

Corporate social responsibility performance and social reputation via corporate social responsibility awarding: is there a threshold effect?

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Abstract

Purpose – This study aims to examine the potential threshold effect in the association between corporate social responsibility (CSR) performance and social reputation.

Design/methodology/approach – This study includes an international and cross-sector sample covering 41 countries, nine sectors and 45,395 firm-year observations. It applies a parabolic relationship, rather than linear regressions, between CSR engagement and social reputation via CSR awarding. This implies that CSR performance should increase until a certain point to gain a social reputation but then should decrease after reaching that threshold point considering limited financial resources.

Findings – The findings of country-industry-year fixed-effects logistic regressions confirm the threshold effect with an inverted U-shaped relationship between CSR and CSR awarding. More specifically, firms increase their environmental and social engagement until a certain point, and then they reduce it after reaching a social reputation. This finding is confirmed by three dimensions of the environmental pillar (i.e. resource use, emissions and eco-innovation) as well as four dimensions of the social pillar (i.e. workforce, human rights, community and product responsibility). The findings are robust to alternative samples, alternative methodology and endogeneity concerns.

Practical implications – The findings of this study have implications for firms about the better allocation of available funds between CSR and operations. The findings could be particularly useful for CSR teams/committees of the firms who formulate CSR policies and how to mobilize firm resources for better social enhancement via environmental and social reputation.

Originality/value – This study examines deeper the nature of the association between CSR engagement and social reputation and considers the possibility of an inverted U-shaped relationship between them. The determination of a threshold effect suggests that CSR engagement increases social reputation, but once it reaches a certain point, social reputation will decrease owing to financial resource constraints.

Keywords CSR, Environmental performance, Social performance, CSR award, Threshold effect

Paper type Research paper

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1. Introduction

Corporate social responsibility (CSR) has become increasingly important since the introduction of the Global Reporting Initiative (GRI) sustainability reporting framework in 2000 and the adoption of Sustainable Development Goals by the United Nations in 2015, as companies face growing pressure to demonstrate their commitment to social and environmental responsibilities (Husted and Allen, 2007). An increase in CSR interest is attributed to several factors, including increased stakeholder activism and changes in societal attitudes and expectations (Lozano, 2015). Consequently, a company should be committed to social and environmental standards beyond legal obligations (Bhattacharya and Sen, 2004).

To meet social and environmental expectations, companies should integrate CSR activities into their business strategies and decision-making processes to promote ethical and social values and achieve sustainable development and growth (Kleine and von Hauff, 2009; García-Rodríguez *et al.*, 2013; Cezarino *et al.*, 2022; Ellili, 2022a).

In the literature, there are five main streams of research on the motivations and practices of CSR engagement. The first stream includes studies that have analyzed CSR performance based on the content analysis of CSR disclosure to determine the extent of a company's commitment to social and environmental responsibilities (Sobhani *et al.*, 2012; Sierra *et al.*, 2013; Nobanee and Ellili, 2016; Waheed and Yang, 2019; Zaid *et al.*, 2020; Koh *et al.*, 2022). In the second stream, studies have focused mainly on the economic motivations and benefits of CSR performance, such as the relationship between CSR engagement and financial performance (Malik and Kanwal, 2018; Platonova *et al.*, 2018; Gupta and Das, 2022), the role of CSR performance in improving investment efficiency (Zhong and Gao, 2017; Firmansyah and Triastie, 2020; Anwar and Malik, 2020; Liu and Tian, 2021; Ellili, 2022b; Zamir *et al.*, 2022) and the contribution of CSR performance in the mitigation of the cost of capital (Dhaliwal *et al.*, 2011; Reverte, 2012; Buallay, 2019; Martínez-Ferrero *et al.*, 2021). In the third stream, studies have examined the institutional perspective of CSR performance, such as the role of institutions, governments and regulators in CSR engagement (Ling and Sultana, 2015; Miniaoui *et al.*, 2019; Zheng *et al.*, 2022), as well as the impact of corporate governance systems on CSR performance (Khan *et al.*, 2013; Jizi *et al.*, 2014; Abu Qa'dan and Suwaidan, 2019; Li *et al.*, 2022; Maswadi and Amran, 2023). The fourth stream includes studies that have focused on CSR performance consistency over the years (Uyar *et al.*, 2022b, 2023). The fifth stream of studies explores the impact of CSR engagement on corporate social reputation (Pérez *et al.*, 2017; Ali *et al.*, 2022; Koh *et al.*, 2022).

Concerning social reputation, the latter studies demonstrated the significant positive impact of CSR performance on corporate reputation. As a result, the implementation of CSR initiatives allows companies to provide evidence of their commitment to social and environmental standards and enhance their stakeholders' trust. Nonetheless, a threshold effect may exist concerning the impact of CSR performance on social reputation suggesting an optimum point in the CSR-social reputation link (Rouine *et al.*, 2022). This effect indicates that there is a limit beyond which an increase in CSR initiatives may certainly not lead to an increase in social reputation, as stakeholders may perceive such initiatives as ineffective. Hence, it is necessary for companies to find a balance in their CSR efforts and adequately communicate their initiatives to maintain and enhance their social reputation. Against this background, this study aims to answer the following question:

Q1. Is there a threshold in the association between CSR performance and social reputation?

The originality of this study stems from a deeper examination of the nature of the association between CSR engagement and social reputation. This study considers the possibility of an inverted U-shaped relationship between CSR engagement and corporate reputation. Hence, with this type of parabolic relationship, we determine a threshold effect suggesting that CSR engagement increases social reputation, but once it reaches a certain point, social reputation will decrease owing to financial resource constraints. Furthermore, we deepen the investigation by testing the inverted U-shaped relationship between environmental and social engagement and social reputation.

In summary, this study advances the literature on CSR performance and social reputation link in two different ways. First, this study goes further by considering a parabolic association between CSR performance and social reputation, while previous studies have confirmed either a positive (Pérez *et al.*, 2017; Jeffrey *et al.*, 2019; Zhang *et al.*, 2021; Uyar *et al.*, 2022a) or negative association (Miras-Rodríguez *et al.*, 2020). Second, this study

considers a multinational institutional context, whereas prior studies are limited to only one context, such as China (Lu *et al.*, 2015), Spain (Pérez-Cornejo and de Quevedo-Puente, 2022) and the USA (Lloyd-Smith and An, 2019). Thus, beyond the one-type association and one-institutional context, we explore the existence of a threshold effect in the association between CSR performance and social reputation, which will help companies improve their management of this association over time and optimize their engagement in CSR activities. To the best of our knowledge, there is no single study on CSR engagement that considers the parabolic association with a social reputation as well as the existence of a threshold effect in this association. This study is the first to shed light on this type of association, which is an important contribution to CSR literature.

For the empirical analysis, the data include nonfinancial companies from 41 countries and cover the period of 2002–2019. CSR performance was measured using three environmental and four social dimensions. The impact of CSR performance on social reputation is examined using different logistic panel regressions. The empirical findings reveal a threshold effect leading to an inverted U-shaped relationship between CSR performance and CSR awarding. The inverted U-shaped relationship was also confirmed between environmental and social engagement and social reputation too. More specifically, firms increase their environmental and social engagement until a certain point and then reduce it after reaching a social reputation. These findings are robust to different alternative samples, methodologies and endogeneity concerns. These results contribute to the empirical literature by providing a better understanding of CSR engagement. This will help companies to determine the relevant level of social and environmental engagement, improve the quality of their CSR reporting and increase the persistence of their social reputation.

The remainder of this paper is organized as follows. Section 2 includes the theoretical framework and hypotheses development. Section 3 explains the research methodology. Section 4 presents the empirical findings, and Section 5 includes a discussion, conclusion, implications and future research perspectives.

2. Theoretical background

The increasing focus on sustainability and ethical business practices has made CSR performance a vital aspect of corporate reputation management (Orlitzky *et al.*, 2003; Lee, 2008). The role of CSR performance in corporate social reputation has been studied under various theories, including signaling, stakeholder, legitimacy and scarce financial resources theories.

First, signaling theory suggests that companies use information to signal their decisions and performance to reduce information asymmetry (Myers and Majluf, 1984). In this context, CSR performance is considered a signal to stakeholders of a company's commitment to social and environmental responsibilities, which can positively impact its reputation and trustworthiness (Bacha *et al.*, 2021; Aranguren Gómez and Maldonado García, 2022). Second, stakeholder theory recognizes that companies operate in a complex environment and have multiple obligations toward a wide range of stakeholders with different interests that should be considered in corporate management, rather than just focusing on maximizing shareholder value (Buchholz and Rosenthal, 2004). In this context, CSR performance is considered an important tool for building and maintaining a positive social reputation by demonstrating a company's commitment to social and environmental responsibilities to stakeholders (Pérez *et al.*, 2017). Third, legitimacy theory suggests that a company must meet the expectations and norms of its stakeholders to maintain legitimacy and increase performance. A company must be transparent, responsive and proactive in addressing the needs and concerns of its stakeholders (Gray *et al.*, 1995; Schiopoiu Burlea and Popa, 2013). In this context, transparent and meaningful CSR performance can help a company increase its legitimacy, which would have a positive impact on its social reputation

([Li et al., 2018](#); [Zhang et al., 2021](#)). Fourth, scarce financial resources theory suggests that a company must prioritize and allocate its financial resources to maximize value and achieve its strategic goals, as these resources are limited and must be used effectively to achieve financial performance success. This may involve making trade-offs between different uses of financial resources ([Götze et al., 2008](#)). In this context, companies with limited financial resources may choose to allocate those resources to activities that will directly improve their financial performance rather than CSR activities ([Chan et al., 2017](#); [Samet et al., 2018](#); [Leong and Yang, 2021](#)). This may result in lower levels of CSR performance and a less positive social reputation.

