

Corporate Social Responsibility and Financial Risk: Exploring Default Risk in Indian Firms

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Abstract:

This paper examines the impact of corporate social responsibility (CSR) expenditure on default risk for Indian firms during the period from 2015 to 2021. Using distance to default (DTD) and probability of default (PD) at different time horizons as proxies for default risk, we find that CSR expenditure is negatively related to default risk. This indicates that CSR engagement enhances a firm's reputation and financial stability, thereby reducing the likelihood of default. Surprisingly, we find that this relationship is less pronounced for group-affiliated firms, as stand-alone firms rely more on CSR to establish market credibility. Our findings highlight the strategic importance of CSR compliance, emphasizing its role in risk management and financial resilience. Our study provides insights for policymakers and managers in emerging economies, underscoring how mandatory CSR can foster a more sustainable and risk-averse corporate environment, particularly for firms without the support of business group affiliation.

Keywords: corporate social responsibility, default risk, India, business group.

JEL Classification: M14, G3, G32.

Introduction

The 26th United Nations Climate Change Conference of the Parties (COP26) held in Glasgow, focusing on the economic and social transformation of various developed and emerging economies. Around 200 countries participate in the United Nations Framework Convention on Climate Change (UNFCCC) in Glasgow to discuss major environmental issues, such as reducing carbon emissions and collaborating to achieve global climate goals. India plays a significant role at COP26 by introducing the "Panchamrit" strategy, which addresses the country's climate challenges. India's position at the conference reflects a balance between its global climate responsibilities and development needs. To effectively tackle climate and other environmental challenges, regulators and investors need to place more emphasis on corporate social responsibility (CSR) engagement.

CSR is commonly seen as an inclusive approach for establishing ethical business practices that consider economic, social, and environmental objectives. It creates long-term relationships with stakeholders and allows for the consideration of a wide range of internal and external actors, as well as financial and non-financial indicators (Knox et al., 2005; Morsing & Schultz, 2006; Kujala & Korhonen, 2017; Kakabadse et al., 2005; Sen et al., 2006). Expenditure on CSR activities is becoming increasingly influential in a firm's risk management practices, particularly in the area of credit risk (Bannier et al., 2022; Truong and Kim, 2019; Abdul et al., 2020; Hsu and Chen, 2015; Ngamvilaikom et al., 2024; Hunjra et al., 2024). The literature on CSR mainly focuses on the relationship with equity risk (Monti et al., 2022; Chen & Zhang, 2021; Salvi et al., 2018). Moreover, there are few studies in the literature that examine the relationship between CSR engagement and default risk (Do, 2022; Sun & Cui, 2014; Saidane & Abdallah, 2021; Shahrouf et al., 2021; Rizwan et al., 2017; Badayi et al., 2021). However, the impact of CSR expenditure on the default risk of Indian firms is an unexplored area, where CSR expenditure is mandated by law.

This study explores the relation between CSR expenditure and default risk in India. There are two major reasons for studying this association in Indian firms. First, India is one of the first countries in worldwide to make CSR expenditure mandatory, as required by a law that came into force in 2014. According to Section 135 of the Indian Companies Act 2013, every firm crossing a certain threshold must spend 2% of the average net profit of its preceding three financial years on CSR activities. This legal requirement has compelled many firms to invest in CSR, impacting their default risk. Jادیappa et al. (2021) find that some Indian firms, which did not previously invest in CSR, began doing so due to this mandate, resulting in improved performance and reduced default risk.

However, Oware & Iddrisu (2022) find a negative relationship between mandatory CSR reporting and stock returns. Sharma and Aggarwal (2022) suggest that mandatory CSR spending in India acts as a burden on firms' ongoing activities. Second, in 2015, UN members outlined the 17 Sustainable Development Goals (SDGs), which include goals like no poverty, gender equality, good health, and zero hunger, providing a holistic view of the social, economic, and environmental status of countries. In 2023, India's SDG Index score is 64, ranking 109th out of 166 countries¹. In 2015, India's SDG Index score was 58. This indicates India's efforts to meet these goals and the growing inclination of Indian firms towards societal contributions. Additionally, according to the World Giving Index (2021), India ranks 14th in charitable activities among 128 countries in 2021, compared to 82th position in 2011². This demonstrates the increasing engagement of Indian firms in CSR-related activities. Therefore, it is crucial to study the relationship between mandatory CSR expenditure and default risk in the Indian context.

