

Do Board Characteristics Moderate the Relationship between CSR Practices and Firm Value? Empirical Evidence from United Kingdom

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Citation: Mbarek, N. B., Mkadmi, J. E. and Zehri, F. (2025). Do Board Characteristics Moderate the Relationship between CSR Practices and Firm Value? Empirical Evidence from United Kingdom, *Journal of Cultural Analysis and Social Change*, 10(2), 3181-3193. <https://doi.org/10.64753/jcasc.v10i2.2076>

Published: November 18, 2025

ABSTRACT

The objective of this study is to gather empirical evidence on how Corporate Social Responsibility (CSR) influences a company's financial performance, with corporate governance (CG) acting as a moderating variable in this relationship. Specifically, the article aims to explore how the characteristics of the board of directors strengthen the link between CSR initiatives and financial performance. To investigate the impact of board characteristics on the relationship between CSR practices and financial performance, we conducted linear regressions with panel data on 357 firms located in United Kingdom countries using the Thomson Reuters ASSET4 database from 2018 to 2022. Our findings support expectations that certain board characteristics impact the relationship between CSR practices and financial performance. This study indicates that the association between CSR practices and financial performance is positively moderated by board independence and size. Firms that prioritize CSR have better financial performance. The study findings introduced a novel aspect to governance research, potentially offering policymakers and regulators a valuable information resource to enhance corporate governance mechanisms and thereby improve corporate financial performance. To the best of the authors' knowledge, this is among the first empirical attempts at examining the extent to which corporate governance mechanisms may drive corporate performance. Unlike previous studies that primarily focused on the direct impact of corporate governance on financial performance, this research delves into the moderating effect of governance mechanisms within the ESG (Environmental, Social, and Governance) framework. This contribution expands the understanding by exploring how governance practices interact with ESG factors to influence corporate outcomes.

Keywords: Corporate Social Responsibility, corporate governance, corporate financial performance, United Kingdom.

JEL Codes: K34; M41; M14.

INTRODUCTION

Recently, the convergence of corporate governance mechanisms and Corporate Social Responsibility (CSR) has garnered significant attention in discussions on sustainable business practices. This study explores this crucial intersection, specifically within the global banking sector, with the goal of understanding the complex relationship between governance structures, CSR impacts and financial performance.

Against the backdrop of a changing financial environment, the importance of strong governance in guiding banks towards socially responsible practices has become increasingly prominent. Traditional concepts of corporate

governance, typically based on agency theory and resource dependency theory, are under examination for their impact on CSR. The complex dynamics within boards of directors, including factors like size, independence, duality, gender diversity, and committee structures, create a nuanced terrain that profoundly influences how banks approach CSR initiatives.

Recent financial crises experienced by companies such as Enron in the United States, France Telecom and Vivendi Universal in France, Parmalat in Italy, Batam in Tunisia, and scandals involving Crédit Lyonnais and Air France in the 1990s have significantly fueled debates on the efficacy of control procedures and warning systems at both national and international levels (Allen et al., 2016).

These financial scandals are clearly counter-examples of "Good Corporate Governance". Wong et al., (2018) deal with these "cases" with considerable economic and social consequences that have engendered a crisis of confidence which, on the one hand, shook the entire economic and financial structure and, on the other hand, showed the need to review the mechanisms of regulation and control at all levels.

Moreover, these cases revealed that corporate governance is everyone's business, as employees, retirees, creditors, many smallholders, and the communities at large have been affected (Mkadmi et al., 2024). Therefore, society as a whole is today invited to implement effective mechanisms for monitoring and controlling the activity of business leaders.

Several authors have studied the relationship between the board of directors and corporate social responsibility. Indeed, Claessens (2003) advanced that corporate governance should extend to the issue of corporate social responsibility, including aspects such as the company's relationship with culture and the environment.

Cadbury based on Iskander and Chamlou (2000) notes that the goals of corporate governance are to maintain a balance between economic and social objectives and between individual and collective objectives.

