., the CSR mandate). However, as S-135 has multiple assignment thresholds that determine treatment status, we used the binding-score MRDD (Manchiraju and Rajgopal, 2017; Reardon and Robinson, 2012). The binding-score MRDD technique generates a single rating score (M_{Score}) by collapsing multiple rating variables and estimating the average treatment effect for the entire sample using M_{Score} .

Following the standard approach of the MRDD, we first center each of the three rating variables, namely net worth, sales, and net profit (these are the threshold variables of S-135, as indicated in Section 2), on its cut-off (zero). Next, for each firm (i), we generate a single new rating variable ($M_{Score, i}$) by centering each variable score at its respective cutoff of INR 5 billion for net worth, INR 10 billion for sales, and INR 50 million for net profit (Reardon and Robinson, 2012; Wong et al., 2013).³¹

We use four different bandwidths (BWs) (i.e., 25%, 50%, 75%, and 100%) of the running variable $M_{Score, i}$ to determine the treatment effect around different radii. Fig. 2 shows the MRDD plots around $M_{Score, i}$ for four different BWs. In all the figures for different BWs, we can see the discontinuities in the FIO variable at the cut-off, where $M_{Score, i}$ is zero. These jumps offer further support to *CSR engagement attraction* hypothesis H_1 .

We further run the following regression-based MRDD (specification 7) test in the post-CSR mandate period (i.e., Fiscal Years 2015 to 2017):

³⁰ Any time invariant changes, for example potential changes in weights of firms in Indian indices, effect of international acquisitions, family ownership and/or propensity for socially responsible investments, should affect both the highly comparable PSM groups identically. Therefore, exclusion of these changes in our econometric framework, if theoretically argued, should not affect the credibility of our estimates.

³¹ We employ the following procedure, as outlined in Reardon and Robinson (2012) and Wong et al. (2013). For each firm (i), if the three rating variables net worth (W_i), Sales (S_i), and net profit (P_i) have a threshold cut-off of W_c , S_c , and P_c respectively, then their centered values are $W_i^c = (W_i - W_c) / W_c$; $S_i^c = (S_i - S_c) / S_c$ and $P_i^c = (P_i - P_c) / P_c$. We then calculate M_{Score} using the following specification: $M_{Score, i} = \text{minimum}(W_i^c, S_i^c, P_i^c)$

Table 6
Placebo test and alternative treated and control groups.

	Placebo test		Alternative treated and control group firms test	
	(FIO)	(ΔFIO)	(FIO)	(ΔFIO)
	[1]	[2]	[3]	[4]
DiD ($Treat_t \times Post_t$)	-0.100 (-0.17)	-1.247 (-0.19)	0.652** (2.32)	7.350** (2.49)
Size	1.541* (1.96)	-3.929 (-0.66)	0.496* (1.94)	-2.909 (-0.76)
OwnCon	-0.040** (-2.48)	0.0769 (0.45)	-0.056*** (-2.70)	0.379** (2.27)
B/M	-0.016 (-0.11)	-3.698* (-1.82)	-0.087 (-0.87)	-2.577** (-2.26)
Leverage	-0.005 (-1.14)	0.0252 (0.79)	-0.001 (-0.02)	-0.047 (-0.05)
Cash	0.009 (1.50)	0.0272 (0.37)	0.125 (0.92)	3.555 (1.35)
ROA	0.616 (0.51)	14.21 (0.69)	-1.194 (-1.00)	26.380* (1.74)
Analyst	0.225 (1.05)	-8.061** (-2.05)	0.442*** (3.13)	0.337 (0.16)
Exports	-0.008 (-0.74)	0.0902 (0.38)	-0.008 (-0.68)	0.002 (0.02)
R ² (within)	0.003	0.004	0.014	0.008
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of Firms	730	730	903	903
Observations	3744	3744	4706	4706

This table reports the DiD of propensity matched pairs of firms as per the following specification: $FIO_{it} = \alpha + \beta \cdot (Treat_t \times Post_t) + \lambda \cdot Treat_t + \rho \cdot Post_t + X_{it-1} \cdot \delta' + \gamma_i + \tau_t + \varepsilon_{it}$

Where FIO_{it} (ΔFIO_{it}) is the institutional ownership (change in ownership), held by all FIIs, of Indian firm i for the year t . For the placebo test presented in columns [1, 2], the DiD term is the interaction between $Treat_t$ as defined in Table 3 and $Post_t$, which is an indicator variable that takes the value of one for the post-false shock period (2010–2012) and zero for the pre-false shock period (2007–2009). For the alternative treated and control group test presented in columns [3] an [4], the DiD term is the interaction between $Treat_t$, an indicator variable that takes the value of one for firms with CSR expenditure greater than zero regardless of it satisfying the thresholds of S-135 and firms with no CSR expenditure take the value of zero, and $Post_t$, as defined in Table 3. X_{it-1} is a vector of the one year lagged covariates *Size*, *OwnCon*, *B/M*, *Leverage*, *Cash*, *ROA*, *Analyst* and *Exports* and these are as defined in Table A2. γ_i and τ_t are the firm and year fixed effects respectively. All covariates are winsorized at 1% and 99% levels. Standard errors are clustered at the firm level and t-stats are presented in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% significance levels, respectively. The study period ranges from 2007 to 2012. Data sources: CIQ and CMIE database.