Signaling theory, stakeholder theory and legitimacy theory suggest that a company must be involved in CSR activities to signal its commitment to social and environmental responsibilities, provide evidence of its stakeholders' engagement, build and maintain its legitimacy and improve its social reputation. As a result, a company should consider the needs of its stakeholders rather than focus only on its financial performance. However, scarce financial resources theory suggests that a company's priority is its financial performance rather than CSR activities. This leads to a lower commitment to social and environmental responsibilities and a negative impact on social reputation. Thus, stakeholder theory and financial resources theory might have competing effects on CSR engagement and eventually the reputation-building role of CSR. Although stakeholder theory stimulates CSR engagement, scarce financial resources theory might restrain CSR engagement after reaching a threshold point and attaining a social reputation.

In the empirical literature, there is no consensus on the type of association between CSR engagement and social reputation. The studies of [Lu et al. \(2015\)](#), [Pérez et al. \(2017\)](#), [Jeffrey et al. \(2019\)](#), [Lloyd-Smith and An \(2019\)](#), [Uyar et al. \(2022a\)](#) and [Zhang et al. \(2021\)](#) confirmed a positive association between CSR engagement and social reputation; however, [Miras-Rodríguez et al. \(2020\)](#) confirmed a negative association. [Lu et al. \(2015\)](#) examined the impact of CSR performance on the corporate social reputation of listed companies in China in 2008. CSR performance was measured by content analysis based on the GRI framework, while social reputation was measured by the Chinese Stock-listed Firms' Social Responsibility Ranking List. The empirical results provide evidence of stakeholder and legitimacy theories' expectations and indicate a positive and significant impact of CSR performance on social reputation. This result suggests that the pursuit of a good reputation is a motivating factor for high engagement in CSR activities. In the same spirit of research, [Pérez et al. \(2017\)](#) explored the relationship between CSR performance and the corporate reputation of the 100 most reputable Spanish companies included in the MercoEmpresas Responsables' reputation index in 2013. The empirical findings support stakeholder theory and indicate the positive and significant impact of CSR performance on corporate reputation ([Hemphill, 2006](#)). These results suggest that CSR engagement is a motivating strategy to build a good corporate reputation. Similarly, [Jeffrey et al. \(2019\)](#) examined the association between CSR performance and corporate reputation, as measured by a company's inclusion in *Fortune's* Most Admired Companies list in 2015. The empirical findings reveal that financial performance is the most fundamental contributor to a company's membership on *Fortune's* Most Admired list, and CSR performance increases the likelihood of this membership, suggesting that CSR behavior influences corporate reputation. [Lloyd-Smith and An \(2019\)](#) examined the relationship between CSR performance and corporate reputation. Using panel data on US companies during 2005–2014, the empirical results reveal that CSR performance and advertising activities are substitute contributors in the production of corporate reputation, suggesting that companies may not need to engage in both types of activities. However, the positive impact of CSR performance on corporate reputation is greater than that of advertising activities. [Zhang et al. \(2021\)](#) explored whether CSR performance is effective in protecting corporate reputation from the negative effects of financial restatements. Using a sample of companies between 2000 and 2017, the empirical results supported legitimacy theory expectations

and revealed that CSR performance improved for the restating companies. These results suggest that engagement in CSR activities is a strategy to mitigate the damage to corporate reputation caused by restatements and regain the public's trust. [Uyar et al. \(2022a\)](#) investigated the impact of environmental, social and governance (ESG) performance consistency on corporate social reputation. The empirical findings indicate that overall ESG commitment and individual ESG commitments are positively associated with corporate reputation. These results suggest that irregular, short-term and tactical ESG performance does not improve a company's social reputation. In addition, the results indicate that the impact of governance commitment on corporate reputation is lower than that of environmental and social commitment.

However, despite the above-mentioned extensive positive evidence for the association between CSR performance and social reputation, [Miras-Rodríguez et al. \(2020\)](#) confirmed the negative impact of CSR performance on social reputation, suggesting that CSR activities are perceived by stakeholders as impression management practiced by companies rather than effectively addressing their stakeholders' concerns and legitimizing their behavior. In this context, CSR activities are considered communication tools to manipulate stakeholder perceptions. Therefore, following previous studies, we suggest that CSR performance may not always have a positive impact on social reputation and that a company has scarce financial resources, limiting investment in CSR activities that would lead to a lower social reputation. The inverted U-shaped relationship was confirmed before between CSR and financial performance ([Sun et al., 2019](#); [Ma and Yasir, 2023](#)), corporate philanthropy and firm research and development ([Gao et al., 2017](#)), firm performance and CSR ([Hou et al., 2022](#)) and eco-innovation and market performance ([Leyva-De la Hiz and Bolívar-Ramos, 2022](#)). Hence, our study advances this stream of research by focusing on an inverted U-shaped relationship between CSR and social reputation. Thus, we argue that the investigation should not be limited to the impact of CSR performance on social reputation but should be extended to include a parabolic relationship and the existence of a threshold effect. Following the scarce financial resources theory and previous studies confirming the association between CSR performance and social reputation, in this study, we do not formulate a hypothesis for the direct association between CSR performance and CSR awarding, as the link is evident. Thus, we suggest a nonlinear and parabolic relationship between CSR performance and CSR awarding and propose the following hypotheses:

- H1.* There is an inverted U-shaped relationship between CSR engagement and social reputation via CSR awarding. This implies that firms increase their CSR engagement until a threshold point to reap social reputation but after the threshold point, they reduce their CSR engagement, as they are bounded by financial constraints.

After formulating the above main hypothesis, we formulate two more subhypotheses to test the validity of the inverted U-shaped for two CSR pillars, namely, environmental and social engagements. Thus, we propose the following hypotheses:

- H1a.* There is an inverted U-shaped relationship between environmental engagement and social reputation via CSR awarding.
- H1b.* There is an inverted U-shaped relationship between social engagement and social reputation via CSR awarding.

3. Research methodology

This section provides detailed explanations of the research variables, research sample and empirical models.

3.1 Variables

We proxy social reputation through CSR awarding (CSRAWARD) with a dichotomous variable (taking one for the existence of a CSR award and zero for nonexistence) consistent

with [Aouadi and Marsat \(2018\)](#) and [Uyar et al. \(2022a\)](#). For CSR performance, consistent with [Ghoul et al. \(2017\)](#) and [Gangi et al. \(2020\)](#), we take Thomson Reuter's Eikon's environmental and social pillars' average (ENVS and SOCS, respectively). We prefer to exclude the governance pillar, as it is less relevant to social reputation compared to environmental and social pillars ([Uyar et al., 2022a](#)). ENVS is further decomposed into resource use (RESUSE), emissions (EMISSION) and eco-innovation (EINNOV) components, and similarly, SOCS is decomposed into the workforce (WFORCE), human rights (HRIGHTS), community development (COMMUN) and product responsibility (PRES P).

We integrate a battery of control variables including board characteristics such as board size (BSIZE), board gender diversity (BGDIVERS), board cultural diversity (BCDIVERS), CEO duality (CEOD) and financial firm attributes such as firm size (FSIZE), profitability (ROA), leverage and ownership structure by free float percentage (FFLOAT) ([Martínez-Ferrero and García-Meca, 2020](#); [Uyar et al., 2022a](#); [Aboud and Yang, 2022](#)). Although board composition is important for formulating corporate strategies including CSR and social reputation, financial attributes are facilitating and/or limiting factors in firms' CSR engagements; hence, we control those factors in the research model. We also control public governance quality by integrating the average of six Worldwide Governance Indicators ([World Bank, 2021](#)). [Table 1](#) presents the research variables' list and descriptions.

Table 1 Variables

CSRAWARD	CSR awarding is dichotomous variable which indicates whether a firm is awarded (one) by its CSR engagement or not (zero)
CSRS	Composite CSR score which is obtained by taking the average of environmental and social pillars ranging from 0 to 100
ENVS	Environmental pillar score based on resource use, emissions and eco-innovation engagement ranging from 0 to 100
SOCS	Social pillar score based on workforce, human rights, community and product responsibility engagement ranging from 0 to 100
RESUSE	Resource usage metric score of environmental pillar scaled between 0 and 100. It assesses firms' reduction in energy, material and water consumption
EMISSION	Emission reduction metric score of environmental pillar scaled between 0 and 100. It assesses firms' capacity to reduce hazardous emissions to the environment
EINNOV	Eco-innovation metric score of environmental pillar scaled between 0 and 100. It assesses firms' ability to innovate environmental-friendly services and products
WFORCE	Workforce metric score of social pillar scaled between 0 and 100. It assesses the extent of firms in considering welfare of employees, giving them equal opportunity, diversifying workforce and taking necessary precautions for preserving employee health
HRIGHTS	Human rights metric score of social pillar scaled between 0 and 100. It assesses firms' respect to human rights principles
COMMUN	Community development metric score of social pillar scaled between 0 and 100. It assesses to what extent firms address communities expectations by preserving public health and welfare
PRES P	Product responsibility metric score of social pillar scaled between 0 and 100. It assesses a company's ability to preserve customers' health, safety and privacy in products and services they deliver
BSIZE	Number of directors on boards
BGDIVERS	Board gender diversity which is female proportion on boards
BCDIVERS	Board cultural diversity which is foreign director proportion on boards
CEOD	CEO duality which takes one if the board chair and CEO are the same person
FSIZE	Natural logarithm of total assets
ROA	Profitability which is net income before tax over total assets
LEVERAGE	Total debt over total assets
LIQUIDITY	Current ratio which is current assets over current liabilities
CAPEXP	Capital expenditures over total assets
ADVEXP	Advertising expenses over total assets
FFLOAT	Free float percentage of shares freely tradeable by stockholders
WGI	World Governance Indicators' average including government effectiveness, political stability and absence of violence/terrorism control of corruption, rule of law, voice and accountability and regulatory quality. (All metrics' values range from -2.5 to 2.5)

Source: The table is developed by the authors

3.2 Sample

The research sample includes observations from the nine nonfinancial sectors across 41 countries between 2002 and 2019 retrieved from the Thomson Reuters Eikon/Refinitiv (formerly known as Asset4) database. Before executing the analyses, it is crucial to screen the research sample (Hair *et al.*, 2019). We retrieved the raw data, cleaned it, purified it and prepared it for the forthcoming analyses. Initially, we check the summary statistics of the variables. Accordingly, some of the variables had large variability around the mean values. Therefore, we winsorize BSIZE, ROA, LEVERAGE, LIQUIDITY, CAPEXP and ADVEXP at a 1% level of both tails by replacing the values on both tails with the winsorized counterpart values (Cox, 2006).