In addition, Iskander and Chamlou (2000) pointed out that corporate governance aims to maximize value subject to meeting financial and other contractual obligations which values the need for the board of directors to balance the interests of shareholders with those of other stakeholders; such as employees, customers, suppliers, investors, communities to achieve long-term sustainable value for businesses. In the same fashion, Gill (2006) believes that in modern companies, corporate governance is increasingly associated with stakeholder-friendly business practices.

In fact, Millstein (2005) defines corporate governance as that « mixture of laws and regulations and appropriate private voluntary sector practices that allow the company to attract financial and human resources, perform effectively and thus perpetuate itself by generating long-term economic value for its shareholders, while respecting the interests of stakeholders and society as a whole », in line with stakeholder theory (Chouaibi and Chouaibi, 2021).

Jamali et al., (2008) point out that corporate governance and corporate social responsibility require companies to fulfill their fiduciary and moral responsibilities to their stakeholders. And are both seen to have important long-term benefits and to ensure the sustainability of the business. They also consider that the relationship between corporate governance and corporate social responsibility from three dimensions. The authors recognize that CG is a pillar of CSR, CSR is an attribute of CG, and CG and CSR are coexisting components of the same continuum.

To guarantee the right arbitrations and effectively direct financial resources towards the sectors and companies that contribute the most to growth, the transparency of quality financial information, and transparency in financial exchanges between the company and its shareholders, financial investors as well as various partners (employees, customers, suppliers, etc.), constitute a fundamental principle that must be observed to study the relationship between the corporate governance (CG), in particular the board of directors and its composition, and the corporate social responsibility "CSR" (Amami and Maalej, 2015; Jain and Jamali, 2016; Lagasio and Cucari, 2019; Zubeltzu-Jaka et al., 2020).

The objective of this study is to gather empirical evidence on how Corporate Social Responsibility (CSR) influences a company's financial performance, with corporate governance (CG) acting as a moderating variable in this relationship. Specifically, the article aims to explore how the characteristics of the board of directors strengthen the link between CSR initiatives and financial performance.

This article is intended to be an empirical contribution to this issue, from the perspective of governance mechanisms, in particular those related to the board of directors. More precisely, an empirical regression is carried out to test the impact of various governance mechanisms associated to the board of directors on the link between corporate social responsibility and financial performance in a sample of banks in United Kingdom Listed Companies.

Briefly, this study attempts to address the gap between theoretical underpinnings and practical implications by unraveling the complex interplay between governance mechanisms and CSR within the global banking sector.

The remainder of the paper follows this structure: Section 2 delves into the literature, focusing on the constructed hypotheses. Section 3 details the methodology for data collection and variable measurement. Sections

4 and 5 present the empirical results, discussing our findings and their implications. Lastly, section 6 offers the paper's conclusion, highlights its limitations, and suggests avenues for future research.

LITERATURE REVIEW AND RESEARCH HYPOTHESES

Effects of CSR Practices on Financial Performance

According to stakeholder theory, companies can derive various benefits from their social responsibility activities due to their effects on revenues and costs (Freeman, 1984). CSR can generate additional revenue by attracting and retaining customers who demand products differentiated by their CSR affiliations as well as improved reputation and image.

Companies can benefit from a variety of cost savings through their CSR activities, including employee-related costs, which can be reduced when CSR helps to increase employee motivation, productivity, and loyalty, hire good employees, and reduce staff turnover.

CSR helps to reduce the cost of conflicts of interest between stakeholders, or CSR makes it possible to reconcile the latter's interests on the one hand, and to reduce information asymmetry on the other, or CSR promotes transparency in operations between the firm and these partners, and the creation of good relationships with stakeholders through CSR allows companies to have better access to resources.

