"From boardroom to CSR excellence: The role of leadership and governance in corporate sustainability of European firms"

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FROM BOARDROOM TO CSR EXCELLENCE: THE ROLE OF LEADERSHIP AND GOVERNANCE IN CORPORATE SUSTAINABILITY OF EUROPEAN FIRMS

Abstract

This study investigates how board-level corporate governance affects corporate social responsibility (CSR) performance in European firms. A panel dataset of 5,760 firm-year observations from the STOXX Europe 600 index, covering 21 countries between 2010 and 2022, was analyzed using multivariate regression models. The data, sourced from Refinitiv Eikon, include firms across 22 industries, with capital goods and materials among the largest sectors, and represent major economies such as the United Kingdom, Germany, and France.

The analysis focused on board composition, CEO characteristics, and the presence of governance, audit, and CSR committees. It was found that independent and diverse boards with high attendance are associated with stronger CSR performance. Companies with active CSR committees demonstrate particularly enhanced ESG outcomes. Interestingly, CEO duality is linked to weaker CSR performance, while the presence of a former CEO as chairman improves sustainability efforts.

The study provides quantitative evidence on how governance structures shape corporate sustainability and offers practical insights for corporate leaders, policymakers, and investors seeking to improve CSR strategies across diverse European contexts.

Keywords

corporate governance, corporate social responsibility, board composition, board independence, board committees, non-financial reporting, sustainability, STOXX Europe 600, Refinitiv Eikon

JEL Classification

G34, M14, M41

INTRODUCTION

Corporate social responsibility (CSR) has become a central concern for companies worldwide as businesses are increasingly expected to contribute not only to financial performance but also to social and environmental goals. In Europe, the demand for stronger corporate accountability has intensified, with investors, regulators, and the public calling for greater transparency and sustainability. This shift has placed corporate governance mechanisms at the heart of discussions about how companies can meet expanding stakeholder expectations.

Effective governance, especially at the board level, is essential to ensure that firms align their operations with ethical, social, and environmental standards. Yet, despite growing attention to these issues, there remains limited empirical understanding of how governance structures, such as board composition, leadership roles, and specialized committees, directly shape CSR outcomes. Prior studies have often focused on isolated aspects or limited institutional settings, leaving a gap in knowledge about how these governance features work together in diverse European markets.

This research addresses that gap by examining the impact of board-level governance on CSR performance in European firms. By doing so, the study seeks to provide timely and practical insights into how governance systems can strengthen corporate sustainability efforts and help companies meet the complex demands of today's business environment.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

In accordance with Jensen and Meckling's seminal work in 1976, agency theory posits that managers function as agents for companies, possessing decision-making authority without bearing the full consequences of those decisions (Jensen & Meckling, 1976). Insiders or managerial entities inherently possess a greater reservoir of both historical proprietary information and anticipatory insights into the future outcomes of the firm when compared to external entities. Consequently, firms disseminate specific information strategically to alleviate agency costs stemming from information asymmetries between principals and agents (Jensen, 2002). However, the potential for managerial actions to align with personal interests, contravening shareholder interests, necessitates the implementation of both external and internal mechanisms aimed at curbing agency costs and ameliorating information asymmetries between managerial entities and stakeholders. Notably, as a corporate governance mechanism specifically designed to mitigate information asymmetry (Egginton & McBrayer, 2019). This study explores the multifaceted approaches employed by firms to achieve this objective.

The empirical exploration of the nexus between board composition and Corporate Social Responsibility (CSR) performance has gained considerable traction within the international research landscape (Abu Qa'dan & Suwaidan, 2019; Mohy-ud-Din, 2023; de Villiers et al., 2011; Ebaid, 2022; Pasko et al., 2021, 2022). Prior studies have predominantly concentrated on establishing correlations between board composition variables,

such as internal corporate governance, and various metrics of CSR (Abu Qa'dan & Suwaidan, 2019; Mohy-ud-Din, 2023; Pasko et al., 2022; Rao & Tilt, 2016; Sarhan & Al-Najjar, 2023; Sundarasen et al., 2016; Zhuang et al., 2018). In recent years, a surge in research endeavors has emerged, characterized by a statistical inquiry into the influence of specific board composition variables, notably gender diversity, on both the qualitative and quantitative aspects of CSR reports (Al Maeeni et al., 2022; Farooq et al., 2023). Nevertheless, the findings of these studies exhibit a notable degree of heterogeneity.

The role of boards of directors in shaping the Corporate Social Responsibility (CSR) landscape has become a focal point of scholarly inquiry (Egginton & McBrayer, 2019; Pinheiro et al., 2023; Velte, 2017). This literature review explores the extant research on board composition, encompassing factors such as board size, gender diversity, independence, and expertise, and their potential positive and negative influences on the effectiveness of Corporate Social Responsibility initiatives.

The influence of board size on CSR effectiveness has been a subject of considerable investigation (Dunn & Sainty, 2009; García Martín & Herrero, 2020; Haque, 2017; Harjoto et al., 2015; Hussain et al., 2023; Pasko et al., 2021; Zubeltzu-Jaka et al., 2024). While larger boards may offer a broader spectrum of skills and perspectives, they can also be susceptible to coordination challenges (García Martín & Herrero, 2020; Harjoto et al., 2015). Research suggests that an optimal board size aligns with effective CSR engagement, striking a balance between diverse viewpoints and streamlined decision-making processes (Ali Gull et al., 2023; de Villiers et al., 2011; García Martín & Herrero, 2020; Mohy-ud-Din, 2023; Zhuang et al., 2018).