$$FIO_{it} = \alpha + \omega \cdot S_{135} + X_{it-1} \cdot \delta' + \gamma_i + \tau_t + \varepsilon_{it} \quad (5)$$

where S_{135} is a categorical variable that takes the value one if the firm is treated, that is, if $M_{Score, i}$ (running variable) ≥ 0 and zero otherwise. FIO_{it} and X_{it-1} are defined in specification (3). γ_i and τ_t are firm- and year-fixed effects, respectively. The key coefficient of interest ω , indicates the average treatment effect of S-135 on the ownership of FIIs.

Table 7 shows that, even at 25% BW radius, the treatment coefficient is positive and significant, at least at the 10% level of significance.³² As we increase the BW radius further to 50% or more, the positive treatment effect becomes more pronounced and significant at least at the 5% level of significance. In economic magnitude terms, the coefficients indicate that the positive effect of treatment (S-135) on FIO_{it} is in the range of 0.425% to 0.764%. Thus, the MRDD analysis further confirms that firms affected by the CSR mandate attract more FIIs relative to unaffected firms and support the *CSR engagement attraction* hypothesis (H_1).

6.5. FIIs' heterogeneity hypotheses

To test the two FIIs' heterogeneity hypotheses (H_2 , H_{3a} and H_{3b}), we use the cross-sectional heterogeneity of FIIs, which is based on time-invariant factors, such as country of domicile (legal origins) and types of FIIs, based on their investee-firm monitoring role (independent vs. grey investors) and investment horizon (hedge funds vs. pension funds). Because we use a PSM-based near-randomization procedure for our quasi-natural experiment, regression-based DiD estimates are less likely to suffer from omitted variables and alternative explanation biases. Any potential forward-looking explanatory factor should have identical effects on the control and treatment groups in the post-S-135 period. Furthermore, given the fact that in the DiD approach, we exploit the disturbance

³² The loss of efficiency, i.e., statistical power, in the form of reduced number of observations and lower t-statistics, is required to mitigate the higher degree of biasness when using RD models. Hence, for the BW of 25%, statistical significance even at the 10% level provides support for our argument.