Several empirical studies have found that CSR improves financial performance (Preston and O'Bannon, 1997; Waddock and Graves, 1997; Tsoutsoura, 2004; Velte, 2017; Okafor *et al.*, 2021; Van Ha, 2025). Based on the arguments presented previously, we propose the following hypothesis:

(H1). *There is a positive association between CSR practices and financial performance.*

CSR Practices and Financial Performance: The Moderating Effect of Board Characteristics

Millstein (2005) defines corporate governance as that « mixture of laws and regulations and appropriate private voluntary sector practices that allow the company to attract financial and human resources, perform effectively and thus perpetuate itself by generating long-term economic value for its shareholders, while respecting the interests of stakeholders and society as a whole », in line with stakeholder theory (Chouaibi and Chouaibi, 2021).

Furthermore, Amami and Maalej (2015), Jain and Jamali, (2016), Lagasio and Cucari, (2019) and Zubeltzu-Jaka (2020) show that companies with variables linked to the board of directors are more engaged in corporate social responsibility practices.

Several variables relating to the characteristics of the board of directors are seen as significant factors influencing its effectiveness, and can play on the corporate social responsibility, namely: the size of the board, its degree of independence, the CEO duality, and finally the number of board meetings.

The Moderating Effect of Board Size

In line with the contributions related to agency theory, Jensen (1993) found that a small board has certain advantages such as high efficiency (Jensen 1993; Yermack, 1996). However, a large board implies more external links (Goodstein *et al.*, 1994) and a diversification of expertise (Zahra and Pearce 1989; Ghosh and Nandi, 2013). In addition, according to (Pluchart, 2001) a larger board size ensures that stakeholders are represented, directly or indirectly.

Based to some empirical studies, board size is positively related to CSR (Kiliç *et al.*, 2015; Majumder *et al.*, 2017; Ozordi *et al.*, 2018; Coffie *et al.*, 2018; Al Fadli, 2020). According to this reasoning, we consider that the size of the board positively influences the social responsibility of companies and formulate our second hypothesis as following:

(H2). *There is a positive relationship between board size and financial performance.*

(H2a). *The link between CSR practices and financial performance will be positively moderated by board size.*

The Moderating Effect of Board Independence

According to agency theory, the authors Jensen (1993) and Pathan (2009) found that a percentage of outside directors sitting on the board contribute to a strong reduction in the various banking risks (total risk, risk of return on assets, systematic risk and insolvency risk).

Likewise, Lefort and Urzua (2008), Dahya *et al.*, (2008) and Lin *et al.*, (2011) agree that the presence of foreigners on the board maximizes the wealth of shareholders and ensures the sustainability of the company because of their skills on the one hand, and their experience in the service of the advantages of the company, on the other hand.

Based on the study of Jo and Harjoto (2011), companies with a highly independent board of directors promote CSR commitment.

For the work of Khan *et al.*, (2012), Hussain *et al.*, (2018) and Al Fadli *et al.*, (2020), the proportion of independent directors on the board of directors has a positive effect on corporate social responsibility. At this level of analysis, we advance the third hypothesis as follows:

(H3). There is a positive relationship between the board's independence and financial performance.

(H3a). The link between CSR practices and financial performance will be positively moderated by board independence.

The Moderating Effect of CEO Duality

Several authors have used this variable to study the relationship between the board of directors and CSR (Khanchel, 2013). According to Platt and Platt (2012), the combination of functions between the chairman of the board and the chief executive officer can increase the rigidity of the company and limit its adaptive capacities.

Based to some empirical studies, CEO duality was negatively related to CSR (Jing *et al.*, 2008; Beyer *et al.*, 2010; Giannarakis *et al.*, 2014; Shahzad *et al.*, 2016). In view of these considerations and in line with the contributions related to agency theory, we believe that duality negatively influences the implementation of socially responsible policies and formulate our fourth hypothesis as follows:

(H4). There is a significant relationship between CEO duality and financial performance.

(H4a). The link between CSR practices and financial performance will be moderated by CEO duality.

The Moderating Effect of Board Meetings

One of the responsibilities of directors is to attend meetings. Meetings are a key factor in the effectiveness of a board (Vafeas, 1999). Active boards of directors that meet regularly are more likely to fulfill their obligations (social, environmental, societal, etc.) and to enforce the monitoring of financial and extra-financial reports (Jizi *et al.*, 2014). In addition, Chen *et al.*, (2006) suggest that meeting more frequently reduces the risk of fraud.

