



Governance, Integrity, and ESG in the Gulf Countries: A Dual Approach to Responsible and Irresponsible Corporate Practices

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ABSTRACT

This research looks at the effects of board attributes and corruption control on ESG performance and controversies in GCC firms using 1,487 firm-year observations between 2010 and 2023. It takes a two-fold approach by examining both positive (ESG performance) and negative (ESG controversies) aspects, as they co-exist in companies. It reveals that effective corruption control has a positive impact on ESG performance and a negative impact on controversies. Board characteristics - including diversity, independence and size - are also important for sustainability. Corruption control improves governance, reduces fraud and fosters sustainable business practices. The research provides important lessons for policymakers and business leaders in the GCC, highlighting that strong governance and transparent corporate practices are key to achieving sustainability and enhancing corporate integrity.

Keywords: Board Characteristics, Corruption Control, ESG, Gulf Cooperation Council, Corporate Governance

JEL Classification: G34, M14, K42

1. INTRODUCTION

The governance structure of boards is a key element of corruption control and ESG practices in GCC companies. Good boards promote transparency, accountability and ethical oversight, which in turn foster trust, and better sustainability (Al-Sayegh et al., 2020; Davies, 2016). In the Gulf, where governance issues exist, ineffective boards may perpetuate greenwash and unethical practices, leading to value destruction (Nirino et al., 2021; Klijn, 2008). Examining governance from a bi-polar lens - it considers both ESG performance and ESG controversies - provides a more holistic view.

Governance is a vital link between corruption and ESG performance. Effective governance mechanisms ensure adherence to anti-corruption regulations, enhance compliance, and facilitate the shift to sustainable operations (Previtali and Cerchiello, 2023; Spyromitros and Panagiotidis, 2022). Yet weak governance,

especially in emerging markets such as the GCC, could hinder ESG practices and facilitate corruption (Chen et al., 2022). Thus, the control of corruption is contingent upon institutional and regulatory settings.

A sophisticated approach is needed to understand governance. Instead of a one-dimensional approach, governance should be conceptualised in terms of responsibility (ESG adoption) and irresponsibility (ESG controversies). Both are sought after simultaneously, so it is critical to consider them together (Armstrong and Green, 2013). Effective governance practices can improve ESG performance and limit (but not eliminate) controversies.

While there is increasing global interest, there is little research on the combined effects of board characteristics and corruption control on ESG performance in the GCC. Our research fills this gap with panel data of 1,487 firm-year observations

(2010-2023) using robust and rigorous analysis that controls endogeneity.

Results show that companies with effective corruption control have better ESG outcomes and less controversy. Board diversity, independence and expertise play a crucial role in improving governance and sustainability. This study suggests that good governance encourages not only good practices but also reduces the risk of misconduct.

This dual-faceted perspective adds to the literature by considering governance, integrity and ESG. It provides insights for policymakers, regulators and managers of GCC firms to highlight the critical role of effective governance in improving sustainability, mitigating corruption risks, and contributing to organisational resilience.

2. CONCEPTUAL BASIS AND HYPOTHESIS CONSTRUCTION

2.1. Theoretical Foundations

Our research builds on stakeholder theory, which argues that corporations need to address the interests of multiple stakeholders such as shareholders, employees, regulators, customers and the community to maintain legitimacy and sustainability (Mahajan et al., 2023; Freeman and Velamuri, 2023; Freeman, 2010; Friedman and Miles, 2002). In GCC countries, board features and mechanisms to control corruption are important governance mechanisms that align corporate behaviour with stakeholders' demands. They improve transparency, accountability, and corporate ethics, which in turn helps to promote ESG performance and mitigate the risks of misconduct and reputational loss (Manginte, 2024; Naciti, 2019). Research indicates that independent and diverse boards enhance governance and compliance, enhancing ESG practices (Tahmid et al., 2023).

Although previous research focused on board structure and corruption control individually (Jaggi et al., 2021; Linnenluecke, 2022), recent studies emphasise their interrelated nature (Marzouki et al., 2024). Boards that are effective and have robust anti-corruption measures not only ensure regulatory compliance but also enhance stakeholder trust by reducing corruption (Hoang, 2022; Chams and García-Blandón, 2019; Carr and Outhwaite, 2011). This holistic governance approach enables sustainable value creation (Elamer and Boulhaga, 2024).