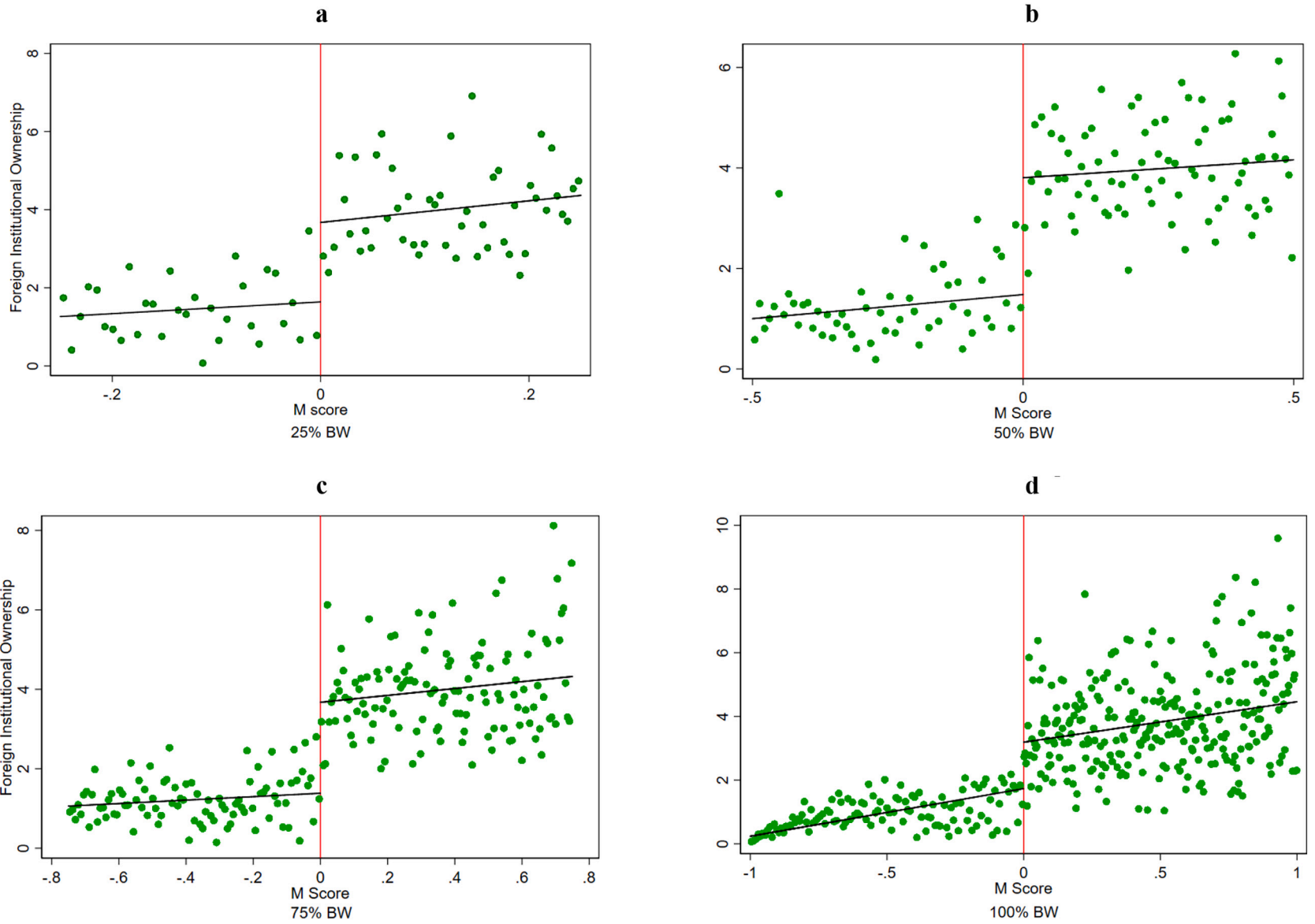


Fig. 2. MRDD plots.

Fig. 2 shows the Regression discontinuity of Foreign Institutional Ownership around the M-Score value of zero under 25% bandwidth (Fig. 2a), 50% bandwidth (Fig. 2b), 75% bandwidth (Fig. 2c) and 100% bandwidth (Fig. 2d). Data sources: CIQ and CMIE database.

Table 7
Multivariate regression discontinuity design (MRDD).

	25% BW	50% BW	75% BW	100% BW
	[1]	[2]	[3]	[4]
S_{135}	0.764* (1.77)	0.591** (2.50)	0.473** (2.83)	0.425*** (3.02)
Size	0.981 (0.99)	0.161 (0.29)	0.701** (2.21)	0.445** (2.60)
OwnCon	-0.019 (-0.28)	0.010 (0.19)	0.037 (0.70)	0.003 (0.18)
B/M	-0.289 (-1.62)	-0.135** (-2.39)	-0.057 (-1.01)	-0.121* (-2.06)
Leverage	-0.155 (-0.75)	-0.129 (-1.33)	-0.057 (-0.94)	-0.146* (-1.85)
Cash	0.055 (0.13)	-0.024 (-0.12)	-0.132 (-0.96)	0.013 (0.21)
ROA	-3.305 (-0.65)	0.698 (0.25)	3.555 (1.23)	0.770 (0.73)
Analyst	0.235 (0.90)	0.409*** (3.69)	0.324*** (4.83)	0.332*** (5.26)
Exports	0.004 (0.29)	-0.003 (-0.31)	0.008 (1.37)	0.002 (0.68)
R ² (within)	0.024	0.031	0.028	0.012
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of Firms	218	490	855	1789
Observations	510	1200	2192	4866

This table reports the regression estimates as per the following specification: $FIO_{it} = \alpha + \omega \cdot S_{135} + \mathbf{X}_{it-1} \cdot \delta' + \gamma_i + \tau_t + \varepsilon_{it}$. Where FIO_{it} is the institutional ownership held by all FIIs of Indian firm i for the year t . S_{135} is an indicator variable that takes the value of one if $M_{Score, i} \geq 0$ and zero if $M_{Score, i} < 0$. $M_{Score, i}$ is the minimum (nearest to zero) of the three rating variables (net worth of INR 5 billion or more, sales of INR 10 billion or more, or net profit of INR 50 million or more) centered on zero. \mathbf{X}_{it-1} is a vector of the one year lagged covariates *Size*, *OwnCon*, *B/M*, *Leverage*, *Cash*, *ROA*, *Analyst* and *Exports*, all as defined in Table A2. γ_i and τ_t are the firm and year fixed effects respectively. We use four different bandwidths (BWs) of 25%, 50%, 75%, and 100% around M_{Score} to examine the treatment effect at various radiuses from the cut-off. All covariates are winsorized at 1% and 99% levels. Standard errors are clustered at the firm level and t-stats are presented in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% significance levels, respectively. The study period ranges from 2015 to 2017. Data sources: CIQ and CMIE database.

in the parallel trend between the treatment and control groups, the PSM-matched estimates, even in the absence of time-varying factors at the FIIs' level, should not be prone to omitted variable bias.