According to some studies, there is a positive relationship between board meetings and CSR (Chou *et al.*, 2013; Giannarakis, 2014; Hussain *et al.*, 2018; Nguyen *et al.*, 2021). This is consistent with agency theory (Jensen and Meckling, 1976). We, therefore make the following hypothesis:

(H5). There is a significant relationship between board meetings and financial performance.

(H5a). The link between CSR practices and financial performance will be moderated by board meetings.

Research Design

Sample Selection and Data Collection

This research looks at the relationship between CSR practices and firm performance, as well as the moderating effect of corporate governance mechanisms. This study's population consists of 357 firms located in United Kingdom companies between 2018 and 2022. The data used was gathered from various sources. First, the primary data source is ASSET4 from Thomson Reuters Data Stream.

Indeed, from Thomson Reuters ASSET4, we collected ESG score data. Second, data on corporate governance mechanisms and financial performance was manually extracted from each firm's annual reports for the relevant years.

Table 1 summarizes the sample selection.

Table 1. Sample selection.

Selection Procedure	Firms	Observations
Initial sample	500	2500
Firms with missing data	(143)	(715)
Final sample	357	1785

Variables used

The variables used to analyze the impact of the moderating effect of various aspects of corporate governance on the relationship between CSR and financial performance are defined below.

Dependent Variable: Financial Performance

The financial performance of firms is the dependent variable in this study. Many accounting and financial ratios exist, including Tobin's q (TOBINQ), return on assets (ROA), return on equity (ROE), and market-to-book value (MTBV) were used (Barnett and Salomon, 2012; Delmas *et al.*, 2015). In this research, we use return on assets (ROA) and return on equity (ROE) to assess firm performance.

Independent Variables

The majority of studies divide CSR practices into social and environmental performance scores (ESG score). The ESG score was adopted in several empirical studies to evaluate CSR (Nollet, 2016; Han *et al.*, 2016; Maqbool, 2019).

Moderating Variables

The Board size (Boardsize): The board size is measured by the total number of directors. Several authors have used this metric, including Cornett *et al.*, (2008); Akbas (2014).

The Board Independence (Boardindep): This variable can be expressed by the proportion of independent administrators compared to the total number of administrators. This indicator has been used in many studies, such as Aboody and Lev (2000); Striukova *et al.*, (2008), and Baharudin and Marimuthu (2019).

The CEO duality (Duality): This variable is a binary variable equal to 1 if the two functions of the chief executive officer and the chairman of the board of directors are combined, and 0 if they are not. This metric has been used in a number of studies, among them by Jensen and Zajac (2004); Chau and Gray (2010), and Ammari *et al.*, (2014).

The Board Meetings (Boardmeet): This variable can be calculated by the number of board meetings per year. This measure has been used by several authors, namely, Vafeas (1999) and Ntim *et al.*, 2021.

Control Variables

In regard to control variables, we opted for two variables that have links to the firm's characteristics and influence the dependant variable, namely financial performance. The firm size and leverage are the two control variables used in our study. Table 2 includes all variables and their measurements.

Table 2. Description of variables.

Variables Source	Coding	Measurement	Source
		Dependent variable	
Financial performance	ROA ROE	Return on assets Return on equity	Annual reports
		Independent variable	
Corporate social responsibility	ESG score	It is a score developed by ASSET4	Thomson Reuters ASSET4 (Datastream)
		Moderating variables	
Board size	Boardsize	Number of directors on the board.	Annual reports
Board Independence	Boardindep	Proportion of independent non- executive directors to total number of directors.	Annual reports
CEO duality	Duality	Dummy variable with the value of 1 if the CEO is also the chair and 0 otherwise.	Annual reports
Boardmeetings	Boardmeet	The number of board meetings per year	Annual reports
		Control variables	
Firm size	Size	The natural logarithm of total assets.	Annual reports
Leverage	Leverage	The total debt divided by total assets.	Annual reports

Regression Model

The objective of this work is to examine the effect of board size, board independence, duality of functions, number of board meetings on the relationship between CSR and financial performance measured by ROA and ROE.