Moreover, the research sample is subject to the multivariate outlier detection phase. We use the minimum covariance determinant method (Verardi and Dehon, 2010) to examine the multivariate outliers which yielded 21 records. We then eliminated them from the sample. Furthermore, we checked the missing values. The missing value analysis shows that the ratios of the missing values range between 0.03% and 1.75% [1]. The ratios of the missing values are less than 5% which can be inconsequential (Schafer, 1999) and are less than 10% which cannot cause any estimation bias during the analysis (Bennett, 2001). Finally, the variables with missing observations are imputed using the Markov chain Monte Carlo method even if the ratios are relatively small.

Furthermore, we examine the sample distributions at multiple levels. The initial sample included 59,194 records out of which financial sectors (13,333 records), countries with less than ten firms (445 records) and multivariate outliers (21 records) are excluded. The final sample size includes 45,395 observations (Table 2, Panel A). Regarding the sector-level distributions, the ratios of the sample range between 3.14% (telecommunications services) and 21.08% (industrials) (Table 2, Panel B). Regarding the year-level distributions, the ratios range between 0.71% (Year, 2002) and 12.86% (Year, 2019) (Table 2, Panel B). Finally, in terms of the country-level distributions, the results reveal that the study includes 41 countries with 5,836 unique firms and 45,395 data points. The USA has the highest percentage of unique firms with 36.62%, and Japan is the second largest with 6.43%. Regarding the data points, again the USA has 32.01% of the data points, and Japan has the 11.37% of the data points (Table A1, Appendix).

3.3 Research models

Following prior studies drawing on an international and cross-country sample (Uyar *et al.*, 2022a, 2023), we test the research hypotheses using the country, industry and year fixed-effects (FE) regression analysis. Because of the binary nature of the dependent variable (CSR awarding), we adopted logistics regression too (Uyar *et al.*, 2022a, 2023). The FE logistic regression analysis can alleviate the possible time-invariant endogeneity threat (Nunn, 2007; Feenstra *et al.*, 2013; Schons and Steinmeier, 2016; Rjiba *et al.*, 2020). Also, it may handle the possible omitted-variable bias because it can control for the unobservable characteristics that remain constant throughout time (Jiraporn *et al.*, 2016). Besides, the country, industry and year FE are executed to capture the time series and cross-sectional dimensions of the data (Singh *et al.*, 2022). When modeling the proposed models, we use the least squares dummy variable modeling approach (Gujarati, 2014), which allows us to control for the country, industry- and year-specific heterogeneity.

Our research proposes models with linear and quadratic variables. We formulate them using equations (1) and (2) below:

$$\Pr(Y = 1|X)_{i,t,c} = F\left[\beta_0 + \beta_1(X)_{i,t,c} + \beta_2(\text{Controls})_{i,t,c} + \beta_3 \sum (\text{Country})_c + \beta_4 \sum (\text{Industry})_i + \beta_5 \sum (\text{Year})_t + \varepsilon_{i,t,c}\right] \quad (1)$$

Table 2 Sample distributions

<i>Panel A</i>			
<i>Initial sample</i>			59,194
(-) Financial sector			13,333
(-) Countries with less than ten firms			445
(-) Multivariate outliers			21
<i>Final sample</i>			45,395
<i>Panel B</i>			
Variable	Category	Freq	Percent
Sector	Basic materials	5,942	13.09
	Consumer cyclicals	8,633	19.02
	Consumer noncyclicals	4,055	8.93
	Energy	3,975	8.76
	Health care	4,155	9.15
	Industrials	9,568	21.08
	Technology	5,177	11.40
	Telecommunications services	1,424	3.14
	Utilities	2,466	5.43
	<i>Total</i>	45,395	100.00
Year	2002	322	0.71
	2003	516	1.14
	2004	864	1.90
	2005	1,206	2.66
	2006	1,294	2.85
	2007	1,399	3.08
	2008	1,609	3.54
	2009	1,921	4.23
	2010	2,242	4.94
	2011	2,548	5.61
	2012	2,680	5.90
	2013	2,778	6.12
	2014	2,924	6.44
	2015	3,398	7.49
	2016	4,052	8.93
	2017	4,619	10.18
	2018	5,187	11.43
	2019	5,836	12.86
	<i>Total</i>	45,395	100.00

Source: The table is developed by the authors

$$\Pr(Y = 1|X)_{i,t,c} = F\left[\beta_0 + \beta_1(X)_{i,t,c} + \beta_2(X^2)_{i,t,c} + \beta_3(\text{Controls})_{i,t,c} + \beta_4 \sum (\text{Country})_c + \beta_5 \sum (\text{Industry})_i + \beta_6 \sum (\text{Year})_t + \varepsilon_{i,t,c}\right] \quad (2)$$

where F is the logistic distribution function $F(z) = \exp(z)/(1+\exp(z))$.

In both equations, CSRAWARD is the dependent variable (Y). Regarding the testing variables of interest (X), we incorporate the fundamental CSR performance measures including ENVIS and SOCS along with the subdimensional components of ENVIS including RESUSE, EMISSION and EINNOV, and subdimensional components of SOCS including WFORCE, HRIGHTS, COMMUN and PRESIP. Finally, the control variables are BSIZE, BGDIVERS, BCDIVERS, CEOD, FSIZE, ROA, LEVERAGE, LIQUIDITY, CAPEXP, ADVEXP and FFLOAT in both equations.

In the analyses, we report the robust standard errors clustered by the country to control for heteroscedasticity (Wooldridge, 2020).

4. Findings

4.1 Descriptive statistics

The results of the summary statistics of the research variables are exhibited in [Table 3](#). According to the results, 38% of the observations have the existence of a CSRAWARD. In terms of the testing variables of interest, the mean values of the main CSR performance measures are 36.93 (CSRS), 32.97 (ENVS) and 40.88 (SOCS), respectively, which implies that firms engage more with social practices than environmental practices. Moreover, the averages of the subdimensional of the CSR performance measures are as follows: 36.92 (RESUSE), 37.14 (EMISSION), 22.16 (EINNOV), 50.75 (WFORCE), 23.88 (HRIGHTS), 49.66 (COMMUN) and 40.07 (PRES P). Based on these means, it is clear that eco-innovation needs more attention compared to other environmental dimensions, and human rights require greater emphasis relative to other social dimensions. Among board characteristics, BGDIVERS and BCDIVERS have means of 13.51 and 8.51, respectively.

4.2 Correlation analysis and multicollinearity check

We examine the bivariate linear correlation coefficients using Pearson's correlation analysis ([Table 4](#)). The results show that the CSR's main performance measures (CSRS, ENVS and SOCS), as well as the subdimensional components (RESUSE, EMISSION, EINNOV, WFORCE, HRIGHTS, COMMUN and PRES P), have a significantly positive linear correlation with CSRAWARD ($p < 0.05$).

4.2.1 Multicollinearity check. Further check is performed to determine whether there is any multicollinearity among the independent variables. We calculate the variance inflation factors (VIFs) in this aim ([Table A2, Appendix](#)). The VIF values range from 1.03 to 1.96 which are smaller than the suggested cut-off value of 10 ([Neter et al., 1996](#); [Kennedy, 2008](#); [Hair et al., 2019](#)). Thus, the research models do not have any multicollinearity threat among the independent variables.