The literature on CSR shows that engaging in CSR can reduce default risk, enhance a firm's reputation, facilitate access to capital markets, and improve stakeholder relationships. For instance, Heslin & Ochoa (2008), Gomez & Preciado (2013), and Carroll & Brown (2018) conclude that CSR contributes to a firm's long-term sustainability by improving financial performance, which can lead to increased customer loyalty, operational efficiency, and better employee morale. Furthermore, Chiang et al. (2017) suggest that CSR engagement has emerged as a strategic approach aimed at achieving competitive advantage and maintaining strong stakeholder relationships. CSR activities can also impact a firm's insolvency risk. Gao et al. (2021) indicate that CSR engagement plays a significant role in reducing a firm's long-term credit risk more than its short-term credit risk, suggesting that CSR may not help firms sustain themselves in the market in the short term. It has been observed that the relationship between credit risk and CSR engagement has been widely explored in the literature. For example, Do (2022) finds that the negative relationship between the probability of default and CSR is stronger in countries with weaker legal institutions and capital markets. Sun & Cui (2014) find that the negative association between default risks and CSR is more pronounced for firms operating in highly dynamic environments. Saidane & Abdallah (2021) examine the relationship between ESG dimensions and African firms' default risk, finding a negative association between a firm's stability and environmental performance, and concluding that environmental performance significantly impacts default risk. They also suggest that good corporate governance is necessary for firm stability. Hsu & Chen (2021) find that better CSR performance leads to a lower distance to default in the US. Shahrour et al. (2021) focus on the Eurozone and find that CSR helps to mitigate default risk, especially in extreme situations like financial crises, by providing insurance-like protection to firms.

Our study differs from the above-mentioned studies in two ways. First, we examine the relationship between CSR expenditure and default risk in an institutional setting where CSR is mandated by law. Second, we consider the term structure and analyse how CSR is associated with the probability of default (used as one of the proxies for default risk) over different time horizons. Thus, we use an unbalanced panel data set of 1,218 unique Indian firms to empirically examine the relationship between CSR expenditure and default risk, finding a negative relation between the two. Next, we explore how business group affiliation influences this relationship. In India, where most firms are affiliated with business groups, understanding this impact can provide valuable insights.

Our findings indicate that the negative relationship between CSR expenditure and default risk is less pronounced for group-affiliated firms. Indian group-affiliated firms tend to invest in CSR activities collectively to build reputation, share costs, and distribute risk. However, we argue that standalone firms need to access capital markets more frequently and thus have a greater need to establish a strong reputation compared to business groups. Consequently, standalone firms have a stronger incentive to invest in CSR activities to lower their default risk compared to group-affiliated firms. This study contributes to the literature by enhancing the understanding of how mandatory CSR laws impact financial risk, highlighting the strategic importance of CSR activities in reducing default risk within emerging economies.

¹ <https://dashboards.sdgindex.org/profiles/india>

² <https://journalsofindia.com/world-giving-index-2021/?print=pdf>

The structure of the study is as follows: Section 1 outlines the development of hypothesis. Section 2 details the data and methodology employed in the study. In Section 3, we discuss the main results. Finally, Section 4 concludes the study.

1. Hypothesis Development: The Role of Corporate Social Responsibility in Mitigating Default Risk

The evolving literature on the corporate governance put more emphasis on the ethical practices of the firm, particularly through Corporate Social Responsibility (CSR) engagement. By integrating the CSR engagement into their strategic operational framework, firms would able to meet not only the profit maximization but also their impact on philanthropy facets. Such approach engenders firms to be more sustainable in long run, which in turn, can influence firm's overall risk profile. The relationship between the CSR engagement and default risk receives a greater attention from the stakeholders. It has been observed that these stakeholders favour firms that engage in CSR-related activities. As such preferences reduced regulatory scrutiny and helps in improving credit rating, thereby mitigating the likelihood of default. However, there are multiple reasons which explains why should CSR engagement have an impact on default risk.