The regression equation used in the main tests is as follows:

$$ROA = \beta_0 + \beta_1 \text{ ESG score} + \beta_2 \text{ size} + \beta_3 \text{ leverage} + \varepsilon_t \quad (M1)$$

$$ROE = \beta_0 + \beta_1 \text{ ESG score} + \beta_2 \text{ size} + \beta_3 \text{ leverage} + \varepsilon_t \quad (M2)$$

$$ROA = \beta_0 + \beta_1 \text{ ESG score} + \beta_2 \text{ boardindep} + \beta_3 \text{ boardsize} + \beta_4 \text{ boardmeet} + \beta_5 \text{ duality} + \beta_6 \text{ ESG score} * \text{boardindep} + \beta_7 \text{ ESG score} * \text{boardsize} + \beta_8 \text{ ESG score} * \text{boardmeet} + \beta_9 \text{ ESG score} * \text{duality} + \beta_{10} \text{ size} + \beta_{11} \text{ leverage} + \varepsilon_t \quad (M3)$$

$$ROE = \beta_0 + \beta_1 \text{ ESG score} + \beta_2 \text{ boardindep} + \beta_3 \text{ boardsize} + \beta_4 \text{ boardmeet} + \beta_5 \text{ duality} + \beta_6 \text{ ESG score} * \text{boardindep} + \beta_7 \text{ ESG score} * \text{boardsize} + \beta_8 \text{ ESG score} * \text{boardmeet} + \beta_9 \text{ ESG score} * \text{duality} + \beta_{10} \text{ size} + \beta_{11} \text{ leverage} + \varepsilon_t \quad (M4)$$

With,

ε = Standard error.

The variables used in the regression equation are defined in table 2.

EMPIRICAL RESULTS

Descriptive Statistics

The purpose of descriptive statistics is to summarize and present the information contained in the data. It allows us to carry out an exploratory analysis of the sample and variables. Through this analysis, we will first determine the trend of each variable. The descriptive statistics of the relative models (M1, M2, M3 and M4) will be summarized in table 3.

The mean of our conceptual frame work's variables is 39.16522, 0.853856, 10.92795, 8.021739, 0.514286, 0.060573, 0.208274, 10.33898 and 0.300043 for ESG score, GIP, Boardindep, Boardsize, Boardmeet, Duality, ROA, ROE, Size and Leverage, respectively, with standard errors of 19.55916, 0.082450, 1.909650, 3.397641, 0.499951, 0.066781, 0.500531, 1.326683 and 0.160309.

As can be seen from table 3, the majority of variables display a standard deviation that is very small compared to the average, which indicates data are clustered tightly around the mean.

Table 3. Descriptive Statistics.

Variable	Obs	Mean	Std. Dev.	Minimum	Maximum
ESG score	1785	39.16522	19.55916	5.000000	91.00000
Boardindep	1785	0.853856	0.082450	0.416667	0.944444
Boardsize	1785	10.92795	1.909650	5.000000	19.00000
Boardmeet	1785	8.021739	3.397641	2.000000	37.00000
Duality	1785	0.514286	0.499951	0	1
ROA	1785	0.060573	0.066781	-0.330200	0.428200
ROE	1785	0.208274	0.500531	-9.382300	6.519000
Size	1785	10.33898	1.326683	7.483228	15.62240
Leverage	1785	0.300043	0.160309	0	0.850000

Source: Author's computed

Correlation Matrix

The study of the correlation matrix is relevant to detect the existence or not of a problem of multi-collinearity. The Pearson coefficients were computed to study the correlations between the independent variables. The matrix of Pearson correlation fails to detect a correlation value equal to or greater than 0.8. Additionally, this investigation reveals that the regression analysis's variance inflation factor is less than 10. As a result, there is a small probability that the findings of this study will be altered due to multicollinearity. Table 4 presents the correlation matrix.