Table 3 Summary statistics

Variable	Obs.	Mean	SD	Min	Max
CSRAWARD	45,395	0.38	0.48	0.00	1.00
CSRS	45,395	36.93	24.23	0.03	97.46
ENVS	45,395	32.97	28.41	0.00	99.06
SOCS	45,395	40.88	23.80	0.05	98.64
RESUSE	45,395	36.92	33.46	0.00	99.85
EMISSION	45,395	37.14	33.48	0.00	99.84
EINNOV	45,395	22.16	29.62	0.00	99.82
WFORCE	45,395	50.75	29.08	0.14	99.88
HRIGHTS	45,395	23.88	31.95	0.00	99.48
COMMUN	45,395	49.66	29.06	0.00	99.88
PRES P	45,395	40.07	32.12	0.00	99.86
BSIZE	45,395	10.00	3.35	4.00	21.00
BGDIVERS	45,395	13.51	12.51	0.00	100.00
BCDIVERS	45,395	8.51	19.82	0.00	100.00
CEOD	45,395	0.40	0.49	0.00	1.00
FSIZE	45,395	22.12	1.62	10.65	27.41
ROA	45,395	0.06	0.12	−0.48	0.37
LEVERAGE	45,395	0.25	0.18	0.00	0.83
LIQUIDITY	45,395	2.03	1.90	0.25	12.90
CAPEXP	45,395	0.06	0.06	0.00	0.42
ADVEXP	45,395	0.01	0.02	0.00	0.13
FFLOAT	45,395	77.29	24.66	0.00	100.00
WGI	45,395	1.12	0.59	−0.83	1.97

Source: The table is developed by the authors

Table 4 Correlation analysis

No. Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 CSRAWARD	1																						
2 CSRS	0.509*	1																					
3 ENVS	0.485*	0.940*	1																				
4 SOCS	0.458*	0.914*	0.720*	1																			
5 RESUSE	0.466*	0.891*	0.903*	0.737*	1																		
6 EMISSION	0.480*	0.868*	0.903*	0.689*	0.827*	1																	
7 EINNOV	0.287*	0.604*	0.692*	0.404*	0.455*	0.450*	1																
8 WFORCE	0.420*	0.789*	0.679*	0.796*	0.700*	0.694*	0.321*	1															
9 HRIGHTS	0.292*	0.744*	0.598*	0.800*	0.623*	0.558*	0.343*	0.540*	1														
10 COMMUN	0.453*	0.595*	0.427*	0.700*	0.442*	0.406*	0.226*	0.448*	0.421*	1													
11 PRESP	0.302*	0.676*	0.550*	0.719*	0.527*	0.502*	0.383*	0.484*	0.447*	0.334*	1												
12 BSIZE	0.246*	0.313*	0.336*	0.236*	0.312*	0.328*	0.222*	0.236*	0.195*	0.136*	0.177*	1											
13 BGDIVERS	0.025*	0.238*	0.164*	0.290*	0.180*	0.150*	0.079*	0.215*	0.262*	0.229*	0.153*	0.010*	1										
14 BGDIVERS	0.066*	0.197*	0.173*	0.194*	0.179*	0.165*	0.081*	0.171*	0.200*	0.120*	0.107*	0.038*	0.111*	1									
15 CEDD	0.012*	-0.005	-0.010*	0.003	-0.010*	-0.013*	0.012*	-0.060*	-0.026*	0.104*	0.001	0.062*	-0.020*	-0.061*	1								
16 FSIZE	0.383*	0.501*	0.524*	0.395*	0.490*	0.514*	0.315*	0.364*	0.326*	0.304*	0.264*	0.514*	0.028*	0.133*	0.112*	1							
17 ROA	0.090*	0.083*	0.090*	0.062*	0.100*	0.090*	0.001	0.098*	0.081*	0.031*	0.032*	0.068*	0.026*	0.002	0.038*	0.159*	1						
18 LEVERAGE	0.068*	0.087*	0.085*	0.076*	0.089*	0.074*	0.044*	0.028*	0.056*	0.103*	0.058*	0.129*	0.062*	0.017*	0.016*	0.250*	-0.159*	1					
19 LIQUIDITY	-0.162*	-0.199*	-0.216*	-0.148*	-0.200*	-0.212*	-0.101*	-0.166*	-0.130*	-0.097*	-0.103*	-0.207*	-0.081*	-0.048*	-0.005	-0.358*	-0.135*	-0.347*	1				
20 CAPEXP	-0.025*	-0.067*	-0.053*	-0.074*	-0.041*	-0.028*	-0.095*	-0.022*	-0.061*	-0.038*	-0.086*	-0.064*	-0.076*	0.012*	-0.025*	-0.088*	0.003	0.021*	-0.021*	1			
21 ADVEXP	0.004	-0.017*	-0.033*	0.004	-0.025*	-0.039*	-0.024*	-0.044*	0.008	0.026*	0.012*	0.028*	0.022*	-0.068*	0.094*	-0.021*	0.120*	-0.069*	-0.015*	-0.042*	1		
22 FFLOAT	-0.045*	0.034*	0.001	0.069*	0.013*	-0.013*	0.040*	-0.009	0.011*	0.217*	0.006	-0.054*	0.104*	-0.037*	0.135*	0.004	-0.047*	-0.004	-0.058*	0.044*	0.006	1	
23 WGI	-0.110*	0.018*	0.001	0.036*	0.001	-0.008	0.042*	0.002	0.015*	0.106*	-0.014*	-0.127*	0.130*	0.106*	0.014*	-0.111*	-0.077*	-0.057*	0.063*	-0.007	-0.021*	0.421*	1

Note: * $p < 0.05$

Source: The table is developed by the authors

4.3 Baseline analyses

We perform the country, industry and year FE logistic regression to test the research hypotheses. Initially, we examine the effect of the main CSR performance measures (CSRS, ENVS and SOCS) on CSRAWARD (Table 5). Regarding the linear models, the coefficients of the CSR performances (CSRS, ENVS and SOCS) are significantly positive ($p < 0.01$). In terms of quadratic models, the coefficients of the quadratic variables (CSRS², ENVS² and SOCS²) have a significantly negative relationship with CSRAWARD ($p < 0.01$). Thus, *H1*, *H1a* and *H1b* are accepted suggesting an inverted U-shaped relationship between CSR, environmental and social engagement and social reputation via CSR awarding. Among the board characteristics, we observe that larger and more gender-diverse boards are more likely to pursue social reputation, whereas culturally diverse boards are less likely to seek social reputation. Furthermore, larger, more profitable and more advertising-intensive firms have a higher tendency to chase social reputation, whereas high-leverage and more liquid firms have a weaker tendency to chase social reputation. Finally, stronger public governance stimulates firms to seek a social reputation.

Moreover, we examine the effect of the subdimensional component of ENVS including the RESUSE, EMISSION and EINNOV on the CSRAWARD, and the results are reported in Table 6. The coefficients of the linear models are significantly positive (RESUSE, EMISSION and EINNOV) ($p < 0.01$), whereas the coefficients of the quadratic terms are significantly negative (RESUSE², EMISSION² and EINNOV²) ($p < 0.01$).

Finally, we examine the effect of SOC's subdimensional components such as WFORCE, HRIGHTS, COMMUN and PRES P on the CSRAWARD. We provide the results in Table 7.

Similar to the previous analysis results, the coefficients of the linear models (WFORCE, HRIGHTS, COMMUN and PRES P) are significantly positive ($p < 0.01$), while the coefficients of the quadratic models are significantly negative (WFORCE², HRIGHTS² and PRES P²) and the coefficient of COMMUN2 is significantly positive ($p < 0.01$). In consequence, the hypothesis proposing an inverted U-shaped relationship between CSR engagement and social reputation via CSR awarding is validated.

Table 5 CSR and CSR awarding – country, industry and year FE logistic regression analysis

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
CSRS	0.059*** (77.05)	0.084*** (36.93)				
CSRS ²		−0.00030*** (−12.06)				
ENVS			0.040*** (68.70)	0.056*** (35.27)		
ENVS ²				−0.00019*** (−10.64)		
SOCS					0.054*** (73.89)	0.084*** (35.85)
SOCS ²						−0.00033*** (−13.95)
BSIZE	0.012*** (2.63)	0.013*** (2.86)	0.016*** (3.63)	0.017*** (3.69)	0.021*** (4.49)	0.022*** (4.85)
BGDIVERS	−0.00020 (−0.15)	0.00059 (0.46)	0.0030* (2.43)	0.0033*** (2.66)	0.00098 (0.78)	0.0020 (1.62)
BCDIVERS	−0.0034*** (−4.81)	−0.0028*** (−3.94)	−0.0018** (−2.57)	−0.0014** (−2.09)	−0.0043*** (−6.14)	−0.0036*** (−5.11)
CEOD	0.012 (0.44)	0.0099 (0.35)	0.020 (0.71)	0.014 (0.53)	0.034 (1.23)	0.036 (1.28)
FSIZE	0.16*** (13.19)	0.17*** (13.88)	0.25*** (21.27)	0.26*** (21.47)	0.27*** (22.98)	0.28*** (23.58)
ROA	0.22 (1.59)	0.24* (1.78)	0.43*** (3.17)	0.42*** (3.04)	0.23* (1.75)	0.29** (2.17)
LEVERAGE	−0.21** (−2.57)	−0.23*** (−2.79)	−0.25*** (−3.16)	−0.27*** (−3.30)	−0.30*** (−3.73)	−0.30*** (−3.72)
LIQUIDITY	−0.057*** (−5.69)	−0.055*** (−5.41)	−0.056*** (−5.64)	−0.054*** (−5.38)	−0.064*** (−6.46)	−0.061*** (−6.18)
CAPEXP	−0.29 (−1.12)	−0.24 (−0.91)	−0.017 (−0.07)	0.020 (0.08)	−0.41 (−1.59)	−0.40 (−1.53)
ADVEXP	2.19*** (3.35)	2.35*** (3.58)	3.53*** (5.63)	3.63*** (5.76)	1.03 (1.61)	1.17* (1.82)
FFLOAT	0.0010 (1.58)	0.0011* (1.74)	0.0021*** (3.30)	0.0021*** (3.34)	0.0016** (2.55)	0.0018*** (2.79)
WGI	0.28*** (5.07)	0.28*** (5.02)	0.32*** (6.02)	0.32*** (5.96)	0.34*** (6.36)	0.34*** (6.21)
Constant	−6.49*** (−12.29)	−7.16*** (−13.43)	−8.13*** (−15.73)	−8.39*** (−16.16)	−9.14*** (−17.43)	−9.93*** (−18.77)
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.308	0.310	0.274	0.276	0.294	0.297
χ ² -stat	18,491.50***	18,636.30***	16,446.01***	16,558.05***	17,662.57***	17,857.87***

Notes: *t*-statistics in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: The table is developed by the authors