Some researchers argue that larger boards may face challenges in decision-making efficiency, potentially leading to decreased attention to CSR concerns (Ali Gull et al., 2023; Dissanayake et al., 2023). Conversely, others posit that a larger board can bring diverse perspectives, enhancing the oversight of CSR initiatives (Dunn & Sainty, 2009; Haque, 2017). The nature of this relationship is complex, involving multiple factors such as the board's composition, structure, and specific CSR dimensions considered (Thuy et al., 2022). Further empirical investigation is essential to gain a comprehensive understanding of the nuanced interplay between board size and CSR within the corporate governance framework (Ahmad, 2017; Bansal et al., 2018; Liu & Hooy, 2023).

The impact of gender diversity on boards has garnered significant attention. Studies propose that gender-diverse boards may enhance CSR performance by incorporating a broader range of stakeholder perspectives (Adams, 2016; Adams & Ferreira, 2009; Adhikari et al., 2019; Bagh et al., 2023; Dunn & Sainty, 2009; Godfrey et al., 2024; Harjoto et al., 2015). However, conflicting findings exist, and further research is necessary to understand the nuanced relationship between board gender diversity and CSR outcomes.

Board independence, characterized by a balance between executive and non-executive directors, has implications for CSR effectiveness (Ahmad, 2017; Bansal et al., 2018; Liu & Hooy, 2023). While an independent board is thought to foster ethical decision-making and mitigate conflicts of interest, it is essential to scrutinize potential drawbacks, such as a potential detachment from operational intricacies (Naseem et al., 2023; Rashid, 2021).

The expertise of board members is crucial for informed decision-making in CSR initiatives (Velte, 2023; Velte & Stawinoga, 2020). Boards benefit from members with diverse professional backgrounds, including sustainability, ethics, and social responsibility expertise (Dunn & Sainty, 2009; Hussain et al., 2023; Kumar, 2020). However, research indicates that an overemphasis on specific expertise may inadvertently narrow the board's focus, potentially hindering a comprehensive approach to CSR (García Martín & Herrero, 2020).

The literature suggests that board composition significantly influences CSR outcomes (Tibiletti et al., 2020). Striking the right balance in board size, embracing gender diversity, ensuring independence, and fostering expertise are critical considerations for boards seeking to enhance their impact on CSR effectiveness (Farooq et al., 2023). While numerous studies underscore the positive correlation between certain board compositions and CSR success, ongoing research is vital to unravel the complexities and contingencies inherent in these relationships (Arena et al., 2020; Pinheiro et al., 2023).

Growing attention in the literature has been devoted to the role of CEO attributes in shaping the effectiveness of CSR, emphasizing the importance of understanding both their positive and negative influences (Ahmad, 2017; Bansal et al., 2018; Liu & Hooy, 2023). Specifically, the CEO attributes under scrutiny include CEO Chairman Duality, CEO as Board Member, Chairman as ex-CEO, and the CEO Compensation Link to Total Shareholder Return (TSR) (Bhaskar, Li, et al., 2023).

The phenomenon of CEO Chairman Duality, where the Chief Executive Officer also serves as the Chairman of the Board, has been a subject of debate (Bhaskar, Bansal, et al., 2023; Bhaskar, Li, et al., 2023; Chen et al., 2019; Velte, 2019; Zhao et al., 2023). Research suggests that this dual role may impede effective CSR oversight, as it concentrates power in a single individual (Bhaskar, Li, et al., 2023; Chen et al., 2019; Velte, 2023). Conversely, some studies propose that under specific circumstances, such duality can streamline decision-making and foster a unified vision, positively impacting CSR initiatives (Almulhim & Aljughaiman, 2023; Bhaskar, Bansal, et al., 2023; Brick & Qiao, 2024; Chen et al., 2019; Velte, 2019).

The inclusion of the CEO as a board member may influence CSR outcomes. While having the CEO on the board may enhance alignment between leadership and governance, it could potentially lead to conflicts of interest (Almulhim & Aljughaiman, 2023; Bhaskar, Li, et al., 2023; Qiao, 2023). The literature highlights the need for a careful balance, emphasizing the importance of an inclusive boardroom environment that encourages diverse perspectives on CSR-related matters.

The presence of a Chairman who was formerly the CEO introduces a unique dynamic (Qiao, 2023). While this can provide valuable industry insight and experience, potential challenges include a reluctance to deviate from established practices (Kumar, 2020; Velte & Stawinoga, 2020). Research underscores the need for vigilant governance mechanisms to ensure a smooth transition and mitigate potential conflicts that may arise from the dual role of Chairman and ex-CEO.

The link between CEO compensation and Total Shareholder Return (TSR) has implications for CSR. Studies suggest that a strong link may motivate CEOs to prioritize short-term financial gains over long-term CSR objectives (Bhaskar, Bansal, et al., 2023; Bhaskar, Li, et al., 2023; Brick & Qiao, 2024; Zhao et al., 2023). Striking a balance between financial incentives and CSR performance metrics is crucial for aligning executive compensation with sustainable and responsible business practices.

In conclusion, the literature on CEO attributes reveals a nuanced landscape in relation to their impact on Corporate Social Responsibility. While certain attributes may enhance alignment and decision-making, others present potential challenges that necessitate careful governance. The ongoing discourse emphasizes the importance of balancing executive power, fostering diversity in decision-making, and aligning compensation structures with sustainable and socially responsible practices to maximize the positive influence of CEO attributes on CSR effectiveness.