Table 4. The correlation matrix.

Variables	ESG_SCOR	INDEP	MEET	SIZE	DUAL	ROA	ROE	SIZE	LEV
ESG_SCORE	1.000	0.276	0.182	0.229	0.074	-0.070	0.032	0.246	0.020
INDEP	0.276	1.000	0.220	0.095	0.268	-0.145	-0.046	0.228	0.034
MEET	0.182	0.220	1.000	0.147	-0.027	-0.195	-0.095	0.296	-0.044
SIZE	0.229	0.095	0.147	1.000	0.057	-0.128	0.009	0.398	-0.032
DUAL	0.074	0.268	-0.027	0.057	1.000	-0.075	-0.042	0.215	-0.083
ROA	-0.070	-0.145	-0.195	-0.128	-0.075	1.000	0.489	-0.332	-0.081
ROE	0.032	-0.046	-0.095	0.009	-0.042	0.489	1.000	-0.096	0.090
SIZE	0.246	0.228	0.296	0.398	0.215	-0.332	-0.096	1.000	-0.167
LEV	0.020	0.034	-0.044	-0.032	-0.083	-0.081	0.090	-0.167	1.000
VIF	4.52	6.54	3.67	5.87	4.94	2.43	1.76	1.23	2.54

Source: Author's computed

Regression-Analyses

To choose the most relevant estimation method, the regression of the four models will be preceded by the following econometric tests:

- **The Homogeneity Test:** This is a specification test that follows Fisher's statistic and aims to confirm the existence or not of specific effects. The existence of an effect leads to a choice between the fixed effects or the random effects method;
- **Hausman's Test:** This is a specification test that follows the statistic of chi-square. It is used to distinguish between fixed effects and random effects.
- **The Heteroscedasticity Test:** It follows the chi-square statistic. If it is a fixed effect we test for heteroscedasticity using the modified Wald test, while for a random effect we use the Breush-Pagan test.

The results of the three statistical tests are presented in the following tables: (see Table 5, Table 6 and Table 7).

Table 5. Homogeneity test relating to models M1, M2, M3 and M4

Models	DF	F-calculated	P-value	specific effects
Model (M1)	(321, 1285)	7.22	0.0000	Presence of individual effects
Model (M2)	(321, 1285)	1.29	0.0015	Presence of individual effects
Model (M3)	(321, 1277)	6.97	0.0000	Presence of individual effects
Model (M4)	(321, 1277)	1.26	0.0033	Presence of individuals effects

Source: Author's computed

Table 6. Hausman's test of model M1, M2, M3 and M4

Model	DF : K*	$\chi^2(k)$ at 5%	p-value	FE/RE**
Model (M1)	3	14.11	0.0070	FE
Model (M2)	3	2.66	0.000	FE
Model (M3)	11	58.77	0.000	FE
Model (M4)	11	5.24	0.000	FE

K*: Number of explanatory variables; FE : Fixed effect ; RE :Random effects

Source: Author's computed

Table 7. Heteroscedasticity's test relating to models M1, M2, M3 and M4

Models	DF	χ^2 calculated	P-value	Heteroscedasticity
Model (M1)	322	0.00	1.000	Absence
Model (M2)	322	0.00	1.000	Absence
Model (M3)	322	0.00	1.000	Absence
Model (M4)	322	0.00	1.000	Absence

Source: Author's computed

DISCUSSION OF FINDINGS

Based on table 8, we can see the value of Sig. F is less than 0.01, which means that ESG_SCORE variable affect the ROA and ROE. Or, the results of the regression show that CSR practice has no significant effect on financial performance. Indeed, the ESG_SCORE variable has no significant impact on ROA and ROE, except in model 3. While some theories, such as the theory of stakeholders and the signal theory (Van Ha, 2025), and some studies (Chouaibi and Chouaibi, 2021) have found a positive and significant association between financial performance and CSR practice, our study has not supported this relationship.