Table 6 Environmental performance and CSR awarding – country, industry and year FE logistic regression analysis

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
RESUSE	0.030*** (65.11)	0.041*** (30.74)				
RESUSE ²		−0.00013*** (−9.00)				
EMISSION			0.032*** (67.30)	0.044*** (32.40)		
EMISSION ²				−0.00013*** (−9.35)		
EINNOV					0.015*** (36.81)	0.026*** (21.01)
EINNOV ²						−0.00014*** (−9.34)
BSIZE	0.019*** (4.32)	0.020*** (4.40)	0.019*** (4.26)	0.020*** (4.37)	0.030*** (7.01)	0.029*** (6.94)
BGDIVERS	0.0030*** (2.49)	0.0033*** (2.74)	0.0031*** (2.53)	0.0033*** (2.70)	0.0097*** (8.38)	0.0096*** (8.32)
BCDIVERS	−0.0018*** (−2.62)	−0.0015*** (−2.26)	−0.00099 (−1.46)	−0.00079 (−1.17)	−0.0010 (−1.60)	−0.00094 (−1.43)
CEOD	0.024 (0.89)	0.021 (0.79)	0.018 (0.67)	0.014 (0.52)	0.062** (2.38)	0.060** (2.31)
FSIZE	0.31*** (26.25)	0.31*** (26.54)	0.27*** (23.00)	0.27*** (23.23)	0.53*** (49.42)	0.53*** (49.40)
ROA	0.41*** (3.04)	0.42*** (3.07)	0.43*** (3.18)	0.42*** (3.13)	0.86*** (6.60)	0.87*** (6.67)
LEVERAGE	−0.28*** (−3.50)	−0.29*** (−3.65)	−0.21*** (−2.61)	−0.22*** (−2.80)	−0.42*** (−5.52)	−0.42*** (−5.48)
LIQUIDITY	−0.067*** (−6.81)	−0.065*** (−6.60)	−0.059*** (−6.02)	−0.058*** (−5.83)	−0.066*** (−7.16)	−0.065*** (−7.06)
CAPEXP	−0.23 (−0.95)	−0.22 (−0.88)	−0.28 (−1.13)	−0.29 (−1.17)	0.42* (1.85)	0.49** (2.11)
ADVEXP	2.26*** (3.67)	2.37*** (3.84)	2.57*** (4.13)	2.68*** (4.28)	4.16*** (7.18)	4.17*** (7.19)
FFLOAT	0.0022*** (3.49)	0.0021*** (3.41)	0.0029*** (4.65)	0.0029*** (4.57)	0.0036*** (6.04)	0.0036*** (5.90)
WGI	0.36*** (6.78)	0.36*** (6.69)	0.37*** (6.95)	0.37*** (6.88)	0.47*** (9.23)	0.48*** (9.21)
Constant	−9.42*** (−18.13)	−9.60*** (−18.45)	−8.72*** (−16.90)	−8.92*** (−17.23)	−14.2*** (−28.13)	−14.2*** (−28.11)
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.261	0.262	0.268	0.270	0.204	0.205
χ ² -stat	15,655.16***	15,735.90***	16,115.29***	16,202.27***	12,250.56***	12,337.08***

Notes: *t*-statistics in parentheses. **p* < 0.10, ***p* < 0.05, ****p* < 0.01

Source: The table is developed by the authors

Table 7 Social performance and CSR awarding – country, industry and year FE logistic regression analysis

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD	(7) CSRAWARD	(8) CSRAWARD
WFORCE	0.034*** (63.87)	0.044*** (22.69)						
WFORCE ²		−0.000091*** (−5.11)						
HRIGHTS			0.015*** (35.66)	0.028*** (21.78)				
HRIGHTS ²				−0.00016*** (−10.79)				
COMMUN					0.054*** (83.94)	0.028*** (13.81)		
COMMUN ²						0.00025*** (13.25)		
PRESP							0.018*** (45.02)	0.021*** (15.53)
PRESP ²								−0.000032** (−2.32)
BSIZE	0.022*** (4.98)	0.023*** (5.17)	0.031*** (7.27)	0.031*** (7.39)	0.033*** (7.00)	0.031*** (6.59)	0.032*** (7.39)	0.032*** (7.40)
BGDIVERS	0.0042*** (3.46)	0.0045*** (3.73)	0.0076*** (6.55)	0.0077*** (6.70)	0.0011 (0.87)	0.000062 (0.05)	0.0085*** (7.34)	0.0086*** (7.36)
BCDIVERS	−0.0012* (−1.80)	−0.0011* (−1.67)	−0.0022*** (−3.42)	−0.0020*** (−3.03)	−0.0059*** (−7.96)	−0.0060*** (−8.02)	−0.0016** (−2.42)	−0.0016** (−2.38)
CEOD	0.048* (1.76)	0.046* (1.70)	0.065** (2.52)	0.068*** (2.62)	0.0086 (0.30)	0.012 (0.40)	0.070*** (2.68)	0.069*** (2.66)
FSIZE	0.37*** (32.29)	0.37*** (32.52)	0.49*** (44.80)	0.49*** (44.37)	0.33*** (27.23)	0.32*** (26.58)	0.52*** (48.11)	0.52*** (48.16)
ROA	0.26* (1.96)	0.27** (2.10)	0.57*** (4.41)	0.58*** (4.47)	0.58*** (4.15)	0.52*** (3.67)	0.57*** (4.37)	0.58*** (4.42)
LEVERAGE	−0.21*** (−2.68)	−0.21*** (−2.73)	−0.44*** (−5.82)	−0.44*** (−5.88)	−0.52*** (−6.18)	−0.52*** (−6.19)	−0.50*** (−6.57)	−0.50*** (−6.61)
LIQUIDITY	−0.061*** (−6.31)	−0.060*** (−6.17)	−0.073*** (−7.87)	−0.074*** (−7.91)	−0.070*** (−6.73)	−0.072*** (−6.95)	−0.060*** (−6.46)	−0.060*** (−6.45)
CAPEXP	−0.51*** (−2.04)	−0.51*** (−2.03)	0.062 (0.27)	0.089 (0.38)	−0.30 (−1.12)	−0.23 (−0.85)	0.29 (1.22)	0.30 (1.27)
ADVEXP	2.43*** (3.94)	2.52*** (4.08)	2.24*** (3.88)	2.08*** (3.60)	1.80*** (2.74)	1.71*** (2.59)	3.18*** (5.44)	3.17*** (5.43)
FFLOAT	0.0028*** (4.47)	0.0028*** (4.48)	0.0038*** (6.36)	0.0038*** (6.32)	0.00069 (1.02)	0.00071 (1.05)	0.0041*** (6.75)	0.0041*** (6.76)
WGI	0.43*** (8.08)	0.43*** (7.99)	0.44*** (8.72)	0.44*** (8.58)	0.31*** (5.42)	0.33*** (5.89)	0.51*** (9.69)	0.51*** (9.71)
Constant	−11.8*** (−22.93)	−12.1*** (−23.28)	−13.2*** (−26.26)	−13.2*** (−26.07)	−12.1*** (−21.75)	−11.4*** (−20.27)	−14.2*** (−27.81)	−14.3*** (−27.87)
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.260	0.260	0.202	0.204	0.345	0.348	0.216	0.216
χ ² -stat	15,598.28***	15,624.58***	12,159.89***	12,275.52***	20,754.89***	20,929.31***	12,974.28***	12,979.64***

Notes: *t*-statistics in parentheses. **p* < 0.10, ***p* < 0.05, ****p* < 0.01

Source: The table is developed by the authors

4.4 Robustness tests

We provide a battery of robustness checks to examine the robustness of the initial baseline analysis results. Toward this end, we incorporate alternative samples such as excluding the USA, excluding the consumer industry and alternative estimation methods and address the endogeneity concern using various approaches.

4.4.1 Alternative samples. We generate two alternative samples. First, we exclude the US-based firms because the observations from the USA are significantly more than the rest in the

sample. The research models are rerun after excluding the US-based firms (Tables 8–10). The results of the robustness check are mainly compatible with the initial results [2].

Second, we generate another alternative sample by excluding the consumer industry assuming that the consumer industry might have a different pattern of association between CSR and social reputation than other sectors. Hence, we reexamine the baseline research models using the new alternative sample (Tables 11–13). The results of the robustness check are fully in line with the initial baseline analysis results.

4.4.2 Alternative estimation method. We also use an alternative estimation method. To this end, we run the baseline research models using the country, industry and year FE probit regression analysis. The results are exhibited in Tables 14–16. The results of the probit regression analysis as the alternative estimation method are fully in line with the initial baseline analysis.

4.4.3 Addressing endogeneity. We address the endogeneity concern by performing three further analyses: lags of testing variables, entropy balancing method and propensity score matching (PSM) method.

First, we use the one-year lag of testing variables in the research models which can mitigate potential causal identification (Bellemare *et al.*, 2017) and mitigate the potential risk of reverse causality (Steinberg and Malhotra, 2014). The results are reported in Tables 17–19. Accordingly, the results of the robustness check fully confirm the initial analysis results.