First, firm's which are spending in CSR activities lower firm risk which leads to negative impact on the default risk. A firm's risk is defined as an inherent risk in the business operation causing due to internal and external factors which can affect the firm's profitability. Many studies in the literature examine the relation between CSR investments and firm risk and conclude that CSR engagement tends to reduce risk (Singhania & Gupta, 2024; Ho et al., 2024). This supports the stakeholders' theory because CSR provides "insurance-like" protection to the firm (Godfrey et al., 2009; Godfrey, 2005; Sun et al., 2024)³. Most of the studies in CSR literature and risk have been one-sided and showing investment in CSR activities lowers firm risk (Hammond & Slocum, 1996). Shakil & Abdul (2023) find a negative impact of CSR engagement on the idiosyncratic risk. They suggest that the shareholders should concern about the firm's engagement about the CSR activities as it reduces the firm risk. Bouslah et al. (2013) shows that some CSR components such as corporate governance and employee diversity concerns positively affect firm risk; whereas community strengths negatively impact a firm's risk. Oikonomou et al. (2012) find that some of the social concern components, such as employment, community, and environment, are positively related to a firm's systematic risk. Moreover, CSR activities by controversial industries such as gambling, alcohol, tobacco, etc., impact more on firm risk (Jo & Na, 2012). Thus, investment in a social cause helps in maximizing shareholder value, ensuring long-term viability, improve the firm's reputation and leads to lower probability to default.

Secondly, expenditure in CSR activities lead to less financing cost which reflects lower probability of default. As it is evident from the existing literature that firms which are engaged in CSR activities have lower cost of equity (El Ghouli et al., 2011). Chen et al. (2023) also find that ESG performance reduces cost of equity in China, as high ESG performance has a spillover effect which leads to increase in profitability and enhance firm value. A similar study by Hmidet et al. (2022) also argue that firms engaging in CSR activities contributes to firm's reputation which leads to lowering the cost of equity. However, Dahiya and Singh (2020) investigate the relationship between ESG score and cost of equity for manufacturing industry in India. They find that an increase in ESG score leads to increase in cost of equity, these contrasting results can be attributed towards the difference of culture, norms, institutional framework and social background in India. Few studies in the literature also examine the relation between CSR performance and cost of debt.

For example, Aleknevičienė & Stralkutė (2023) find a positive relation between CSR and cost of debt in Scandinavian firm. Further, they suggest that firms with high ESG score faces high financial risk, however engagement in ESG lower the cost of debt. Maaloul et al. (2023) suggest that firms engaging in social activities have good reputation in the marker and thereby it reduces the cost of debt for such firms. Menz (2013) argues that creditors of European firms have an incentive to consider CSR-related information in their assessments, as they find that firms incorporating CSR activities are considered less risky though the firms may have their own incentives for making such investments. One of the possible explanations could be the need of the firm to access the debt market more frequently to raise external finance, and not engaging in the CSR activities may expose the firm to a higher risk of not obtaining enough funds.

³ Godfrey (2005) examines the relation between corporate philanthropy and shareholders wealth from risk management perspective and they established three core assertions: 1. Corporate philanthropy can generate positive moral capital among communities and stakeholders, 2. Moral capital can provide shareholders with insurance-like protection for a firm's relationship based intangible assets, and 3. This protection contributes to shareholder wealth.

Therefore, CSR engagement ensures the firm to meet the expectations of different stakeholders such as creditor, lenders, banks, and others. Another study by Attig et al. (2013) shows a positive relation between CSR score and credit rating. They argue that this relation can be driven through three channels: by maintaining good relations with stakeholders, by signalling efficient use of internal resources, and by reducing costs associated with irresponsible behaviour.

Finally, authors conclude that rating agencies consider CSR performance of the firm during their assessment process. Kim & Kim (2014) find that the non-financial information of the firms such as its CSR engagement impacts the corporate credit rating in the Korean market. The authors find that firms with high CSR scores have higher credit ratings. Ge & Liu (2015) also report a positive relation between the CSR performance of the firm and credit rating of its instruments, as bondholders use publicly available information about the firm, including CSR disclosures, to assess credit risk. Ben Saal et al. (2024) also finds that the CSR practice by French companies is positively related to credit rating, and it helps in improving firms' financial performance and its solvency. Thus, it reduced firm's risk of default.