The examination of the relationship between various board committees and corporate social responsibility (CSR) is integral to understanding the governance mechanisms influencing CSR practices within organizations. The literature on this subject emphasizes the roles of specific board committees, such as the Corporate Governance Board Committee, Nomination Board Committee, Audit Board Committee, CSR Sustainability Committee, and the average attendance in committee meetings (Bel-Oms & Segarra-Moliner, 2022; Bose et al., 2022; Bradbury et al., 2022; Dimitropoulos, 2022; Gull et al., 2023; Hsu, 2023; Pasko et al., 2023; Rivas & Rubio, 2023).

Studies have explored how the Corporate Governance Board Committee plays a pivotal role in shaping CSR strategies. This committee is often responsible for formulating and overseeing corporate policies, including those related to CSR, ensuring alignment with the organization's ethical standards and stakeholder expectations (Gull et al., 2023). Additionally, the Nomination Board Committee, entrusted with nominating directors, may impact CSR by selecting individuals who possess a commitment to sustainability and social responsibility (Bel-Oms & Segarra-Moliner, 2022; Rivas & Rubio, 2023).

The Audit Board Committee, through its oversight of financial reporting and risk management, is also recognized as influential in CSR. This committee can contribute to CSR by ensuring the accurate disclosure of CSR-related information, thereby enhancing transparency and accountability (Bataineh et al., 2023; Bose et al., 2022; Pucheta-Martínez et al., 2023; Song, 2022).

Dedicated CSR Sustainability Committees have emerged as a distinct feature in some organizations, showcasing a specialized focus on sustainability initiatives. These committees are tasked with formulating, implementing, and monitoring CSR strategies, reflecting a growing recognition of the importance of sustainability in corporate governance (Bradbury et al., 2022; Cosma et al., 2022; Khan et al., 2024; Orazalin, 2020; Pucheta-Martínez et al., 2023).

Furthermore, research has delved into the relationship between the attendance of board committee meetings and CSR outcomes (Rivas & Rubio, 2023). The average attendance in committee meetings has been identified as a potential indicator of the board's commitment to CSR issues. Higher attendance may signify increased attention and dedication to fostering socially responsible practices within the organization (Dimitropoulos, 2022; Rivas & Rubio, 2023).

In summary, exploring the roles and interactions of different board committees provides valuable insights into the mechanisms through which corporate governance influences CSR. This comprehensive review aims to contrib-

ute to the existing body of knowledge by synthesizing findings related to the Corporate Governance Board Committee, Nomination Board Committee, Audit Board Committee, CSR Sustainability Committee, and Committee Meetings Attendance Average in the context of corporate social responsibility.

The existing body of corporate governance literature posits that boards of directors play a pivotal role in overseeing the activities of firms. Additionally, this literature delineates the characteristics indicative of robust monitoring boards and conducive to higher CSR performance in the European institutional setting.

Therefore, the purpose of this paper is to examine the impact of board-level corporate governance attributes on CSR performance in European firms by analyzing board composition, CEO characteristics, and the role of specialized committees. The study aims to provide empirical evidence on how governance structures influence CSR outcomes and whether specific governance mechanisms can enhance corporate sustainability efforts. By leveraging an extensive dataset from the Thomson Reuters Refinitiv Eikon database, this study seeks to contribute to the ongoing discourse on corporate governance and CSR, offering insights for corporate leaders, policymakers, and investors committed to fostering responsible business practices.

Using a dataset of 7,092 firm-year observations from 21 countries (2010–2022), sourced from the Thomson Reuters Refinitiv Eikon database, it aims to answer three key questions:

- 1. How do board attributes affect CSR performance?
- 2. How do CEO characteristics influence CSR outcomes?
- 3. How do board committees dedicated to governance, audit, and sustainability impact CSR performance?

By addressing these questions, the study advances the corporate governance-CSR discourse and provides empirical insights for businesses, poli-

cymakers, and investors. The findings contribute to both theoretical understanding and practical governance strategies, offering guidance for firms navigating increased CSR expectations in a rapidly evolving corporate landscape.

Thus, based on a review of the literature and previous studies, this study proposes the following hypotheses:

- H1: Board attributes positively relate to CSR performance.
- H2: CEO characteristics negatively relate to CSR performance.
- H3: Up and running specific board committees positively relate to CSR performance.

2. METHODS

2.1. Data and sample selection

This study utilizes data from Refinitiv Eikon, a comprehensive financial database formerly known as Thomson Reuters Eikon. The platform provides extensive historical and real-time financial data, covering money markets, capital markets, foreign exchange, futures, and commodities. It includes stock quotations, indices, and financial instruments across global exchanges, offering valuable insights into both traditional and over-the-counter markets. Its advanced analytical tools enable rigorous financial research, making it a reliable source for empirical studies in corporate finance and governance.

The dataset is based on firms listed in the STOXX Europe 600 index, which represents companies of varying capitalizations across 17 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. The index captures a diverse range of industries and market segments, providing a broad perspective on corporate governance and financial performance across the European economy.

The sample selection process (Table 1) was designed to ensure data relevance and statistical robustness. The initial dataset covered firm-year observations from 2010 to 2022, totaling 7,092 cases. To enhance comparability, financial institutions were systematically excluded. First, banks were removed, reducing the sample to 6,576 observations. Next, data from other financial institutions were excluded, narrowing the dataset to 6,108 observations. Finally, insurance companies were eliminated, resulting in a final sample of 5,760 firm-year observations. This rigorous selection process ensures that the dataset aligns with the study's objectives while maintaining empirical validity.