6.5.1. CSR and FIIs' heterogeneity: Legal origins

Following La Porta et al. (2008), Table A3 in the Appendix lists all foreign investor countries and their legal origins. Konrad et al. (2006) find that stakeholders strongly influence European corporations (civil law origin) regarding the importance of sustainability-related issues. By contrast, US companies (common law origin) score low on such sustainability issues. Notwithstanding the literature discussed earlier, it is evident that firms' CSR engagement and culture are driven by differential country institutional arrangements (Chen and Bouvain, 2009). Historical backgrounds and intrinsically different philosophies of civil (stakeholder-centered ideologies) and common (shareholder-centered ideologies) laws have influenced investor protection laws, investment strategies, and managers' discretion in decision-making (La Porta et al., 2008; Liang and Renneboog, 2017). In this regard, Amor-Esteban et al. (2018) show that European countries (led by the European Union) are leading the world in enacting legislation that directs both firms and the investor community to engage in higher sustainability (including CSR) practices.³³ To this end, we examine how FIIs' legal origin could influence their investment strategies.

To test the causal effect of a CSR mandate on FIIs' ownership based on their country of legal origin, we run different specifications of regression (6) using the PSM-treated and control firms:

$$FIO_{jit} = \alpha + \beta_1 \cdot (Treat_i \times Post_t \times Legal_j) + \beta_2 \cdot (Treat_i \times Post_t) + \lambda \cdot Treat_i + \rho \cdot Post_t + \sigma \cdot Legal_j + \mathbf{X}_{it-1} \cdot \delta' + \gamma_{ji} + \tau_t + \varepsilon_{jit} \quad (6)$$

where FIO_{jit} is the total percentage of ownership (at the investor level) held by FII j of investee firm i in year t (see Subsection 4.1). $Treat_i$

³³ For example, the due diligence legislation at EU level (including, but not limited to Directive 2014/95/EU) incorporates information on non-financial reporting obligations of large corporations. The Civil law countries leading sustainable practices are also evident from the Global Sustainable Competitiveness Index 2021 (See <https://solability.com/the-global-sustainable-competitiveness-index/the-index>) that indicates Scandinavian countries lead the ranks (Sweden #1, Finland #2, Denmark #4, Norway #5), with Japan (#13) and New-Zealand (#15) the only non-European countries to make it to the top 20. In comparison, the common law countries fare poorly, for example USA (#30), Canada (#37), Singapore (#48), Thailand (#88) and UAE (#96).

and $Post_t$ are indicator dummy variables as previously defined. $Legal_j$ is also a dummy variable that takes the value of one in different specifications, depending on whether investor j is domiciled in a common, civil, or Scandinavian law jurisdiction, and zero otherwise.³⁴ X_{it-1} is a vector of the key firm-level lagged covariates *Size*, *OwnCon*, *B/M*, *Leverage*, *Cash*, *ROA*, *Analyst*, and *Exports*. γ_{ji} and τ_t are the investor-firm and year fixed effects, respectively.³⁵ The triple interaction term ($Treat_i \times Post_t \times Legal_j$) is our primary DiDiD estimator that shows the causal effect of a CSR mandate on the ownership of FIIs based on legal origin for treated firms in the post-CSR mandate period.

We report the regression results for the different regression specifications (6) in Table 8.³⁶ Column [1] reports the outcomes when the dummy variable takes a value of one for common law origin (*Common law*). The sign of the estimate indicates that the moderating effect of common law origin on the causal effect of CSR mandate on FII investments is positive, but statistically insignificant compared to all FIIs from non-common legal origins. However, when we run a similar regression with a civil law dummy (*Civil law*), we find that the regression coefficient is positive and statistically significant at the 1% significance level. This suggests that in the post-CSR mandate period, on average and relative to all other legal origins, FIIs from civil law origins differentially increase their ownership in treated firms by approximately 0.179% more than in control firms. Given the average ownership of 2.30% across all FIIs, as reported in Table 1, this 0.179% differential increment translates to a relative increase of approximately 7.8% ($0.179/2.30$).³⁷

La Porta et al. (2008) suggest that civil law origin is predominantly composed of French and German law origin countries, whereas the third constituent of civil law, that is, Scandinavian law, contains only a few countries. However, even though considered a part of the civil law family, Scandinavian law tends to be “distinct” from other civil laws in terms of legal rules and heritage (La Porta et al., 2008; La Porta et al., 1998). Furthermore, studies suggest that investors domiciled in Scandinavian countries could face greater social pressure to make socially responsible investments due to high stakeholder-oriented corporate social norms and culture (Dyck et al., 2019; Guiso et al., 2006). Thus, we further investigated whether Scandinavian law FIIs primarily drive our main results for civil law. To illustrate the difference in the moderating effects of Scandinavian legal origin versus other civil law origins (French and German), we modified specification (6) by including two DiDiD variables in a single regression. In the first case, the dummy variable $Legal_j$ takes the value of one if investor j is domiciled only in a Scandinavian law country, and zero otherwise. In the second case, the dummy variable $Legal_j$ takes the value of one if investor j is domiciled in any other country of non-Scandinavian civil law origin and zero otherwise. The estimates of this regression are reported in column [3] of Table 8 (*Scandinavian vs. other civil law*).