Overall, the literature suggests that engaging in CSR activities reduces the firm's default risk as well as cost of financing through the channel of satisfying the stakeholders need and thus, improving firms' reputation which led to improvement in credit rating and as a result there would be less probability of default. Thus, to test this argument we hypothesized that CSR expenditure impact negatively default risk.

H1: CSR expenditure negatively impacts default risk

2. Data and Methodology

2.1. Data and Sample

In this study, we examine the impact of CSR expenditure on the default risk of Indian firms over the time period from 2015 to 2021. Although mandatory CSR expenditure and disclosure regulations took effect in 2014, with Schedule VII of Section 135 of the Companies Act requiring every Indian firm meeting certain criteria to allocate a minimum of 2% of their average pre-tax profits from the preceding three financial years to CSR activities starting April 1, 2014, most firms begin complying with the mandate from 2015 onwards. Consequently, our data period starts from 2015. Our sample consists of all the listed firms on the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) in India for which CSR expenditure data is available. We source our data for CSR expenditure and all control variables from the Center for Monitoring Indian Economy (CMIE) Prowess database, a leading business information company in India.

For each firm in our sample, we use two proxies for default risk: distance to default (DTD) and probability of default (PD), which are our dependent variables. DTD quantifies the gap between the default threshold and the projected value of a firm's assets. A higher DTD indicates a substantial buffer before a firm reaches the default point, thus implying a lower default probability. Meanwhile, PD measures the likelihood of default for a particular firm over different time horizons. We obtain these variables from the Risk Management Institute at the National University of Singapore's Credit Research Initiative (CRI). PD serves as the primary credit product in the CRI prediction system, which uses the forward intensity model developed by Duan et al. (2012). This model generates forward-looking PD-term structures for firms by dynamically learning from macro-financial data⁴ and firm-specific data⁵.

Our main independent variable of interest is CSR expenditure (CSRE), measured by the actual amount spent on CSR activities by each firm. Of the 5,123 listed firms on NSE and BSE, CSR expenditure data is available for only 2,047. We exclude all financial and government firms from our analysis. This filtration yields an unbalanced panel data set for 1,218 unique firms, representing 5,575 firm-year observations over the period from 2015 to 2021. Following the literature, we also control for variables such as leverage, return on assets, firm size, firm age, market-to-book value, firm risk, volatility, and research and development expenditure (Li et al., 2022; Bannier et al., 2022; Boubaker et al., 2020; Do, 2022; Rizwan et al., 2017; Hsu and Chen, 2015; Chang et al., 2013; Badayi et al., 2021). The definitions of these variables are provided in Table 1.

⁴ Macro-financial data includes short-term risk-free rates, stock index returns, and economy-level distance to default for all firms

⁵ Firm-specific data includes cash, firm size, current assets, idiosyncratic volatility, and net income, among others

Table 1. Definition of variables

Variables	Definition
Distance to default (DTD)	DTD measures the gap between the default threshold and the projected value of a firm's assets
Probability of default (PD)	It is a likelihood of a firm, will be unable to meet their debt obligation and default on the loan within a specific time frame.
CSR Expenditure (CSRE)	It is the actual amount spent on the CSR activities during the year.
Leverage (LEV)	It is the ratio of long-term borrowings to total assets for a given year.
Return on Assets (ROA)	It is a measure as profit after tax (PAT) to total assets for the current year.
Firm Size (FSIZE)	It is calculated as natural log of total assets (TA) for a given year.
Market to Book Value (MTB)	It is the ratio of market value of shares to book value of shares at the end of the year.
Firm Age (FAGE)	The age of a firm is calculated by subtracting the year of incorporation from the current analysis year.
Stock Volatility (VRET)	It is the standard deviation of firm's average monthly stock return.
BETA	This variable serves as a proxy for systematic risk, assessing how sensitive stock returns are to market returns for a particular year.
Research and Development (RD)	It is the expenditure on Research and Development made by the firm during a year.