Table 8 US-based firms are excluded (Table 5)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
CSRS	0.057*** (63.85)	0.080*** (31.22)				
CSRS ²		−0.00027*** (−9.76)				
ENVS			0.039*** (56.68)	0.054*** (28.43)		
ENVS ²				−0.00017*** (−8.30)		
SOCS					0.051*** (61.36)	0.083*** (32.80)
SOCS ²						−0.00035*** (−13.77)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	30,865	30,865	30,865	30,865	30,865	30,865
Pseudo R ²	0.271	0.274	0.237	0.239	0.258	0.262
χ ² -stat	11,336.69***	11,431.89***	9,905.46***	9,974.13***	10,770.21***	10,960.49***

Notes: t-statistics in parentheses; ***p < 0.01
Source: The table is developed by the authors

Table 9 US-based firms are excluded (Table 6)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
RESUSE	0.030*** (53.90)	0.042*** (26.52)				
RESUSE ²		−0.00014*** (−8.65)				
EMISSION			0.031*** (54.78)	0.041*** (25.36)		
EMISSION ²				−0.00011*** (−6.86)		
EINNOV					0.015*** (31.76)	0.025*** (16.95)
EINNOV ²						−0.00012*** (−6.77)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	30,865	30,865	30,865	30,865	30,865	30,865
Pseudo R ²	0.225	0.227	0.229	0.230	0.171	0.172
χ ² -stat	9,398.40***	9,473.10***	9,570.29***	9,617.33***	7,136.90***	7,182.40***

Notes: t-statistics in parentheses; ***p < 0.01
Source: The table is developed by the authors

Table 10 US-based firms are excluded (Table 7)

Independent variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD
WFORCE	0.034*** (53.07)	0.045*** (19.76)						
WFORCE ²		−0.00010*** (−5.11)						
HRIGHTS			0.015*** (30.10)	0.034*** (22.23)				
HRIGHTS ²				−0.00023*** (−13.07)				
COMMUN					0.046*** (68.69)	0.055*** (24.60)		
COMMUN ²						−0.000087*** (−4.09)		
PRESP							0.017*** (38.16)	0.021*** (13.74)
PRESP ²								−0.000035** (−2.26)
Controls	Included	Included	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	30,865	30,865	30,865	30,865	30,865	30,865	30,865	30,865
Pseudo R ²	0.225	0.226	0.168	0.172	0.295	0.296	0.182	0.183
χ ² -stat	9,393.28***	9,419.65***	7,028.11***	7,198.26***	12,332.96***	12,349.67***	7,622.13***	7,627.25***

Notes: *t*-statistics in parentheses. **p* < 0.10, ***p* < 0.05, ****p* < 0.01

Source: The table is developed by the authors

Table 11 Consumer industries excluded (Table 5)

Independent variables	(1)	(2)	(3)	(4)	(5)	(6)
	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD
CSRS	0.059*** (64.28)	0.087*** (31.73)				
CSRS ²		−0.00033*** (−10.98)				
ENVS			0.040*** (56.19)	0.056*** (29.31)		
ENVS ²				−0.00020*** (−9.00)		
SOCS					0.054*** (61.94)	0.092*** (32.65)
SOCS ²						−0.00041*** (−14.52)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	32,707	32,707	32,707	32,707	32,707	32,707
Pseudo R ²	0.312	0.315	0.276	0.278	0.301	0.306
χ ² -stat	13,556.34***	13,676.44***	11,994.39***	12,074.61***	13,052.72***	13,264.90***

Notes: *t*-statistics in parentheses; ****p* < 0.01

Source: The table is developed by the authors

Table 12 Consumer industries excluded (Table 6)

Independent variables	(1)	(2)	(3)	(4)	(5)	(6)
	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD	CSRAWARD
RESUSE	0.029*** (53.56)	0.039*** (24.62)				
RESUSE ²		−0.00011*** (−6.50)				
EMISSION			0.032*** (55.66)	0.042*** (26.00)		
EMISSION ²				−0.00011*** (−6.71)		
EINNOV					0.014*** (28.46)	0.023*** (15.92)
EINNOV ²						−0.00012*** (−6.69)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	32,707	32,707	32,707	32,707	32,707	32,707
Pseudo R ²	0.266	0.266	0.274	0.275	0.210	0.211
χ ² -stat	11,525.14***	11,567.16***	11,883.99***	11,928.79***	9,123.42***	9,167.90***

Notes: *t*-statistics in parentheses; ****p* < 0.01

Source: The table is developed by the authors

Second, we use the entropy balancing method (Hainmueller, 2012) in the research models to reduce the potential self-selection bias that can be caused by the observable characteristics (Hainmueller, 2012; Fei, 2022; Treepongkaruna *et al.*, 2022). As a result, we ensure that the observable selection bias is avoided (Treepongkaruna *et al.*, 2022). We use

Table 13 Consumer industries excluded (Table 7)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD	(7) CSRAWARD	(8) CSRAWARD
WFORCE	0.034*** (53.09)	0.044*** (19.19)						
WFORCE ²		−0.000096*** (−4.58)						
HRIGHTS			0.014*** (28.30)	0.030*** (19.25)				
HRIGHTS ²				−0.00019*** (−10.63)				
COMMUN					0.053*** (70.39)	0.028*** (11.66)		
COMMUN ²						0.00024*** (10.83)		
PRESP							0.017*** (35.73)	0.020*** (12.96)
PRESP ²								−0.000041** (−2.53)
Controls	Included	Included	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	32,707	32,707	32,707	32,707	32,707	32,707	32,707	32,707
Pseudo R ²	0.266	0.267	0.210	0.213	0.350	0.352	0.222	0.222
χ ² -stat	11,548.54***	11,569.66***	9,113.12***	9,225.39***	15,174.76***	15,291.43***	9,620.25***	9,626.66***

Notes: t-statistics in parentheses ***p* < 0.05, ****p* < 0.01

Source: The table is developed by the authors

Table 14 Probit as an alternative estimator (Table 5)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
CSRS	0.035*** (81.37)	0.048*** (37.72)				
		−0.00016*** (−11.48)				
ENVS			0.024*** (71.56)	0.032*** (35.50)		
ENVS ²				−0.000100*** (−9.58)		
SOCS					0.031*** (77.48)	0.049*** (36.70)
SOCS ²						−0.00019*** (−13.78)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.309	0.311	0.274	0.276	0.294	0.297
χ ² -stat	18,535.43***	18,667.09***	16,475.71***	16,567.12***	17,675.94***	17,866.51***

Notes: t-statistics in parentheses; ****p* < 0.01

Source: The table is developed by the authors

Table 15 Probit as an alternative estimator (Table 6)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
RESUSE	0.018*** (67.09)	0.024*** (30.81)				
RESUSE ²		−0.000067*** (−8.22)				
EMISSION			0.019*** (69.78)	0.025*** (32.31)		
EMISSION ²				−0.000068*** (−8.27)		
EINNOV					0.0092*** (37.37)	0.016*** (20.96)
EINNOV ²						−0.000083*** (−9.07)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.261	0.262	0.268	0.269	0.204	0.205
χ ² -stat	15,655.17***	15,722.70***	16,122.81***	16,191.09***	12,261.07***	12,343.04***

Notes: t-statistics in parentheses; ****p* < 0.01

Source: The table is developed by the authors

testing variables of interest to generate the binary variables which include the control and treatment groups. The observations of the testing variables, namely, CSR performance measures, at the top quartiles, are assigned a value of one to create the treatment groups, while the rest of the observations of the CSR performance measures are assigned a value of zero to create the control groups. Then, the baseline research models are reexamined based on the entropy balancing method (Tables 20–22).

Table 16 Probit as an alternative estimator (Table 7)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD	(7) CSRAWARD	(8) CSRAWARD
WFORCE	0.020*** (66.01)	0.024*** (22.27)						
WFORCE ²		−0.000038*** (−3.73)						
HRIGHTS			0.0090*** (35.88)	0.017*** (21.86)				
HRIGHTS ²				−0.000098*** (−10.80)				
COMMUN					0.031*** (89.55)	0.015*** (13.20)		
COMMUN ²						0.00015*** (14.09)		
PRESP							0.011*** (45.43)	0.012*** (15.32)
PRESP ²								−0.000016* (−1.95)
Controls	Included	Included	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.259	0.260	0.202	0.204	0.344	0.347	0.216	0.216
χ ² -stat	15,578.00***	15,591.91***	12,149.85***	12,266.19***	20,667.28***	20,864.64***	12,955.39***	12,959.18***

Notes: *t*-statistics in parentheses. **p* < 0.10, ****p* < 0.01

Source: The table is developed by the authors

Table 17 Endogeneity-lagged models (Table 5)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
CSRS(<i>t</i> −1)	0.050*** (66.19)	0.076*** (33.11)				
CSRS ² (<i>t</i> −1)		−0.00030*** (−11.90)				
ENVS(<i>t</i> −1)			0.037*** (61.37)	0.053*** (32.45)		
ENVS ² (<i>t</i> −1)				−0.00020*** (−10.44)		
SOCS(<i>t</i> −1)					0.043*** (60.11)	0.071*** (30.86)
SOCS ² (<i>t</i> −1)						−0.00031*** (−13.10)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	39,546	39,546	39,546	39,546	39,546	39,546
Pseudo R ²	0.275	0.277	0.257	0.259	0.253	0.257
χ ² -stat	14,578.95***	14,719.49***	13,628.28***	13,736.10***	13,450.70***	13,622.20***

Notes: *t*-statistics in parentheses; ****p* < 0.01

Source: The table is developed by the authors

Table 18 Endogeneity-lagged models (Table 6)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
RESUSE(<i>t</i> −1)	0.027*** (57.37)	0.040*** (28.60)				
RESUSE ² (<i>t</i> −1)		−0.00014*** (−9.59)				
EMISSION(<i>t</i> −1)			0.031*** (61.04)	0.043*** (30.29)		
EMISSION ² (<i>t</i> −1)				−0.00014*** (−9.41)		
EINNOV(<i>t</i> −1)					0.014*** (32.26)	0.024*** (18.16)
EINNOV ² (<i>t</i> −1)						−0.00013*** (−7.97)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	39,546	39,546	39,546	39,546	39,546	39,546
Pseudo R ²	0.243	0.245	0.255	0.257	0.195	0.196
χ ² -stat	12,913.09***	13,004.64***	13,529.93***	13,618.01***	10,326.59***	10,389.60***

Notes: *t*-statistics in parentheses; ****p* < 0.01

Source: The table is developed by the authors

The results of the entropy balancing method are fully compatible with the initial analysis results.