The results indicate that, compared to non-civil law origin FIIs, in the post-CSR mandate period, both Scandinavian and non-Scandinavian civil law origin FIIs significantly increase their investments by 0.172% and 0.180%, respectively, among treated firms. Thus, it is apparent that there is no single driver within civil law origin FIIs in terms of making socially responsible investments, as all civil law FIIs are equally attracted toward increasing their ownership in CSR firms in the post-CSR mandate period. Overall, the results shown in Table 8 support the first FIIs’ heterogeneity hypothesis (H_2).

6.5.2. CSR and FIIs’ heterogeneity: Monitoring role and investment horizon

To test the second FIIs’ heterogeneity hypothesis, H_3 , we run different specifications of regression eq. (7) on the PSM sample firms:

$$FIO_{jit} = \alpha + \beta_1.(Treat_i \times Post_t \times Type_j) + \beta_2.(Treat_i \times Post_t) + \lambda.Treat_i + \rho.Post_t + \sigma.Type_j + X_{it-1}.\delta' + \gamma_{ji} + \tau_t + \varepsilon_{jit} \quad (7)$$

where $Type_j$ is an indicator variable that takes the value of one if FII j belongs to a particular investor group (i.e., independent investors, grey investors, pension funds, or hedge funds) and zero otherwise. Here, $Type_j$ represents four dummy variables and depends on the investor $Type$ for which we run the regression, that is, independent investors, grey institutions, pension funds, or hedge funds. Thus, $Type_j$ takes the value one if investor j is one of these types and zero otherwise. Given that we have four different types of FII, we run four regressions. All other variables are specified in specification (3). The triple interaction term ($Treat_i \times Post_t \times Type_j$) is our primary DiDiD estimator, which shows whether the change in FIIs’ ownership for the treated firms, relative to control firms and in the post-S-135 period, depends on the heterogeneity of investor types based on the monitoring role and investment horizon.

Results reported in column [1] of Table 9 shows that, relative to all other FIIs and in the post-S-135 period, independent FIIs differentially increase their ownership in treated firms by 0.191% (statistically significant at the 5% level). However, in the estimates in column [2], the DiDiD coefficients for grey FIIs are statistically insignificant, illustrating that the CSR mandate does not appeal to grey FIIs more differentially than other FIIs. To summarize, independent investors, who are considered active monitors of investee

³⁴ In our sample for the period 2012 to 2017, we have 73 unique foreign countries from which FIIs have invested in Indian firms. We categorize these unique investor countries based on their legal origins following La Porta et al. (2008). An important issue that could arise is that the country of incorporation of the parent FII could be different from its subsidiary through which trades are executed. However, we argue that the investment policy is normally dictated by the parent company (Astley and Sachdeva, 1984). Therefore, we identify the legal origins of the FIIs based on their headquartered countries.

³⁵ The inclusion of investor-firm fixed effect takes account of any investor-specific strategies/policies that do not change over time. Moreover, and as laid out earlier in our PSM-DiD set-up, any other time-invariant or time-variant factor, other than S-135, should affect the treated and control groups identically without disturbing the parallel trend.

³⁶ Standard errors of all investor level regressions are clustered at the investor-firm (ji) level.

³⁷ The legal origin of countries in our sample is based on La Porta et al. (2008). Some of the countries in our sample are not in La Porta et al. (2008) and we are unable to determine their legal origins. Therefore, columns [1] and [2] results are not mirror images of each other. We have different results in the two models as we are comparing common law FIIs with those from non-common law origins (primarily civil law origins) and civil law FIIs with those from non-civil law origins (primarily common law origins).

Table 8
CSR and FIIs' heterogeneity: Legal origins.

Dependent variable: FIO (Disaggregated at investor level)			
	Common law	Civil law	Scandinavian vs. other civil law
	[1]	[2]	[3]
DiDiD ($Treat_t \times Post_t \times Legal_j$)	0.080 (1.07)	0.179*** (2.72)	–
DiDiD ($Treat_t \times Post_t \times Scandinavian_j$)	–	–	0.172** (2.50)
DiDiD ($Treat_t \times Post_t \times Other\ Civil\ law_j$)	–	–	0.180*** (2.56)
Size	0.134** (1.97)	0.133* (1.93)	0.133* (1.93)
OwnCon	–0.012*** (–2.82)	–0.012*** (–2.81)	–0.012*** (–2.81)
B/M	–0.031* (–1.76)	–0.031* (–1.79)	–0.031* (–1.79)
Leverage	–0.002 (–0.25)	–0.003 (–0.33)	–0.003 (–0.33)
Cash	0.033 (0.73)	0.035 (0.79)	0.035 (0.79)
ROA	–0.174 (–0.73)	–0.167 (–0.74)	–0.167 (–0.74)
Analyst	0.017*** (3.00)	0.017*** (2.91)	0.017*** (2.90)
Exports	–0.001 (–1.26)	–0.001 (–1.29)	–0.001 (–1.29)
Adj. R ²	0.56	0.56	0.56
Investor-Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
No. of Investor-Firms	3661	3661	3661
Observations	19,233	19,233	19,233