Table 1. Sample selection procedure

Steps	Description	Observations
1	Initial sample 2010 to 2022	7,092
2	Less: Data of Banks	516
3	Less: Data of Financial institutions	468
4	Less: Data of Insurance companies	348
5	Final sample	5,760

Table 2 presents a detailed breakdown of the dataset's distribution across Global Industry Classification Standard (GICS) industry groups. The dataset comprises 5,760 observations, systematically categorized by industry sector based on GICS classifications. Each industry group represents a distinct sector, providing a structured framework for analyzing corporate governance and CSR practices across industries. The 'Frequency' column reports the number of observations in each industry group, quantifying the dataset's composition. The 'Percentage (%)' column indicates the proportion of each industry group relative to the total sample, reflecting its relative weight within the dataset. The 'Cumulative (%)' column tracks the cumulative proportion of observations, offering insight into the progressive distribution of industry representation. Among the industry groups, Capital Goods accounts for the largest share, with 1,080 observations (18.75% of the total sample), contributing to a cumulative representation of 21.25%. This distribution highlights the prevalence of firms in industrial sectors, underscoring their significant role in corporate governance and CSR disclosures.

Table 2. Number and proportion of observations by industry

GICS Industry Group Name	Frequency	Percentage (%)	Cum. (%)
Automobiles & Components	144	2.5	2.5
Capital Goods	1,080	18.75	21.25
Commercial & Professional Services	216	3.75	25
Consumer Discretionary Distribution & Retail	168	2.92	27.92
Consumer Durables & Apparel	300	5.21	33.13
Consumer Services	192	3.33	36.46
Consumer Staples Distribution & Retail	132	2.29	38.75
Energy	216	3.75	42.5
Equity Real Estate Investment Trusts (REITs)	228	3.96	46.46
Food, Beverage & Tobacco	360	6.25	52.71
Health Care Equipment & Services	252	4.38	57.08
Household & Personal Products	84	1.46	58.54
Materials	612	10.63	69.17
Media & Entertainment	192	3.33	72.5
Pharmaceuticals, Biotechnology & Life Sciences	360	6.25	78.75
Real Estate Management & Development	144	2.5	81.25
Semiconductors & Semiconductor Equipment	84	1.46	82.71
Software & Services	180	3.13	85.83
Technology Hardware & Equipment	84	1.46	87.29
Telecommunication Services	192	3.33	90.63
Transportation	156	2.71	93.33
Utilities	384	6.67	100
Total:	5,760	100	

Table 3 presents the geographical distribution of the companies analyzed, highlighting the study's broad European scope. The dataset includes firms from both major economies, such as the United Kingdom (126), Germany (70), France (73), and Switzerland (54), and smaller jurisdictions like Jersey, the Faroe Islands, and Cyprus. This diversity ensures a comprehensive cross-cultural analysis of corporate governance and CSR performance. The inclusion of firms from varied economic environments enhances the study's relevance, offering valuable insights into governance structures and CSR practices across different institutional settings.

Table 3. Country of ir	ncorporation of a	analyzed
companies		

No.	Country	Number of companies		
1	Austria	7		
2	Belgium	15		
3	Cyprus	1		
4	Denmark	25		
5	Faroe Islands	1		
6	Finland	18		
7	France	73		
8	Germany	70		
9	Ireland	11		
10	Isle of Man	1		
11	Italy	30		
12	Jersey	4		
13	Luxembourg	9		
14	Netherlands	36		
15	Norway	14		
16	Poland	9		
17	Portugal	4		
18	Spain	24		
19	Sweden	59		
20	Switzerland	54		
21	United Kingdom	126		

2.2. Variables

2.2.1. Dependent variables

The ESG Combined Score from the Thomson Reuters Refinitiv Eikon database provides a comprehensive measure of corporate sustainability performance. It evaluates companies based on environmental, social, and governance (ESG) criteria, incorporating an ESG Controversies overlay to account for ethical and reputational risks. This approach enhances the assessment of corporate responsibility, offering a structured evaluation of a firm's commitment to sustainability, transparency, and governance integrity.

2.2.2. Independent variables

This study examines key board-level corporate governance attributes that influence corporate social responsibility (CSR) performance in European firms. The analysis focuses on board independence, attendance, diversity, and the role of non-executive directors. Board independence reflects the proportion of directors unaffiliated with daily operations, ensuring objective oversight. Attendance measures board members' engagement in corporate affairs, indicating their

commitment to governance. Diversity enhances decision-making by incorporating varied perspectives, while non-executive directors contribute external expertise and accountability. By assessing these variables, the study explores how governance structures shape CSR outcomes, providing insights into mechanisms that enhance corporate transparency, ethical leadership, and sustainable business practices.

The complete list of research variables is presented in Appendix A1.

2.3. Research model

This section outlines the econometric model used to analyze the relationship between corporate governance and CSR performance. Formula (1) presents the baseline panel regression model, where ESGCombinedScore represents the dependent variable measuring the environmental, social, and governance outcomes of firm *i* at time *t*. The right-hand side includes three groups of independent variables: (1) board characteristics (e.g., BDIndependent, BDAttendance, BDDiversity, BDNonExec), (2) CEO-related attributes (e.g., CEODuality, ChairmanisexCEO), and (3) committee structures (e.g., CommCG, CommAudit, CommCSRSUS).