Finally, we perform the PSM (Leuven and Sianesi, 2003) based on one-on-one matching. The approach of PSM can eliminate bias caused by all observed covariates

Table 19 Endogeneity-lagged models (Table 7)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD	(7) CSRAWARD	(8) CSRAWARD
WFORCE($t-1$)	0.032*** (57.16)	0.042*** (20.94)						
WFORCE ² ($t-1$)		−0.000094*** (−5.08)						
HRIGHTS($t-1$)			0.013*** (30.00)	0.027*** (19.74)				
HRIGHTS ² ($t-1$)				−0.00018*** (−10.68)				
COMMUN($t-1$)					0.034*** (59.73)	0.019*** (10.01)		
COMMUN ² ($t-1$)						0.00014*** (7.94)		
PRESP($t-1$)							0.016*** (38.61)	0.019*** (13.66)
PRESP ² ($t-1$)								−0.000033** (−2.26)
Controls	Included	Included	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	39,546	39,546	39,546	39,546	39,546	39,546	39,546	39,546
Pseudo R ²	0.245	0.245	0.192	0.194	0.252	0.254	0.204	0.204
χ ² -stat	12,980.97***	13,006.93***	10,176.48***	10,289.86***	13,392.98***	13,455.91***	10,804.00***	10,809.11***

Notes: *t*-statistics in parentheses. **p* < 0.10, ***p* < 0.05, ****p* < 0.01
Source: The table is developed by the authors

Table 20 Entropy balance (Table 5)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
CSRS	0.058*** (52.82)	0.073*** (17.63)				
CSRS ²		−0.00015*** (−3.63)				
ENVS			0.040*** (48.56)	0.061*** (21.69)		
ENVS ²				−0.00022*** (−7.44)		
SOCS					0.052*** (51.41)	0.067*** (17.79)
SOCS ²						−0.00014*** (−3.95)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.251	0.252	0.204	0.206	0.250	0.251
χ ² -stat	4,372.68***	4,386.86***	4,320.25***	4,279.58***	4,430.21***	4,469.24***

Notes: *t*-statistics in parentheses; ****p* < 0.01
Source: The table is developed by the authors

Table 21 Entropy balance (Table 6)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
RESUSE	0.030*** (47.49)	0.044*** (19.82)				
RESUSE ²		−0.00014*** (−6.26)				
EMISSION			0.032*** (48.41)	0.051*** (21.89)		
EMISSION ²				−0.00019*** (−8.24)		
EINNOV					0.015*** (32.31)	0.027*** (17.40)
EINNOV ²						−0.00014*** (−7.90)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.201	0.202	0.197	0.200	0.150	0.152
χ ² -stat	4,750.80***	4,733.83***	4,429.05***	4,432.03***	4,035.21***	4,073.51***

Notes: *t*-statistics in parentheses; ****p* < 0.01
Source: The table is developed by the authors

(Rosenbaum and Rubin, 1983) and can mitigate the impact of any hidden bias (Rosenbaum, 2005). Similarly, we create the treatment and control groups using the top quartiles of the CSR performance measures by assigning a value of one for the top quartile values to create treatment groups while assigning zero for the rest of the observations to create the control groups.

Table 22 Entropy balance (Table 7)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD	(7) CSRAWARD	(8) CSRAWARD
WFORCE	0.034*** (42.43)	0.042*** (12.24)						
WFORCE ²		−0.000068** (−2.25)						
HRIGHTS			0.016*** (28.52)	0.026*** (13.25)				
HRIGHTS ²				−0.00012*** (−5.37)				
COMMUN					0.061*** (63.19)	−0.014*** (−4.94)		
COMMUN ²						0.00063*** (25.01)		
PRESP							0.018*** (39.44)	0.020*** (11.10)
PRESP ²								−0.000018* (−1.68)
Controls	Included	Included	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	45,395	45,395	45,395	45,395	45,395	45,395	45,395	45,395
Pseudo R ²	0.208	0.208	0.179	0.181	0.317	0.331	0.182	0.182
χ ² -stat	4,356.76***	4,371.99***	3,653.66***	3,680.32***	5,703.44***	6,429.30***	5,023.01***	5,022.15***

Notes: *t*-statistics in parentheses. **p* < 0.10, ***p* < 0.05, ****p* < 0.01
Source: The table is developed by the authors

The initial baseline models are reexamined using the PSM approach (Tables 23–25). Again, the results of the PSM robustness check based on the PSM approach are fully compatible with the initial analysis results.

Finally, to address the endogeneity issue, we use firm FE logistic regression analysis as presented in Table 26. This approach allows us to control for unobserved heterogeneity

Table 23 PSM (Table 5)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
CSRS	0.057*** (50.11)	0.074*** (16.39)				
CSRS ²		−0.00017*** (−3.98)				
ENVS			0.039*** (45.37)	0.057*** (18.55)		
ENVS ²				−0.00018*** (−6.16)		
SOCS					0.050*** (47.90)	0.058*** (13.46)
SOCS ²						−0.000075** (−1.96)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	17,166	17,166	17,559	17,559	17,575	17,575
Pseudo R ²	0.240	0.240	0.201	0.202	0.249	0.249
χ ² -stat	5,550.71***	5,566.70***	4,792.34***	4,830.68***	5,980.10***	5,983.82***

Notes: *t*-statistics in parentheses. **p* < 0.10, ***p* < 0.05, ****p* < 0.01
Source: The table is developed by the authors

Table 24 PSM (Table 6)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
RESUSE	0.029*** (46.92)	0.042*** (18.94)				
RESUSE ²		−0.00012*** (−5.94)				
EMISSION			0.032*** (44.48)	0.049*** (18.40)		
EMISSION ²				−0.00017*** (−6.89)		
EINNOV					0.014*** (26.95)	0.024*** (14.26)
EINNOV ²						−0.00012*** (−6.22)
Controls	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	21,352	21,352	17,711	17,711	18,702	18,702
Pseudo R ²	0.194	0.195	0.197	0.199	0.155	0.157
χ ² -stat	5,695.48***	5,731.02***	4,744.96***	4,793.21***	4,027.93***	4,066.54***

Notes: *t*-statistics in parentheses; ****p* < 0.01
Source: The table is developed by the authors

Table 25 PSM (Table 7)

Independent variables	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD	(7) CSRAWARD	(8) CSRAWARD
WFORCE	0.033*** (39.59)	0.040*** (10.55)						
WFORCE ²		−0.000056* (−1.79)						
HRIGHTS			0.014*** (25.69)	0.022*** (11.59)				
HRIGHTS ²				−0.000083*** (−4.15)				
COMMUN					0.060*** (58.14)	−0.012*** (−3.06)		
COMMUN ²						0.00060*** (18.25)		
PRESP							0.018*** (31.15)	0.018*** (7.72)
PRESP ²								−0.0000018* (−1.69)
Controls	Included	Included	Included	Included	Included	Included	Included	Included
Country, industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	17,934	17,934	17,837	17,837	18,567	18,567	19,107	19,107
Pseudo R ²	0.211	0.211	0.182	0.183	0.320	0.333	0.194	0.194
χ ² -stat	5,198.11***	5,201.35***	4,496.45***	4,513.69***	8,075.15***	8,395.00***	5,150.27***	5,150.28***

Notes: t-statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Source: The table is developed by the authors

Table 26 Firm FE logistic regression analysis (Table 5)

	(1) CSRAWARD	(2) CSRAWARD	(3) CSRAWARD	(4) CSRAWARD	(5) CSRAWARD	(6) CSRAWARD
CSRS	0.054*** (42.13)	0.076*** (20.52)				
CSRS ²		−0.00025*** (−6.47)				
ENVS			0.032*** (32.64)	0.042*** (16.60)		
ENVS ²				−0.00012*** (−4.33)		
SOCS					0.055*** (44.35)	0.085*** (21.95)
SOCS ²						−0.00031*** (−8.11)
Controls	Included	Included	Included	Included	Included	Included
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
N	28,518	28,518	28,518	28,518	28,518	28,518
Pseudo R ²	0.108	0.109	0.068	0.069	0.119	0.122
χ ² -stat	2,565.43	2,607.47	1,622.82	1,641.53	2,846.27	2,912.41

Notes: t-statistics in parentheses; *** $p < 0.01$
Source: The table is developed by the authors

specific to each firm that remains consistent over time (Wooldridge, 2010). By doing so, we are able to mitigate potential endogeneity concerns and biases that could arise from differences among firms. The outcomes of the logistic regression analysis using the firm FE approach align with the results obtained from the initial baseline analysis.

The results of robustness test results reveal that the initial baseline analysis results survive a battery of robustness checks.

5. Discussion and conclusion

Along with the growing importance of CSR, the benefits of CSR engagement have been the focus of academicians and practitioners. So far, the efforts that have intensified on the financial return of CSR engagement, and hence its social benefit is relatively neglected. One of those social benefits is the social reputation that CSR performers gain via CSR awarding. Thus, we focus on this topic by studying CSR engagement's social reputation-enhancing role. We expect that CSR engagement enhances the social reputation of the firms which motivates firms to engage in more CSR. However, rather than linear association, we expect a parabolic relationship between CSR engagement and social reputation via CSR awarding which implies that CSR should increase until a certain point to gain social reputation but then should decrease after reaching that threshold point. Our investigation has CSR and financing implications which may guide firms about the better allocation of available funds between CSR and operations.