This table reports the DiDiD regressions of propensity matched pairs of firms as per the following specification: $FIO_{jit} = \alpha + \beta_1 \cdot (Treat_t \times Post_t \times Legal_j) + \beta_2 \cdot (Treat_t \times Post_t) + \lambda \cdot Treat_t + \rho \cdot Post_t + \sigma \cdot Legal_j + \mathbf{X}_{it-1} \cdot \delta' + \gamma_{jt} + \tau_t + \varepsilon_{jit}$

Where FIO_{jit} is the ownership held by an FII j in an Indian firm i for the year t . $Treat_t$ and $Post_t$ are indicator variables as described in Table 3. $Legal_j$ is an indicator variable that takes the value of one if investor j is domiciled in a specific country of legal origin (i.e., common law, civil law, or Scandinavian law). \mathbf{X}_{it-1} is a vector of the key firm level lagged covariates *Size*, *OwnCon*, *B/M*, *Leverage*, *Cash*, *ROA*, *Analyst* and *Exports*, all as defined in Table A2. γ_{jt} and τ_t are the investor-firm level fixed effects and year fixed effects, respectively. All covariates are winsorized at 1% and 99% levels. Standard errors are clustered at the investor-firm level and t-stats are presented in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% significance levels, respectively. The study period ranges from 2012 to 2017. Data sources: CIQ and CMIE database.

firms, seem to be more attracted to CSR engagement. These results are consistent with the *FIIs' heterogeneity* hypothesis (H_{3a}).

Further, the estimates in column [3] indicate that, relative to all other FIIs, long-term FIIs, and in the post-S-135 period, overweight their ownership in treated firms by around 0.291% compared to control firms (significant at the 5% significance level). However, in Column [4], the DiDiD coefficients for short-term investors (foreign hedge funds) are not statistically significant. These results for investors based on a time horizon of investments indicate that foreign long-term investors choose to invest more in firms that comply with a CSR mandate relative to firms that do not, supporting our *FIIs' heterogeneity hypothesis* (H_{3b}).³⁸

6.5.3. Robustness test – Legal origins and types of FIIs

On the same basis as in Sections 6.4.1 and 6.4.2, we conduct a placebo test and an alternative treated and control group firms test as per eqs. (6) and (7). For the placebo test, $Post_t$ is an indicator variable that takes a value of one for the post-false shock period (FY 2010–2012) and zero for the pre-false shock period (FY 2007–2009). For the alternative treated and control group tests, $Treat_t$ is an indicator variable that takes the value of one for firms with CSR expenditure greater than zero, regardless of whether it satisfies the thresholds of S-135, and firms with no CSR expenditure take the value of zero. All other variables are defined in Eqs. (6, 7). As expected, we find insignificant results for the placebo test, and the results of the alternative treatment group test are in line with the findings in Tables 8 and 9. These results are presented in Tables OA5 and OA6 in the Online Appendix.

³⁸ We further analyze whether the CSR mandate attracts CSR/ESG oriented FIIs. To test this we use the Principles of Responsible Investment (PRI) signatories' database. PRI is an international group of institutional investors that have a common agenda of incorporating ESG issues into their investment decisions, seeking appropriate ESG disclosures, and actively engaging in implementing ESG principles. We manually match the FII list with the PRI signatories (4607 as of 18th December 2021) for our sample period and conduct a double DiD analysis. The results indicate that, compared to all other FIIs, CSR oriented FIIs (i.e., PRI signatories) significantly increased their ownership in mandated CSR firms (about 0.18% on average) relative to control firms in the post-S-135 period. This additional analysis confirms that the CSR mandate attracted CSR oriented FIIs in India. The results are presented in Table OA4 and discussed in detail in Section 3 of the Online Appendix.

Table 9
CSR and FIIs' heterogeneity: Monitoring role and investment horizon.