In addition, standard firm-level controls are incorporated, such as FirmSize, FreeFloat, and LnRevenue, along with fixed effects for industry and year, to account for unobserved heterogeneity across sectors and time periods. The error term \boldsymbol{u} captures random disturbances not explained by the included variables. This model structure allows the study to estimate the marginal effects of governance variables on CSR performance while controlling for confounding factors.

$$ESGCombinedScore_{i,t} = \beta_{0}$$

$$+\beta_{1}BDIndependent_{i,t} + \beta_{2}BDAttendance_{i,t}$$

$$+\beta_{3}Diversity_{i,t} + \beta_{4}BDNonExec_{i,t}$$

$$+\beta_{5}CEODuality_{i,t} + \beta_{6}ChairmanisexCEO_{i,t}$$

$$+\beta_{7}CommCG_{i,t} + \beta_{8}CommAudit_{i,t}$$

$$+\beta_{9}CommCSRSUS_{i,t} + \beta_{10}FirmSize_{i,t}$$

$$+\beta_{11}FreeFloat_{i,t} + \beta_{12}Ln \operatorname{Re} venue_{i,t}$$

$$+\beta_{13}Industry_{i,t} + \beta_{14}Year_{i,t} + u_{i,t},$$

$$(1)$$

where BDIndependent is the proportion of independent directors on the board; BDAttendance is the average board meeting attendance rate; Diversity is the percentage of female board members; BDNonExec is the proportion of non-executive directors on the board; CEODuality is a dummy variable equal to 1 if the CEO also serves as the Chairman of the Board, and 0 otherwise; ChairmanisexCEO is a dummy variable equal to 1 if the Chairman previously held the CEO position, and 0 otherwise; CommCG is a dummy variable equal to 1 if the company has a Corporate Governance Committee; CommAudit is a dummy variable equal to 1 if the company has an Audit Committee; CommCSRSUS is a dummy variable equal to 1 if the company has a CSR or Sustainability Committee; FirmSize is the natural logarithm of total assets; FreeFloat is the percentage of shares available for public trading; LnRevenue is the natural logarithm of total revenue; Industry and Year represent industry and year fixed effects; and *u* is the error term.

3. RESULTS

3.1. Descriptive statistics

Table 4 presents descriptive statistics for various variables within the dataset, providing a summary of key statistical measures. The table encompasses observations (Obs), minimum (Min), maximum (Max), mean, median, and standard deviation (SD)

for each variable. These statistics offer valuable insights into the distribution and central tendencies of the dataset. For example, the 'ESGScore' variable has 4,990 observations with a minimum score of 2.597, a maximum score of 95.614, a mean score of 64.583, a median of 67.824, and a standard deviation of 17.664. Similarly, 'BDSize' has 4,987 observations, ranging from a minimum of 2.000 to a maximum of 30.000, with a mean size of 10.980 and a median of 11.000. Other variables, such as 'CEOBDMember' and 'CommAudit,' are binary with values of 0 or 1, showcasing the proportion of occurrences for each category. The 'FirmSize' variable, representing the size of the firm, has 5,602 observations, with a minimum size of 15.551, a maximum size of 27.132, a mean size of 22.821, and a median size of 22.811.

Table 5 presents a correlation matrix illustrating the degree of association between various variables in the study. Each element in the matrix corresponds to the correlation coefficient between two respective variables. The values of the correlation coefficients can be positive or negative, with their magnitude indicating the strength and direction of the relationship. For instance, highly significant correlation coefficients are observed between ESGScore (the rating of environmental, social, and governance responsibility of a company) and other variables such as FirmSize (company size), LnRevenue (logarithm of revenue), and LnEBITDA (logarithm of earnings before interest, taxes, depreciation, and amortization). These coef-

Table 4. Descriptive statistics

Variable name	Obs	Min	Max	Mean	Median	SD
ESGScore	4,990	2.597	95.614	64.583	67.824	17.664
BDSize	4,987	2.000	30.000	10.980	11.000	3.711
BDAttendance	4,990	0.000	1.000	0.462	0.000	0.499
BDDiversity	4,988	0.000	75.000	28.030	28.571	13.449
BDNonExec	4,986	0.000	100.000	84.883	86.667	13.808
CEOBDMember	4,655	0.000	1.000	0.613	1.000	0.487
CEODuality	4,990	0.000	1.000	0.242	0.000	0.428
CommCG	4,990	0.000	1.000	0.253	0.000	0.435
CommAudit	4,990	0.000	1.000	0.986	1.000	0.118
CommCSRSUS	4,990	0.000	1.000	0.832	1.000	0.374
FirmSize	5,602	15.551	27.132	22.821	22.811	1.579
FreeFloat	5,377	12.254	24.636	19.048	19.070	1.703
LnRevenue	5,603	14.007	26.876	22.287	22.303	1.673
LnEBITDA	5,485	13.632	25.162	20.674	20.615	1.482
Industry	5,760	1.000	22.000	10.162	10.000	6.579
Year	5,760	2,011.000	2,022.000	2,016.500	2,016.500	3.452