Our findings confirm the threshold effect with an inverted U-shaped relationship between CSR and CSR awarding. More specifically, firms increase their environmental and social engagement until a certain point, and then they reduce it after reaching a social reputation. This finding is confirmed by three dimensions of the environmental pillar (i.e. resource use, emissions and eco-innovation) as well as four dimensions of the social pillar (i.e. workforce, human rights, community and product responsibility). Our findings are robust to alternative samples, alternative methodology and endogeneity concerns. The inverted U-shaped relationship was detected before in the relation between CSR and financial performance (Sun *et al.*, 2019; Ma and Yasir, 2023), corporate philanthropy and firm research and development (Gao *et al.*, 2017), firm performance and CSR (Hou *et al.*, 2022) and eco-innovation and market performance (Leyva-De la Hiz and Bolívar-Ramos, 2022). Hence, our study and findings advance this stream of research with additional evidence of an inverted U-shaped relationship between CSR and social reputation. In consequence, the above past literature and our study together imply that firms balance the costs and benefits of CSR investment, as firm resources are limited and impose a constraint on various initiatives.

The results suggest theoretical implications as well as financial and nonfinancial implications for firms. The findings imply that social reputation is a function of stakeholder and slack financial resources theories. While stakeholder focus enhances firms' social reputation engagement, firms are bounded with scarce financial resources. While stakeholder theory posits that companies operate in a complex environment and have intertwining obligations toward a wide range of stakeholders with different interests (Buchholz and Rosenthal, 2004). The competing interests of different stakeholders such as shareholders' financial interests versus other stakeholders' no-financial interests should be balanced. Thus, firms are suggested to develop CSR and financial policies to enhance social reputation considering the boundaries of available financing because the resources are not limitless. The findings could be particularly useful for CSR teams/committees of the firms who formulate corporate CSR policies and how to mobilize firm resources for better social enhancement via environmental and social reputation.

Although the study presents the outcomes of an international sample, the findings may not directly hold in different contexts such as shareholder or stakeholder-oriented countries. This suggests a future study to check whether the link between CSR and social reputation differs in different contexts such as shareholder-oriented versus stakeholder-oriented countries. Furthermore, whether social reputation translates to financial performance stimulating greater sales revenues, profitability, and market value might be investigated. Finally, the ownership structure's association with a social reputation could be investigated to help firms configure their corporate policies in line with the expectations of different types of shareholders such as family and institutional owners.

Notes

1. The missing values distributions are as follows: WFORCE, SOCS, RESUSE, PRESF, HRIGHTS, ENVIS, EMISSION, and COMMUN have 0.03%; CSRAWARD has 0.08%; FSIZE has 0.18%; ROA and LEVERAGE have 0.19%; WGI has 0.33%, BSIZE has 0.40%, FFLOAT has 0.95%, CAPEXP has 1.13%, LIQUIDITY has 1.28%, EINNOV has 1.56%, and BGDIVERS has 1.75% missing observations.
2. Except for the coefficient of COMMUN² became significantly negative in the robustness check.

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Table A1 Country-level sampling distributions

No.	Country	Unique firms	Percent	Data points	Percent
1	Argentina	46	0.79	112	0.25
2	Australia	308	5.28	2,617	5.76
3	Austria	23	0.39	177	0.39
4	Belgium	37	0.63	315	0.69
5	Brazil	78	1.34	596	1.31
6	Canada	245	4.20	2,389	5.26
7	Chile	33	0.57	228	0.50
8	China	373	6.39	1,150	2.53
9	Colombia	15	0.26	79	0.17
10	Denmark	37	0.63	362	0.80
11	Finland	32	0.55	382	0.84
12	France	137	2.35	1,278	2.82
13	Germany	152	2.60	1,211	2.67
14	Greece	17	0.29	137	0.30
15	Hong Kong	187	3.20	1,509	3.32
16	India	112	1.92	741	1.63
17	Indonesia	33	0.57	268	0.59
18	Italy	71	1.22	487	1.07
19	Japan	375	6.43	5,163	11.37
20	Republic of Korea (South Korea)	117	2.00	922	2.03
21	Malaysia	49	0.84	405	0.89
22	Mexico	38	0.65	279	0.61
23	Netherlands	45	0.77	425	0.94
24	New Zealand	42	0.72	291	0.64
25	Norway	54	0.93	375	0.83
26	Peru	26	0.45	91	0.20
27	Philippines	16	0.27	140	0.31
28	Poland	30	0.51	186	0.41
29	Portugal	15	0.26	126	0.28
30	Russia	35	0.60	327	0.72
31	Saudi Arabia	20	0.34	83	0.18
32	Singapore	32	0.55	410	0.90
33	South Africa	89	1.53	760	1.67
34	Spain	56	0.96	501	1.10
35	Sweden	110	1.88	746	1.64
36	Switzerland	98	1.68	758	1.67
37	Taiwan	128	2.19	1,045	2.30
38	Thailand	33	0.57	245	0.54
39	Turkey	43	0.74	192	0.42
40	United Kingdom	312	5.35	3,357	7.40
41	United States of America	2,137	36.62	14,530	32.01
	Total	5,836	100.00	45,395	100.00

Source: The table is developed by the authors

Table A2 Multicollinearity analysis

<i>Variable</i>	<i>VIF</i>	<i>Variable</i>	<i>VIF</i>	<i>Variable</i>	<i>VIF</i>	<i>Variable</i>	<i>VIF</i>	<i>Variable</i>	<i>VIF</i>
FSIZE	1.93	FSIZE	1.96	FSIZE	1.80	FSIZE	1.90	FSIZE	1.95
CSRS	1.48	ENVS	1.47	BSIZE	1.38	RESUSE	1.41	EMISSION	1.44
BSIZE	1.39	BSIZE	1.39	SOCS	1.34	BSIZE	1.39	BSIZE	1.39
LIQUIDITY	1.29	LIQUIDITY	1.29	LIQUIDITY	1.29	LIQUIDITY	1.29	LIQUIDITY	1.29
WGI	1.29	WGI	1.29	WGI	1.28	WGI	1.29	WGI	1.29
FFLOAT	1.27	FFLOAT	1.27	FFLOAT	1.27	FFLOAT	1.27	FFLOAT	1.27
LEVERAGE	1.25	LEVERAGE	1.25	LEVERAGE	1.25	LEVERAGE	1.25	LEVERAGE	1.25
ROA	1.12	ROA	1.12	BGDIVERS	1.14	ROA	1.12	ROA	1.12
BGDIVERS	1.12	BGDIVERS	1.08	ROA	1.12	BGDIVERS	1.08	BGDIVERS	1.07
BCDIVERS	1.08	BCDIVERS	1.07	BCDIVERS	1.08	BCDIVERS	1.08	BCDIVERS	1.07
CEOD	1.05	CEOD	1.05	CEOD	1.05	CEOD	1.05	CEOD	1.05
ADVEXP	1.04	ADVEXP	1.04	ADVEXP	1.04	ADVEXP	1.04	ADVEXP	1.04
CAPEXP	1.02	CAPEXP	1.02	CAPEXP	1.03	CAPEXP	1.02	CAPEXP	1.03
<i>Mean VIF</i>	<i>1.26</i>	<i>Mean VIF</i>	<i>1.25</i>	<i>Mean VIF</i>	<i>1.24</i>	<i>Mean VIF</i>	<i>1.25</i>	<i>Mean VIF</i>	<i>1.25</i>
FSIZE	1.72	FSIZE	1.76	FSIZE	1.73	FSIZE	1.73	FSIZE	1.68
BSIZE	1.38	BSIZE	1.38	BSIZE	1.38	BSIZE	1.38	BSIZE	1.38
LIQUIDITY	1.29	LIQUIDITY	1.29	LIQUIDITY	1.29	FFLOAT	1.31	LIQUIDITY	1.29
WGI	1.29	WGI	1.28	WGI	1.28	LIQUIDITY	1.29	WGI	1.28
FFLOAT	1.27	FFLOAT	1.27	FFLOAT	1.27	WGI	1.28	FFLOAT	1.27
LEVERAGE	1.25	WFORCE	1.26	LEVERAGE	1.25	LEVERAGE	1.25	LEVERAGE	1.24
EINNOV	1.14	LEVERAGE	1.25	HRIGHTS	1.24	COMMUN	1.23	ROA	1.12
ROA	1.12	ROA	1.12	ROA	1.12	ROA	1.12	PRESP	1.11
BCDIVERS	1.06	BGDIVERS	1.10	BGDIVERS	1.12	BGDIVERS	1.10	BGDIVERS	1.07
BGDIVERS	1.05	BCDIVERS	1.07	BCDIVERS	1.09	BCDIVERS	1.07	BCDIVERS	1.07
CEOD	1.05	CEOD	1.06	CEOD	1.05	CEOD	1.05	CEOD	1.05
ADVEXP	1.04	ADVEXP	1.04	ADVEXP	1.04	ADVEXP	1.04	ADVEXP	1.04
CAPEXP	1.03	CAPEXP	1.03	CAPEXP	1.03	CAPEXP	1.02	CAPEXP	1.03
<i>Mean VIF</i>	<i>1.21</i>	<i>Mean VIF</i>	<i>1.22</i>	<i>Mean VIF</i>	<i>1.22</i>	<i>Mean VIF</i>	<i>1.22</i>	<i>Mean VIF</i>	<i>1.20</i>

Note: VIF = variance inflation factor

Source: The table is developed by the authors

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