Furthermore, results from the first and the second model test (table 8) showed that the R square has the value of 0.706 and 0.538 respectively. This means that 70.6% of the ROA variance and the 53.8% of the ROE variance can be explained by ESG_SCORE. Whereas the remaining 29.4% and 46.2% are explained by other variables not integrated in the model.

When it comes to control variables, Model 1 and 2 frequently reveal some important relationships. Our control variables have significant effect on financial performance, according to the statistical results. The findings indicate that the firm's financial performance is linked to its size and leverage.

Based on the research findings, it appears that all corporate governance (CG) mechanisms, excepting duality, have a significant effect on financial performance. Indeed, the results of the third model testing showed a positive

and significant impact of independence on ROA, and a negative and significant impact of the size and the meetings of the board on ROA. In other words, increasing the independence, decreasing the size and the frequency of board meetings can strengthen the company's financial performance. This is in line with agency theory which suggests that independence of the board, regular board meetings and a small number of directors on the board help improving better performance.

On the other hand, table 8 depicts the outcomes of estimating Models 3 and 4 to test our hypotheses. This table presents the regression of the connection between CSR practices and financial performance when moderated by board characteristics. Thus, ESG score cannot moderate duality and meetings influence on company performance. Only the independence and the size of the board can strengthen the positive and significant impact on financial performance. Firstly, the result suggests that when board size is larger, the impact of CSR on financial performance is positive and significant. Therefore, we suggest that a positive effect exists between board size and ESG score, which in turn generates improvement in a firm's financial performance. This outcome is consistent with previous studies (Zahra and Pearce, 1989; Brown *et al.*, 2006; Jo and Harjoto, 2011; Nawaiseh, 2015). Secondly, the findings of the study indicate that the association between CSR practices and financial performance is positively moderated by board independence. This finding aligns with previous studies by Cornett *et al.*, (2008) and Khan *et al.*, (2012).

Table 8. The regression results.

	Model 1	Model 2	Model 3	Model 4
ESG_SCORE	0.000169 (0.1719)	0.000735 (0.6338)	-0.0019392 (0.023) **	-0.023882 (0.492)
BOARD INDEP	-	-	0.2293729 (0.0000)*	1.090942 (0.114)
BOARD SIZE	-	-	-0.0042083 (0.072) ***	0.0532314 (0.577)
BOARD MEET	-	-	-0.001896 (0.100) ***	0.0057885 (0.904)
DUAL	-	-	-0.0058944 (0.494)	-0.2901527 (0.409)
ESG_SCORE* BOARD INDEP	-	-	0.0008137 (0.274)	0.0526161 (0.084) ***
ESG_SCORE * BOARD SIZE	-	-	0.0000833 (0.097) ***	-0.0013512 (0.510)
ESG_SCORE* BOARD MEET	-	-	0.0000203 (0.396)	-0.0000178 (0.985)
ESG_SCORE* DUAL	-	-	0.0000414 (0.833)	-0.0016679 (0.835)
SIZE	-0.0026 (0.0000)*	-0.0243 (0.5172)	-0.0036498 (0.345)	-0.2043282 (0.196)
LEV	-0.214 (0.0000)*	-0.6767 (0.0002)*	-0.2063954 (0.000)*	0.3534531 (0.651)
R ²	0.706110	0.538257	0.66790898	0.21253972
F-statistic	7.22	1.29	6.97	1.26
Sig.	(0.0000)*	(0.0015)*	(0.0000)*	(0.0033)*

* Significant at level 1%, ** significant at level 5%, *** significant at level 10%

Robustness Analysis

A robustness analysis was conducted to assess the robustness of the results of the main empirical models shown in Table 8. According to Baltagi (2008) and Wooldridge(2010), fixed effects, random effects, and GLS estimators as standard and appropriate methods in context of panel data.

To check the robustness of our findings, we performed further estimations by changing Return on Assets (ROA) and Return on Equity (ROE) with Tobin's Q, an alternative measure of company performance (Menicucci & Paolucci, 2016; Ghenimi *et al.*, 2024; Chen, *et al.*, 2024). This replacement allows us to capture market-based valuation effects rather than only accounting-based indicators.