2.2. Research Design

We investigate the impact of CSR expenditure on the default risk of Indian firms from 2015 to 2021. Following the prior literature (Bannier et al., 2022; Boubaker et al., 2020), we use ordinary least square (OLS) regression model to test our hypothesis. Our model is as follow:

$$DTD_{it} = \beta_0 + \beta_1 CSRE_{it} + Controls + \varepsilon_{it} \quad (1)$$

$$PD_{it} = \beta_0 + \beta_1 CSRE_{it} + Controls + \varepsilon_{it} \quad (2)$$

where: i , and t indicate firm, and year respectively. The dependent variable in model (1) is DTD.

However, in model (2), we use PD as a dependent variable. We took probability of default for different time horizon for the better understanding of our results, such as, PD with 6-month (PD6M), 1-year (PD1Y), 3-year (PD3Y) and 5-year (PD5Y) prediction horizon. CSR expenditure (CSRE) is the actual amount spent by the firm on various social activities. To isolate the effect of CSR expenditure on the default risk, we control for various firm-specific variables. The slope coefficient β_1 in model 1 represents the change in DTD for a unit change in $CSRE_{it}$ (which shows amount of CSR spending in a firm i during the year t), keeping other variables constant.

Table 2 presents the summary statistics for the main variables utilized in this study. On average, firms in our sample spend 7.5 million on CSR activities, with the maximum expenditure reaching 9220 million and some firms reporting no expenditure at all. We also notice that the highest recorded probability of default over a five-year period is 88.5%, while the average stands at 3.9%. The mean and median values for the Distance to Default (DTD) are 4.26 and 3.49, respectively, indicating that, on average, firms are 3.49 times their default threshold, suggesting relatively strong financial health and a low risk of default. Additionally, the Group variable has a mean of 54.1%, indicating that over half of the firms in our sample are affiliated with a business group.

Table 2. Descriptive statistics

Variables	Mean	Median	Std Dev	Max	Minimum	N
DTD	4.261	3.498	3.097	23.230	-1.457	2720
PD5Y	0.070	0.039	0.099	0.885	0.000	2378
CSRE	94.433	7.500	491.144	9220.000	0.100	2720
LEV	0.069	0.034	0.091	0.663	0.000	2720
ROA	0.068	0.057	0.075	0.873	-0.533	2720
FSIZE	3.996	3.939	0.728	6.988	2.042	2720
MTB	3.292	1.850	4.901	64.310	0.000	2720
FAGE	45.220	37.000	19.826	146.000	18.000	2720
VRET	0.047	0.043	0.028	0.495	0.004	2720
BETA	1.160	1.253	0.406	2.418	-0.360	2720
RD	277.427	1.400	1611.104	27890.900	0.000	2720
GROUP	0.541	1.000	0.498	1.000	0.000	2720

Table 3 presents the correlation among all the variables used in the study. The correlation matrix reveals a positive and significant relationship between DTD and CSRE, providing an initial preliminary analysis, which we further explore using multivariate analysis for deeper insights.

Table 3. Correlation matrix

	DTD	CSRE	LEV	ROA	FSIZE	MTB	FAGE	VRET	BETA	RD
DTD	1.00									
CSRE	0.16*** (0.00)									
LEV	-0.32*** (0.00)	0.02 (0.33)								
ROA	0.51*** (0.00)	0.10*** (0.00)	-0.29*** (0.00)							
FSIZE	0.25*** (0.00)	0.44*** (0.00)	0.19*** (0.00)	0.03* (0.10)						
MTB	0.59*** (0.00)	0.08*** (0.00)	-0.12*** (0.00)	0.43*** (0.00)	0.18*** (0.00)					
FAGE	0.13*** (0.00)	0.15*** (0.00)	0.03* (0.09)	-0.03 (0.19)	0.39*** (0.00)	0.12*** (0.00)				
VRET	-0.29*** (0.00)	-0.16*** (0.00)	0.07*** (0.00)	-0.04** (0.03)	-0.33*** (0.00)	0.15*** (0.00)	-0.21*** (0.00)			
BETA	-0.43*** (0.00)	-0.10*** (0.00)	0.17*** (0.00)	-0.28*** (0.00)	0.07*** (0.00)	-0.31*** (0.00)	-0.03* (0.08)	0.15*** (0.00)		
RD	0.05** (0.02)	0.37*** (0.00)	0.04** (0.05)	0.01 (0.72)	0.34*** (0.00)	0.04** (0.05)	0.09*** (0.00)	-0.10*** (0.00)	-0.06*** (0.00)	
GROUP	0.05*** (0.00)	0.15*** (0.00)	0.07*** (0.00)	0.00 (0.94)	0.43*** (0.00)	0.03 (0.15)	0.22*** (0.00)	-0.15*** (0.00)	0.11*** (0.00)	0.13*** (0.00)

Note: The superscripts ***, **, and * are used in this study to denote the level of statistical significance level at the 1%, 5%, and 10%, respectively.