Stakeholder pressures, driven by changing ethical, regulatory and investment trends, also promote ESG practices (Alodat and Hao, 2025; Khamisu et al., 2024). Research demonstrates that anti-corruption policies positively affect environmental performance (Chen et al., 2023; Weber et al., 2022), and that board diversity mitigates financial risks while improving ESG performance (Fathoni et al., 2025; Shakil, 2021). Stakeholder-focused governance also enhances board dynamics and reduces corruption risks (Homroy and Slechten, 2019; Nekhili et al., 2021), as well as improves sustainability outcomes (Cucari et al., 2018; Chouaibi et al., 2022).

Yet, there is little research on these interactions in the Gulf Cooperation Council (GCC) economies, with diverse institutional settings (Previtali and Cerchiello, 2023; Khlif et al., 2016). This research fills this gap by exploring the role of board characteristics and corruption control on ESG performance and controversies, providing a holistic perspective on governance and support for sustainable business practices (Elsheikh et al., 2024; Marzouki et al., 2024).

2.2. Literature Analysis and Hypothesis Formulation

2.2.1. Governance quality and ESG effectiveness

ESG reporting has grown from a marketing strategy to a primary means of assessing company sustainability and informing investment strategies over the past few years. ESG reporting goes beyond financial performance to include social and environmental factors as vital drivers of long-term corporate value (Arvidsson and Dumay, 2022; Linnenluecke, 2022). Disclosure is crucial for understanding corporate sustainability, and ESG reporting is a key tool for stakeholders. Starting as voluntary, ESG reporting is now standardized and in some cases, mandated (Camilleri, 2015). This evolution responds to institutional and market pressures for reliable sustainability data.

This trend underscores a convergence of interests between the government, companies and society in sustainable development (Westman et al., 2019; Bäckstrand, 2006). Corporate governance is pivotal in incorporating ESG goals into corporate strategy and improving environmental and social outcomes (Yang et al., 2024; Nishitani et al., 2021). Yet, ESG performance is mixed across companies, sometimes affected by corruption and institutional factors. Corruption can skew sustainability efforts by misallocating resources, facilitating regulatory capture and obstructing compliance (Wei et al., 2024; Ahmed and Anifowose, 2024).

The link between ESG and the Sustainable Development Goals (SDGs) also highlights the need for governance, such as SDG 16, which prioritises transparency, accountability and anti-corruption (Hummel and Jobst, 2024; Sarkar et al., 2023; Bekaert et al., 2023; Hope, 2020). The relationship between anti-corruption and sustainability is not strong without adequate monitoring (Mugellini et al., 2021). Corruption-related activities, such as bribery and embezzlement, create systemic risks, skew decision-making and favour short-term returns at the expense of sustainability (Lopatta et al., 2017). These undermine reputation and hinder market and financing opportunities (Previtali and Cerchiello, 2023; Marchini et al., 2020; Lin and Chuang, 2016).

Improving governance and corruption control helps boost ESG outcomes. Robust regulation raises the costs of corruption and encourages compliance (Zhang, 2018; Wei and He, 2022), and better institutional quality facilitates environmental and social improvements (Hoang, 2022). We find that corruption has adverse impacts on ESG disclosure, but that strong cultures of integrity can offset these (Kahle et al., 2024).

In this study, we use a two-pronged approach to measure ESG outcomes, including both positive and negative aspects. ESG performance is assessed through firm ESG ranks (ESG scores)

and non-presence of controversies (Oyinlola, 2025; Chen et al., 2023; Elamer and Boulhaga, 2024). Likewise, corruption control is measured through the presence of anti-corruption mechanisms and the absence of corruption incidents. This allows a holistic understanding of corporate integrity and sustainability.

Drawing from this approach, Hypothesis 1 (H_1) looks at both the presence of anti-corruption mechanisms and the absence of corruption incidents to provide a balanced view of the effectiveness of governance in ESG outcomes.

Based on these discussions the following hypothesis was developed:

H_1 : Corruption affects ESG performance.

$H_{1.a}$: Stronger anti-corruption policies improve ESG performance.

$H_{1.b}$: Fewer corruption controversies enhance ESG performance.