Dependent variable: FIO (Disaggregated at investor level)				
	Independent	Grey	Long-term	Short-term
	[1]	[2]	[3]	[4]
DiDiD ($Treat_t \times Post_t \times Type_j$)	0.191** (2.20)	0.015 (0.11)	0.291** (2.55)	-0.184 (-0.92)
Size	0.129* (1.88)	0.137** (2.00)	0.138** (1.99)	0.138** (2.00)
OwnCon	-0.012*** (-2.83)	-0.012*** (-2.82)	-0.012*** (-2.82)	-0.012*** (-2.80)
B/M	-0.030* (-1.73)	-0.031* (-1.79)	-0.031* (-1.78)	-0.031* (-1.78)
Leverage	0.002 (0.22)	-0.005 (-0.61)	-0.005 (-0.56)	-0.006 (-0.68)
Cash	0.031 (0.68)	0.036 (0.81)	0.036 (0.81)	0.038 (0.85)
ROA	-0.231 (-0.97)	-0.143 (-0.63)	-0.146 (-0.65)	-0.134 (-0.60)
Analyst	0.016*** (2.62)	0.018*** (3.05)	0.018*** (3.09)	0.018*** (3.01)
Exports	-0.001 (-1.20)	-0.002 (-1.32)	-0.002 (-1.33)	-0.002 (-1.34)
Adj. R ²	0.56	0.56	0.56	0.56
Investor-Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of Investor-Firms	3661	3661	3661	3661
Observations	19,233	19,233	19,233	19,233

This table reports DiDiD regressions of propensity matched pairs of firms as per the following specification: $FIO_{jit} = \alpha + \beta_1 \cdot (Treat_t \times Post_t \times Type_j) + \beta_2 \cdot (Treat_t \times Post_t) + \lambda \cdot Treat_t + \rho \cdot Post_t + \sigma \cdot Type_j + \mathbf{X}_{it-1} \cdot \delta' + \gamma_{ji} + \tau_t + \varepsilon_{jit}$

Where FIO_{jit} is the ownership held by an FII j in an Indian firm i for the year t . $Treat_t$ and $Post_t$ are indicator variables as described in Table 3. $Type_j$ is an indicator variable that takes the value of one if FII j belongs to a particular investor group (i.e., independent investors, grey investors, long-term investors, or short-term investors). \mathbf{X}_{it-1} is a vector of key firm level lagged covariates *Size*, *OwnCon*, *B/M*, *Leverage*, *Cash*, *ROA*, *Analyst* and *Exports*, all as defined in Table A2. γ_{ji} and τ_t are the investor-firm level fixed effects and year fixed effects respectively. All covariates are winsorized at 1% and 99% levels. Standard errors are clustered at the investor-firm level and t-stats are presented in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% significance levels, respectively. The study period ranges from 2012 to 2017. Data sources: CIQ and CMIE database.

7. Conclusion

When assessing firms' financial and sustainability performance, institutional investors around the world take into account the corporates' role in promoting better ESG activities seriously (Amel-Zadeh and Serafeim, 2018; Ioannou and Serafeim, 2015). If such arguments hold any relevance, do FIIs prefer to invest more in firms that are legally mandated to spend a minimum threshold of their income on CSR activities? Furthermore, and more importantly, we investigate whether FIIs react differently to the same mandated CSR engagement regulation. We answer these questions by exploiting CSR regulations in India, which mandate listed firms to spend at least 2% of their net profit on CSR-related activities.

Our PSM-DiD and MRDD empirical approach, on a sample of listed Indian non-financial firms for the fiscal years 2012–2017, shows that in the post-CSR mandate period, FIIs significantly increase their investment stakes in firms that comply with the mandated expenditure regulation compared to firms that do not. Additionally, we find that CSR firms not only attract new FIIs but the existing FIIs increase their ownership in these firms in the post-CSR reform period. To the best of our knowledge, this study is the first to find that all types of foreign investors (Grey/Independent) are not equally attracted to CSR activities. We also provide evidence that FIIs from civil law origins are inclined to invest more in the post-CSR mandate period than FIIs from common-law countries. Furthermore, our results also reveal that independent and pension fund FIIs materially boost their asset allocation in complying firms after the enforcement of the CSR mandate.

In conclusion, although better CSR performance is seen as an attractive proposition by FIIs, not all types of foreign investors are symmetrically attracted. The empirical evidence in this study suggests that investors' legal origins and investment objectives matter significantly when responding to mandated CSR regulations.

Data availability

The authors do not have permission to share data.

Appendix A

Table A1

FIIs' type with classification based on S&P Capital IQ definitions.

Independent Investor	Grey Institutions	Long-term investors	Short-term investors
		Pension Fund	Hedge Fund
Corporate Pension Plan Sponsor	Bank/Investment Bank	Corporate Pension Plan Sponsor	Hedge Fund Manager/CTA
Real Estate Investment Manager/REIT	Endowment Fund Sponsor	Government Pension Plan Sponsor	
Structured Finance Pool Manager	Family Office/Family Trust	Union Pension Plan Sponsor	
Traditional Investment Manager	Foundation Fund Sponsor		
Government Pension Plan Sponsor	Insurance Company		
Hedge Fund Manager/CTA	Sovereign Wealth Fund		
Union Pension Plan Sponsor	Unclassified		
	Venture Capital/Private Equity Firm		

Table A2

Variable description.