3. Main Research Results

3.1. Baseline Results

We examine the impact of CSR expenditure on the DTD and PD in Table 4 and Table 5, respectively, using a multivariate OLS regression framework. Column 1 of Table 4 shows a positive and significant relationship between DTD and CSR expenditure. This indicates that an increase in CSR spending (CSRE) leads to a rise in DTD, which lowers the default risk of the firm. Essentially, increased CSR expenditure may enhance a firm’s reputation, resulting in better financial performance and a reduced risk of default among Indian listed firms. One possible explanation is that engagement in CSR investment helps firms remain sustainable in the long run and increases shareholder value. This results in better future performance, which lowers the default risk of the firm (Attig et al., 2013; Chaing et al., 2017; Nguyen et al., 2020). Another possible explanation is that engagement in CSR activities provides insurance-like protection to firms against any wrongdoing, which lowers the default risk (Godfrey et al., 2009). These results align with Hussain & Rehman (2024), Suganda & Kim (2023), and Shahrour et al. (2022), who also find a negative relationship between CSR practices and default risk, with CSR activities helping to reduce the likelihood of default. Thus, we find support for H1.

The coefficients of the control variables employed in the regression model align with findings in existing literature. For example, LEV is negatively related to DTD, indicating increased credit risk and a higher likelihood of default (Bharath & Shumway, 2008; Collin-Dufresn et al., 2001). ROA, which measures profitability, is positively associated with DTD, suggesting that high profitability helps firms to generate sufficient cash flows to meet their debt obligations and maintain financial stability, thereby increasing DTD and reducing credit risk (Senbet & Wang, 2012; Adnan Aziz & Dar, 2006; Li et al., 2022; Sun & Cui, 2014). MTB also shows a positive and significant relationship with DTD (Boubaker et al., 2020; Murcial et al., 2014; Pástor & Pietro, 2003).

Furthermore, FAGE and BETA are negatively related, indicating that older firms typically have more stability, leading to a greater distance to default and lower default risk, while the negative relationship for beta emphasizes how lower market risk exposure reduces default probability (Tang & Yan, 2010; Klein and Stellner, 2014). However, variables such as FSIZE, VRET, and RD do not show a significant relationship with DTD.

Table 4. CSR expenditure and DTD (distance to default)

Variables	DTD
	1
C	4.547*** (0.00)
CSRE	0.001*** (0.00)
LEV	-3.816*** (0.00)
ROA	3.916*** (0.00)
FSIZE	0.576 (0.13)
MTB	0.103*** (0.00)
FAGE	-0.050** (0.03)
VRET	-1.631 (0.39)
BETA	-0.397* (0.06)
RD	-0.006 (0.32)
R sq.	0.798
Adjusted R sq.	0.749
F stat	16.257***
Prob	(0.00)
N	2,757

Note: The superscripts ***, **, and * are used in this study to denote the level of statistical significance level at the 1%, 5%, and 10%, respectively. The total number of observations, denoted as N, represents the overall sample size used.

Next, we assess the relationship between CSR expenditure and a firm's probability of default, as shown in Table 5. We use 6-month PD, 1-year PD, 3-year PD, and 5-year PD as proxies for the firm's default risk in columns 1, 2, 3, and 4, respectively. We observe a negative relationship between CSR expenditure and the probability of default across all maturities, suggesting that higher investment in CSR reduces the firm's likelihood of default. These findings further strongly support Hypothesis 1 (H1).