Table 5. Correlation matrix

	ESGScore	BDSize	BDAttendance	BDDiversity	BDNonExec	СЕОВDМетрег	CEODuality	CommCG	CommAudit	CommCSRSUS	FirmSize	FreeFloat	LnRevenue	LnEBITDA	Industry	Year
			Δ.			- 				U						
ESGScore	1															
BDSize	0.331***	1														
BDAttendance	0.094***	-0.214***	1													
BDDiversity	0.326***	0.056***	0.100***	1												
BDNonExec	0.240***	0.213***	-0.182***	0.085***	1											
CEOBDMember	-0.045***	0.085***	0.094***	-0.029**	-0.602***	1										
CEODuality	0.040***	0.172***	-0.196***	0.081***	-0.020	0.190***	1									
CommCG	0.259***	0.180***	-0.061***	0.089***	0.094***	0.115***	0.225***	1								
CommAudit	0.089***	0.098***	0.018	-0.034**	0.009	0.025*	0.047***	0.066***	1							
CommCSRSUS	0.506***	0.229***	0.058***	0.185***	0.052***	0.023	0.042***	0.139***	0.024*	1						
FirmSize	0.544***	0.549***	-0.107***	0.132***	0.235***	0.059***	0.095***	0.292***	0.069***	0.315***	1					
FreeFloat	0.381***	0.240***	0.161***	0.145***	-0.124***	0.281***	-0.150***	0.163***	0.073***	0.231***	0.562***	1				
LnRevenue	0.516***	0.488***	-0.077***	0.101***	0.214***	0.020	0.077***	0.262***	0.074***	0.302***	0.851***	0.491***	1			
LnEBITDA	0.538***	0.499***	-0.093***	0.152***	0.234***	0.031**	0.081***	0.287***	0.068***	0.308***	0.913***	0.547***	0.892***	1		
Industry	0.057***	0.074***	-0.026*	0.042***	0.094***	-0.079***	-0.002	0.044***	-0.010	0.000	0.087***	0.112***	-0.075***	0.086***	1	
Year	0.223***	-0.071***	0.224***	0.513***	0.072***	-0.066***	-0.028**	-0.014	-0.011	0.064***	0.134***	0.083***	0.071***	0.114***	0.000	1

ficients signify a strong connection between ESG assessment and the economic performance indicators of companies.

Table 6 presents regression results from various models and robustness tests conducted within the research framework. The models are outlined as follows:

- 1. Model (1): Only control variables, with noteworthy coefficients such as BDAttendance (2.512, p < 0.001), CommCSRSUS (10.178, p < 0.001), and LnRevenue (1.776, p < 0.001).
- 2. Model (2): Board characteristics + control variables, introducing variables like BDIndependent (0.055, p < 0.001) and BDDiversity (0.118, p < 0.001). Notable coefficients include CommCSRSUS (9.770, p < 0.001) and FirmSize (2.326, p < 0.001).
- Model (3): CEO characteristics + control variables, incorporating variables like CEODuality (-2.573, p < 0.01) and ChairmanisexCEO (2.766, p < 0.01). Notable coefficients include CommCSRSUS (9.806, p < 0.001) and LnRevenue (1.775, p < 0.001).
- 4. Model (4): Committee characteristics + control variables, adding variables like CommCG (2.561, p < 0.001) and CommAudit (3.762, p < 0.01). Notable coefficients include CommCSRSUS (8.421, p < 0.001) and FreeFloat (0.617, p < 0.05).
- 5. Model (5): Board characteristics + CEO characteristics + committee characteristics + control variables, incorporating all variables from Models (2), (3), and (4). Notable coefficients include CommCSRSUS (8.421, p < 0.001) and LnRevenue (1.775, p < 0.001).
- 6. Model (6): Robustness Test 1 (remove variable "BDNonExec"), mirroring variables from Model (2), excluding BDNonExec. Notable coefficients include CommCSRSUS (9.770, p < 0.001) and FirmSize (2.326, p < 0.001).
- 7. Model (7): Robustness Test 2 (change dependent variable to "ESCScore"), retaining all variables from Model (2) with the dependent

variable changed to ESCScore. Notable coefficients include CommCSRSUS (9.770, p < 0.001) and FirmSize (2.326, p < 0.001).

These regression results offer insights into the impact of different variables and model specifications on the ESGCombinedScore, with reported p-values indicating the level of statistical significance for each coefficient (*** p < 0.001, ** p < 0.05).

Table 6 provides regression results from various models and robustness tests within the research framework. The following analysis explores the relationships between variables, considering the abbreviations and corresponding variable names:

1. Positive relationships:

- BDAttendance (BoardAttendance) and ESGCombinedScore: A high coefficient (2.512, p < 0.001) indicates a positive influence of board member presence on the overall ESG rating.
- CommCG (CorporateGovernanceBoardCo mmi) and ESGCombinedScore: The coefficient (2.561, p < 0.001) confirms a positive impact on the ESG rating with active corporate governance committee involvement.
- CommAudit (AuditBoardCommittee) and ESGCombinedScore: Similarly, the coefficient (3.762, p < 0.01) suggests a positive influence of the audit committee on the ESG rating.
- CommCSRSUS (CSRSustainabilityCommit tee) and ESGCombinedScore: This committee has the highest impact (10.178, p < 0.001), indicating a strong positive correlation.
- **FirmSizeandESGCombinedScore:** Company size is positively correlated with the ESG rating (2.326, p < 0.001), suggesting that larger companies have more opportunities to enhance their environmental and social responsibility.
- 2. Negative relationship:
- CEODuality (CEOChairmanDuality) and ESGCombinedScore: The presence of one in-