The robustness test results in Table 9 demonstrate the stability of our primary findings, as the major CRS and company performance continue to have statistically significant correlations with CG. These findings support our conclusions and illustrate that the association between CSR practices and business value is affected by board characteristics.

Indeed, all the variables maintained their association with TQ with the same sign. Additionally, in some cases, SIZE variable (M5) and (ESG_SCORE*BOARD INDEP) variable (M6), the significance of the statistical relationship improved. Consequently, the main findings remained robust.

Table 9. The regression results (Robustness test)

	Model 5	Model 6
ESG_SCORE	0.002345 (0.431)	-0.011765 (0.046) **
BOARD INDEP	-	0.423111 (0.0013)*
BOARD SIZE	-	-0.004325 (0.022) **
BOARD MEET	-	-0.005643 (0.800) ***
DUAL	-	-0.001276 (0.656)
ESG_SCORE* BOARD INDEP	-	0.0007564 (0.003)*
ESG_SCORE * BOARD SIZE	-	0.0000532 (0.047) **
ESG_SCORE* BOARD MEET	-	0.0000543 (0.143)
ESG_SCORE* DUAL	-	0.0000176 (0.543)
SIZE	-0.0346 (0.0030)*	-0.0013247 (0.000)*
LEV	-0.431 (0.0001)*	-0.176543 (0.000)*
R²	0.411076	0.354367
F-statistic	3.12	4.35
Sig.	(0.0011)*	(0.0034)*

* Significant at level 1%, ** significant at level 5%, *** significant at level 10%

CONCLUSION, CONTRIBUTIONS AND FUTURE RESEARCH DIRECTION

This study examines how board characteristics influence the relationship between CSR practices and financial performance in ESG companies.

The study aimed to fill a research gap by examining how board characteristics may influence the relationship between CSR practices and financial performance. Our findings support expectations that certain board characteristics impact the relationship between CSR practices and financial performance. This study found a positive and negative correlation between CSR practices and firm financial performance. Firms that prioritize CSR have better financial performance.

To investigate the impact of board characteristics on the relationship between CSR practices and financial performance, we conducted linear regressions on 357 firms located in United Kingdom countries using the Thomson Reuters ASSET4 database from 2018 to 2022.

Our results suggest that understanding the different roles and composition of the board requires a multi-theoretical approach, and that agency theory, resource dependency theory, and group efficiency theory help to explain different aspects of the composition and effectiveness of the board in the context of highlighting and confronting corporate social responsibility.

The empirical findings of this study will have several managerial implications. This investigation allows the information user to more precisely assess potential for future expansion in an environment where corporate governance and board characteristics have played a significant role in firm value. It additionally advocates the relationship between board characteristics and sustainable practices. The findings of this research have implications

and additional incentives for practitioners, notably CEOs and high-level corporate governance organizations. Consequently, corporations have been urged to restructure their boards of directors in ways that promote ethical behavior, including CSR initiatives. Our outcomes have important implications for global regulators and policymakers.

Although the research has achieved certain results as the initial goal, it still has limitations that other studies can overcome or continue to further implement to have more comprehensive contributions. First, the empirical analysis method makes it possible to analyze a large volume of data, and to compare the results obtained, but it suffers from a lack of a comparison between countries and groups of countries through the sampling method. A second limitation is the difficulty of collecting information on firm governance and CSR indices because they are qualitative variables.

It's worth noting that the relationship between CSR and financial performance is complex and can be influenced by various factors such as industry characteristics, company size, geographic location, and the specific measures used to assess CSR and financial performance. Additionally, the concept of financial performance itself can be multi-dimensional, including measures such as profitability, market value, and stock returns.

Declarations

All authors declare that they have no conflicts of interest.

Acknowledgement

Fatma Zehri would like to acknowledge that this research was funded by the General Directorate of Scientific Research & Innovation, Dar Al Uloom University, through the Scientific Publishing Funding Program.

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