Table 5. CSR expenditure and PD (possibility of default)

Variables	PD6M	PD1Y	PD3Y	PD5Y
	1	2	3	4
C	-0.01007*** (0.00)	-0.0207*** (0.00)	-0.0603*** (0.00)	-0.09669*** (0.00)
CSRE	-0.00002*** (0.00)	-0.00004*** (0.00)	-0.00010*** (0.00)	-0.00001*** (0.00)
LEV	0.0097*** (0.00)	0.0212*** (0.00)	0.07254*** (0.00)	0.12321*** (0.00)

Variables	PD6M	PD1Y	PD3Y	PD5Y
	1	2	3	4
ROA	-0.0507*** (0.00)	-0.1039*** (0.00)	-0.2829*** (0.00)	-0.3965*** (0.00)
FSIZE	0.00290*** (0.00)	0.00601*** (0.00)	0.01775*** (0.00)	0.02799*** (0.00)
MTB	0.00007 (0.88)	0.00010 (0.92)	-0.00010 (0.62)	-0.00060 (0.12)
FAGE	0.00002* (0.10)	0.00046* (0.07)	0.00015** (0.02)	0.00025*** (0.00)
VRET	0.03275*** (0.00)	0.0688*** (0.00)	0.2158*** (0.00)	0.35169*** (0.00)
BETA	0.00425*** (0.00)	0.00877*** (0.00)	0.0253*** (0.00)	0.04012*** (0.00)
RD	0.00009*** (0.00)	0.00002*** (0.00)	0.00005*** (0.00)	0.00008*** (0.00)
R sq.	0.202	0.213	0.246	0.280
Adjusted R sq.	0.200	0.210	0.243	0.277
F stat	73.5193***	78.1981***	94.331***	112.321***
Prob	(0.00)	(0.00)	(0.00)	(0.00)
N	2,608	2,608	2,608	2,608

Note: The superscripts ***, **, and * are used in this study to denote the level of statistical significance level at the 1%, 5%, and 10%, respectively. The total number of observations, denoted as N, represents the overall sample size used.

3.2. CSR Expenditure and Default Risk: Group Vs Standalone

Many Indian firms are affiliated with business groups where member firms share resources and risk. Kakani et al. (2015) define business groups as “formally independent firms that are interconnected due to a single common administrative and financial control, owned and controlled by families, trusts, or foundations. These business networks are usually owned through investment firms with cross-holdings among affiliates”. The institutional perspective suggests that business groups in India exist due to institutional voids and policy implementation (Kedia, Mukherjee & Lahiri, 2006). Khanna & Palepu (2000) also suggest that the Indian market is underdeveloped and illiquid and has weak bureaucratic oversight. Business groups utilize internal capital for labour, products, and capital, unlike stand-alone firms, which do not have access to the internal capital market generated by business groups. Furthermore, there is a lack of quality institutions in India needed to support the capital, labour, and product markets (Singh & Gaur, 2009). Firms affiliated with business groups also enjoy better relations with the government compared to stand-alone firms. Group-affiliated firms are more concerned about their societal reputation and thus may have a different perspective on CSR expenditure compared to stand-alone firms. Additionally, firms associated with a group are well-established in the market and have a legacy of contributing to society through charity or community donations (Sahasranaman et al., 2020). This contribution toward society also impacts a firm’s reputation and default risk. For a better understanding of our results, we examine the relationship between CSR expenditure and default risk in group-affiliated and stand-alone firms, as the large number of groups in India can lead to different conclusions due to their distinct characteristics. To test this relationship, we create an indicator variable, Group, which holds a value of ‘1’ for group-affiliated firms and ‘0’ otherwise.

In Table 6, Column 1, we examine the relationship between the interaction term CSRE×Group and DTD. Our findings indicate that CSRE×Group is negatively related to DTD. In Columns 2 to 5, we observe that the interaction term is positively related to PD. This suggests that the relationship between CSR expenditure and default risk is less pronounced for group-affiliated firms. Indian group-affiliated firms invest in CSR activities collectively to build their reputation, share costs, and divide risk. However, we argue that standalone firms frequently need to access the capital market and their need to establish a reputation is more pronounced compared to business groups. Consequently, standalone firms have a greater need to invest in CSR-related activities to lower their default risk than business group firms. Additionally, in an unreported result, we address endogeneity issues by using lagged values of all the independent variables.