Table 6. Regression results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
	ESGCombinedScore ESGCombinedScore ESGCor					ESGCombinedScore Robustness Test 1	ESGScore Robustness Test 2	
BDIndependent		0.055***			0.048***	0.060***	0.057***	
***************************************		(4.532)			(4.166)	(5.250)	(6.698)	
BDAttendance		2.512***			2.365***	2.316***	2.483***	
***************************************		(6.771)			(6.521)	(6.370)	(9.824)	
BDDiversity		0.118***			0.101***	0.106***	0.100***	
		(6.086)			(5.379)	(5.604)	(7.448)	
BDNonExec		0.128***			0.121***		0.103***	
		(6.032)			(5.931)		(6.908)	
CEODuality			-1.957		-2.573**	-2.609**	-2.362***	
			(-1.563)		(–2.127)	(-2.150)	(–2.798)	
ChairmanisexCEO			2.116*		2.766**	2.559**	1.867**	
***************************************			(1.796)		(2.423)	(2.237)	(2.364)	
CommCG				2.561***	2.419***	2.600***	3.245***	
				(3.387)	(3.249)	(3.477)	(5.797)	
CommAudit				3.762**	3.587**	3.714**	3.256**	
				(2.055)	(1.983)	(2.046)	(2.531)	
CommCSRSUS				10.178***	9.770***	9.806***	8.421***	
***************************************				(17.968)	(17.417)	(17.425)	(21.248)	
FirmSize	2.589***	2.326***	2.633***	1.582***	1.469***	1.734***	2.799***	
	(4.690)	(4.332)	(4.764)	(3.082)	(2.924)	(3.443)	(6.953)	
FreeFloat	0.950***	0.779***	0.928***	0.787***	0.617**	0.355	1.050***	
	(3.237)	(2.686)	(3.149)	(2.888)	(2.259)	(1.309)	(4.891)	
LnRevenue	1.776***	1.585***	1.775***	1.363***	1.198***	1.315***	2.326***	
	(3.572)	(3.289)	(3.568)	(2.962)	(2.672)	(2.914)	(6.441)	
Industry	0.012	-0.016	0.011	0.021	-0.006	0.018	0.028	
	(0.131)	(-0.182)	(0.125)	(0.269)	(-0.072)	(0.230)	(0.385)	
Year	1.127***	0.726***	1.110***	1.038***	0.663***	0.665***	0.861***	
	(24.852)	(11.805)	(23.939)	(23.480)	(10.995)	(10.998)	(20.069)	
_cons	-2331.485***	-1526.258***	-2297.451***	-2129.032***	-1378.274***	-1376.683***	-1835.818***	
	(–26.047)	(–12.436)	(–25.099)	(-24.279)	(-11.439)	(-11.396)	(–21.515)	
N	4,971	4,967	4,971	4,971	4,967	4,968	4,967	

Note: *** p < 0.001, ** p < 0.01, * p < 0.05.

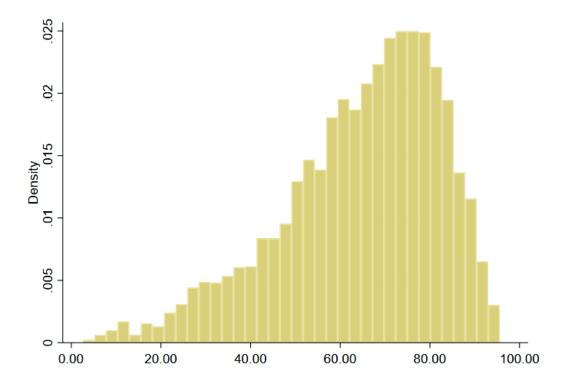


Figure 1. Distribution of ESG Score

dividual in the roles of CEO and Chairman negatively impacts the ESG rating (-2.573, p < 0.01).

3. No statistically significant relationships:

- ChairmanisexCEO (Chairman is ex-CEO) and ESGCombinedScore: This variable also showed a positive impact (2.766, p < 0.01) on the ESG rating.
- **LnRevenue and ESGCombinedScore:** The logarithm of revenue demonstrated a positive impact (1.775, p < 0.001) on the ESG rating.
- BDNonExec(NonExecutiveBoardMembers): In Model 6 (Robustness Test 1), the exclusion of this variable resulted in a positive impact on the ESG rating, possibly linked to changes in the composition of non-executive board members.

Overall, this study implies that board-level corporate governance attributes play a vital role in ensuring organizational legitimacy through CSR. The study findings should be of interest to regulators and policymakers.

4. DISCUSSION

This study aimed to explore how board-level governance mechanisms shape CSR performance across European firms. The results provide strong support for Hypothesis 1, confirming that board independence, attendance, diversity, and the presence of non-executive directors positively affect CSR outcomes. This finding aligns with past research (Velte, 2017; Harjoto et al., 2015; Adams & Ferreira, 2009), reinforcing the view that diverse and engaged boards are better positioned to address stakeholder concerns and implement effective sustainability strategies.

In contrast, Hypothesis 2, which proposed a negative relationship between CEO characteristics and CSR performance, was only partially supported. While CEO duality showed a negative link, the presence of a former CEO as chairman had a positive association with CSR outcomes. This mixed result highlights the complexity of executive influence on sustainability practices, suggesting that leadership structures may interact with institutional and cultural factors in Europe. These findings partly challenge earlier studies (Chen et al., 2019; Bhaskar et al., 2023), calling for more

context-specific analysis of CEO roles in CSR governance.

Hypothesis 3 was confirmed, showing that specialized committees – especially CSR or sustainability committees – significantly enhance CSR performance. This echoes prior evidence (Bradbury et al., 2022; Orazalin, 2020) that formal committee oversight is crucial for driving sustainability outcomes. The results suggest that structured governance frameworks at the committee level provide focused attention to CSR, improving accountability and long-term strategy execution.

Compared to the broader literature, the study contributes by integrating board attributes, CEO characteristics, and committee structures into one empirical model. While many earlier works isolated these factors, this research demonstrates their combined effect on sustainability outcomes across diverse European jurisdictions.