Variable	Description	Source
<i>Foreign Institutional Ownership variables</i>		
FIO_{it}	Total percentage of shares owned by foreign institutional investors (FIIs) in the firm i in the year t	S&P Capital IQ
ΔFIO_{it}	Year-on-year change in total FIO in the firm i in the year t	
FIO_{ijt}	Total percentage of shares owned by an FII j in an Indian firm i for the year t	S&P Capital IQ
<i>Key DiD and MRDD variables</i>		
$Treat_i$	Indicator variable that takes the value of one if it satisfies any one of the thresholds of S-135 and zero otherwise	CMIE
$Post_t$	Indicator variable that takes the value of one for the years 2015–2017 and zero otherwise	CMIE
S_{135}	For MRDD analysis, takes the value of one if $M_{score} \geq 0$ and zero if $M_{score} < 0$.	Derived from CMIE
<i>Covariates</i>		
$Size$	Natural logarithm of total assets	Derived from CMIE
$OwnCon$	Proportion of total shares held by promoters	CMIE
B/M	Book value per share over the year-end market share price	CMIE
$Leverage$	Ratio of book value of debt-to-equity	CMIE
$Cash$	Sum of year end cash and short-term securities scaled by total sales	Derived from CMIE
ROA	Return on total assets computed as earnings before interest and taxes (EBIT) scaled by the book value of total assets	Derived from CMIE
$Analyst$	Number of analysts following the stock	S&P Capital IQ
$Exports$	Foreign sales as a percentage of total sales	Derived from CMIE
<i>Other indicator dummy variables</i>		
$Legal_j$	<i>Common</i> If the investor j belongs to common law origin country, $Legal_j$ then takes the value of one and zero otherwise	S&P Capital IQ
	<i>Civil</i> If the investor j belongs to civil law origin country, $Legal_j$ then takes the value of one and zero otherwise	S&P Capital IQ
	<i>Scandinavian</i> If the investor j belongs to Scandinavian law origin country, $Legal_j$ then takes the value of one and zero otherwise	S&P Capital IQ
	<i>Other civil</i> If the investor j belongs to non-Scandinavian civil law origin country, $Legal_j$ then takes the value of one and zero otherwise	S&P Capital IQ
$Type_j$	<i>Independent</i> If the investor j is an independent investor, $Type_j$ then takes the value of one and zero otherwise	S&P Capital IQ
	<i>Grey</i> If the investor j is a grey investor, $Type_j$ then takes the value of one and zero otherwise	S&P Capital IQ
	<i>Long-term</i> If the investor j is a pension fund investor, $Type_j$ then takes the value of one and zero otherwise	S&P Capital IQ
	<i>Short-term</i> If the investor j is a hedge fund investor, $Type_j$ then takes the value of one and zero otherwise	S&P Capital IQ

Table A3

FIIs' countries and their legal origins (Based on La Porta et al., 2008).

Common	Civil	French	German	Scandinavian	Unknown [§]
Australia	Argentina	Argentina	Austria	Denmark	Andorra
Bahrain	Austria	Belgium	Bulgaria	Finland	British Virgin Islands
Bangladesh	Belgium	Brazil	China	Iceland	Guernsey
Barbados	Brazil	Chile	Croatia	Norway	Isle of Man
Bermuda	Bulgaria	France	Czech Republic	Sweden	Jersey
Canada	Chile	Greece	Estonia		Liechtenstein

(continued on next page)

Table A3 (continued)

Common	Civil	French	German	Scandinavian	Unknown [§]
Cayman Islands	China	Indonesia	Germany		Monaco
Cyprus	Croatia	Italy	Hungary		
Hong Kong	Czech Republic	Kuwait	Japan		
Ireland	Denmark	Lithuania	Poland		
Israel	Estonia	Luxembourg	Slovenia		
Malaysia	Finland	Macedonia	South Korea		
Nepal	France	Malta	Switzerland		
New Zealand	Germany	Mauritius	Taiwan		
Pakistan	Greece	Mexico			
Saudi Arabia	Hungary	Netherlands			
Singapore	Iceland	Oman			
South Africa	Indonesia	Philippines			
Thailand	Italy	Portugal			
UAE	Japan	Qatar			
UK	Kuwait	Russia			
USA	Lithuania	Spain			
Zimbabwe	Luxembourg	Turkey			
	Macedonia	Yemen			
	Malta				
	Mauritius				
	Mexico				
	Netherlands				
	Norway				
	Oman				
	Philippines				
	Poland				
	Portugal				
	Qatar				
	Russia				
	Slovenia				
	South Korea				
	Spain				
	Sweden				
	Switzerland				
	Taiwan				
	Turkey				
	Yemen				

[§] Not covered by La Porta et al. (2008).

Appendix B. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jcorpfin.2022.102261>.

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