Table 6. CSR expenditure and Default Risk: The effect of business group affiliation

Variables	DTD	PD6M	PD1Y	PD3Y	PD5Y
	1	2	3	4	5
C	2.6151*** (0.00)	-0.0104*** (0.00)	-0.0215*** (0.00)	-0.0629*** (0.00)	-0.1065*** (0.00)
CSRE	0.0089*** (0.00)	-0.0002*** (0.00)	-0.0005*** (0.00)	-0.0001*** (0.00)	-0.0002*** (0.00)
CSRE×Group	-0.0089*** (0.00)	0.0001*** (0.01)	0.0004*** (0.00)	0.0001*** (0.00)	0.0002*** (0.00)
LEV	-6.3826*** (0.00)	0.0092*** (0.00)	0.0200*** (0.00)	0.0684*** (0.00)	0.1129*** (0.00)
ROA	9.6365*** (0.00)	-0.0506*** (0.00)	-0.1035*** (0.00)	-0.2816*** (0.00)	-0.3989*** (0.00)
FSIZE	0.8450*** (0.00)	0.003*** (0.00)	0.0062*** (0.00)	0.0185*** (0.00)	0.0315*** (0.00)
MTB	0.1919*** (0.00)	0.0004 (0.49)	0.0007 (0.48)	0.0008 (0.78)	-0.0003 (0.47)
FAGE	-0.0012 (0.54)	0.0002* (0.08)	0.0005** (0.05)	0.0002*** (0.01)	0.0002*** (0.01)
VRET	-12.554*** (0.00)	0.0323*** (0.00)	0.0677*** (0.00)	0.2122*** (0.00)	0.3538*** (0.00)
BETA	-1.7150*** (0.00)	0.0042*** (0.00)	0.0087*** (0.00)	0.0252*** (0.00)	0.0389*** (0.00)
RD	-0.0001*** (0.00)	0.0001*** (0.00)	0.0001*** (0.00)	0.0001*** (0.00)	0.0001*** (0.00)
R sq.	0.603	0.204	0.215	0.249	0.288
Adjusted R sq.	0.601	0.201	0.212	0.246	0.285
F stat	260.93***	66.90***	71.26***	86.35***	105.091***
Prob	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
N	2,757	2,608	2,608	2,608	2,608

Note: The superscripts ***, **, and * are used in this study to denote the level of statistical significance level at the 1%, 5%, and 10%, respectively. The total number of observations, denoted as N, represents the overall sample size used.

Conclusions

Our paper provides an empirical analysis of how CSR expenditure influences the default risk of Indian firms. Using the data for 1,218 firms for the period 2015 to 2021, we find a significant negative relationship between CSR spending and default risk. This finding suggests that CSR activities enhance a firm's reputation, financial health, and stakeholder relationships, which collectively contribute to a lower likelihood of financial default. These results underscore the dual role of CSR as both a compliance measure and a strategic investment that can mitigate risk and promote long-term sustainability. Furthermore, we also examine the differential impact of CSR spending on group-affiliated versus standalone firms. Our findings suggest that standalone firms, which lack the shared reputation and resource benefits of business group affiliation, benefit more from CSR activities in terms of reducing default risk. This is because standalone firms need to establish a strong independent reputation to access capital markets and sustain competitiveness. These findings highlight that while business group-affiliated firms can share resources and risks within the group, standalone firms must rely more heavily on CSR as a strategic tool to enhance their credibility and financial stability.

In conclusion, our study contributes to the existing literature by providing the evidence on the strategic importance of CSR in reducing default risk, particularly in the context of a legal mandate. The study highlights the value of CSR beyond mere compliance, showing how it can serve as an effective risk management strategy that improves firm reputation, stakeholder trust, and financial resilience.

Our findings are particularly relevant for policymakers and corporate managers in emerging economies, where CSR mandates can play a crucial role in shaping firm behaviour and financial outcomes. The study offers insights into how CSR strategies can be tailored to maximize benefits, emphasizing the varied impacts on different types of firms and fostering a more sustainable and risk-averse corporate environment.

Credit Authorship Contribution Statement

Neetu Yadav conceptualized and designed the study, conducted the literature review, and was responsible for the development of the theoretical framework. Y.N. performed the data analysis, interpreted the results, and drafted the manuscript. Yadav also ensured that the study's methodology was sound and contributed to revising the manuscript based on peer feedback.

Conflict of Interest Statement

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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