Overall, the results emphasize the importance of strong, diverse boards and formalized committee oversight in enhancing CSR outcomes. These insights are relevant not only for companies seeking to improve sustainability performance but also for policymakers aiming to strengthen governance frameworks.

Future studies should investigate how sectorspecific dynamics and country-level governance environments moderate these relationships. Additionally, further research could explore the role of ESG-linked executive compensation in shaping sustainability efforts, offering a more nuanced understanding of leadership incentives in the CSR space.

CONCLUSION

The purpose of this study was to examine how board-level corporate governance influences corporate social responsibility (CSR) performance in European firms. Using a panel dataset of 5,760 firm-year observations from 21 countries between 2010 and 2022, the research focused on the effects of board composition, CEO characteristics, and the presence of governance, audit, and CSR committees.

The results revealed that independent boards, higher gender diversity, and greater board attendance were consistently linked to improved CSR outcomes. Firms with active CSR committees showed stronger sustainability performance, while CEO duality negatively affected CSR, and the presence of a former CEO as chairman had a positive impact.

Based on these findings, the study concludes that well-structured governance systems play a decisive role in advancing CSR strategies and strengthening corporate accountability. Strong board oversight, diverse leadership, and dedicated sustainability committees are essential mechanisms for driving responsible business practices.

Future research should explore how these relationships evolve over time, particularly in sector-specific or country-specific contexts. It is also recommended to investigate how linking executive compensation to ESG goals might further shape sustainability outcomes. These directions could deepen understanding of the governance-CSR nexus and inform more effective corporate policies.

AUTHOR CONTRIBUTIONS

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APPENDIX A

 Table A1. Complete list of research variables

Variables	Measurement					
ESG Combined Score	Refinitiv ESG Combined Score is an overall company score based on the reported information in the environmental, social, and corporate governance pillars (ESG Score) with an ESG Controversies overlay					
ESG Combined Score Grade	an overall company score based on the reported information in the environmental, social, and corporate governance pillars (ESG Score) with an ESG Controversies overlay					
	Board structure					
Board Size	The total number of board members at the end of the fiscal year.					
Board Attendance	Does the company publish information about the attendance of the individual board members at board meetings?					
Board Meeting Attendance Average	The average overall attendance percentage of board meetings as reported by the company. Overall, board members conduct regular meetings during the year, the board meeting average is the attendance average provided details of members attended versus the total number of board meetings held					
Board Structure Type	 The company has a unitary board structure, a classical two-tier board structure with a supervisory board or a mixed two-tiered board structure with a board of directors and a supervisory board. Unitary board structure (executive director on board) Classical two-tier board structure (two separate boards, i.e, supervisory board and executive board) Mixed board (executive, supervisory board, employee representatives, shareholder representatives, external auditors) 					
Board Background and Skills	Does the company describe the professional experience or skills, or the age of every board member?					
Board Gender Diversity	Percentage of females on the board. Refinitiv Workspace Excel Function					
Board Specific Skills, Percent	Percentage of board members who have either an industry-specific background or a strong financial background					
Board Member Affiliations	Average number of other corporate affiliations for the board member					
Board Member Membership Limits	 The maximum number of years a board member can be on the board is stipulated by the company. 1 to 30 years /insufficient information/no limit When the company has explicitly mentioned that board members will be on board only for a certain maximum number of years When the maximum term is different for a different class of directors, use the one given for the independent/nonexecutive directors If there is a law provision that says that directors have to retire after a number of years, then answer as per the provision 					
Board Member Term Duration	 The smallest interval of years in which the board members are subject to re-election. The smallest interval of years of board members' re-election Annual re-election for board members who have served for a long time is accepted as "1" year If the data mention about one-third of board members who must retire at the AGM, then it is 3 years 					
Number of Board Meetings	The number of board meetings during the year					
Independent Board Members	Percentage of independent board members as reported by the company					
Non-Executive Board	Members Percentage of non-executive board members					
Strictly Independent Board Members	Percentage of strictly independent board members (not employed by the company; not served on the board for more than ten years; not a reference shareholder with more than 5% of holdings; no cross-board membership; no recent, immediate family ties to the corporation; no accepting any compensation other than compensation for board service)					
	CEO					
CEO Chairman Duality	Does the CEO simultaneously chair the board, or has the chairman of the board been the CEO of the company?					
CEO Board Member	The CEO is a board member					
CEO Board Member The CEO is a board member Has the chairman held the CEO position in the company prior to becoming the chairm True: when the Chairman was CEO in previous years False: when the chairman was never the CEO of the company False: when the chairman is currently the CEO						

Table A1 (cont.). Complete list of research variables

Variables	Measurement
CEO Compensation Link to TSR	Is the CEO's compensation linked to total shareholder return (TSR)?
	COMMITTEES
Corporate Governance Board Committee	Does the company have a corporate governance board committee?
Nomination Board Committee	Does the company have a nomination board committee?
Audit Board Committee	Does the company have an audit board committee?
CSR Sustainability Committee	Does the company have a CSR committee or team? • Board level or Senior management committee responsible for decision making on CSR strategy
Committee Meetings Attendance Average	The average overall attendance percentage of board committee meetings, as reported by the company. • Various committees formed by the board conduct regular meetings during the year; the committee meeting average is the attendance average provided details of members attended versus the total number of meetings held
	CONTROL VARIABLES
Fsize	Ln (Total Assets)
Leverage	Total Debt / Shareholders' Equity
Free floating	The Free Float represents the issue-level free float shares. Free float is the number of outstanding shares that are available for trading by the public, and it does not include restricted shares
Tobin's Q	Market capitalization / total assets
ROA	Net profit/total assets