2.2.2. Board composition and ESG outcomes

The nature of the board is a major driver in corporate sustainability and ESG performance. Specifically, board size can affect the scope of knowledge and direction within companies. The presence of larger boards may improve ESG outcomes by bringing more expertise and diversity of opinion to the boardroom (Fernández-Temprano and Tejerina-Gaite, 2020). But it's not a straightforward relationship. Research indicates that very large boards can slow down the decision-making process and decrease effectiveness of ESG due to coordination problems (Miranda et al., 2023; Odriozola et al., 2024). To account for this, previous research suggests incorporating both linear and quadratic terms for board size (Disli et al., 2022; García Martín and Herrero, 2019) to determine the optimal board size at which governance effectiveness peaks.

Another vital governance concern in the GCC is CEO duality. CEO duality, where one person holds both CEO and board chairman roles, can lead to power centralisation, potentially diminishing effective oversight and accountability, which impacts ESG reporting and ethics (Rossi et al., 2021; Pucheta-Martínez and Gallego-Álvarez, 2019). According to agency theory, this concentration leads to a short-term focus on profits over sustainability (Nekhili et al., 2021). Empirical research shows CEO duality is associated with reduced transparency and governance (Tang et al., 2018; Muttakin et al., 2018; Tuggle et al., 2010).

Board meeting frequency is used as an indicator of board involvement in sustainability. Regular meetings could demonstrate active governance, responsiveness to stakeholders, and positively impact ESG outcomes (Giannarakis, 2014; Hussain et al., 2018). But results are mixed, with some finding insignificant effects, perhaps reflecting “box-ticking” rather than genuine engagement (Birindelli et al., 2018; Suttipun, 2021).

Board independence also promotes effective governance through improved monitoring and stakeholder protection. Greater board independence leads to better ESG performance due to enhanced objectivity and accountability (Harjoto et al., 2019; Cucari et al., 2018; Owusu et al., 2025). The agency and stakeholder theories highlight the significance of independent directors in mitigating

agency conflicts and improving corporate credibility (Naciti, 2019; Campanella et al., 2021; Neville et al., 2019).

Based on this reasoning, the study have the following expectations that the study test.

H_2 : Corporate governance impacts ESG performance.

$H_{2.a}$: Board size influences ESG performance.

$H_{2.b}$: CEO duality affects ESG performance.

$H_{2.c}$: Number of board meetings impacts ESG performance.

$H_{2.d}$: Board independence influences ESG performance.

$H_{2.e}$: Board skills and background affect ESG performance.

$H_{2.f}$: Board gender diversity impacts ESG performance.

3. RESEARCH DESIGN

3.1. Dataset Characteristics

This research takes a closer look at the link between corporate governance, ethical practices and ESG among companies listed in six countries in the Gulf Cooperation Council (GCC) - Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates (UAE) - between 2010 and 2023. The study considers firms with a market capitalization of more than USD 100 million and draws data from Refinitiv Eikon. By carefully screening the sample, we removed 445 firm-year observations with incomplete financial and/or ESG information, leaving us with 1,487 firm-year observations.

We provide descriptive statistics (Table 1) of the sample. Panel B reveals Saudi Arabia (32.75%), UAE (28.85%) and Qatar (17.01%)

Table 1: Sample composition, country, and sector distribution

Details	Frequency	Percentage
Panel A: Sample selection		
Total firm-year observations (2010-2023)	1,932	—
Less: Observations with missing/incomplete data	−445	—
Final sample used for analysis	1,487	100.00
Panel B: Country of headquarters		
Bahrain	84	5.65
Kuwait	133	8.94
Oman	101	6.79
Qatar	253	17.01
Saudi Arabia	487	32.75
United Arab Emirates	429	28.85
Total	1,487	100.00
Panel C: Sector classification (GICS)		
Communication services	84	5.65
Consumer discretionary	147	9.88
Consumer staples	103	6.93
Energy	206	13.84
Financials	329	22.13
Health care	89	5.99
Industrials	287	19.30
Information technology	76	5.11
Materials	85	5.72
Real estate	51	3.43
Utilities	30	2.02
Total	1,487	100.00

Table 1 summarizes the final sample of 1,487 firm-year observations from 2010 to 2023, following the exclusion of entries with missing or incomplete data. It also details the country-wise and sectoral distribution of firms, with Saudi Arabia, the UAE, and Qatar representing the majority. The sample spans 11 sectors under the GICS classification, with the highest representation in Financials, Industrials, and Energy

are the most-represented countries, comprising almost 79% of the sample. Panel C shows the industry breakdown with financial firms (22.13%) and industrials (19.30%) and energy (13.84%) the largest industry groups.

3.2. Variable Descriptions

Our study uses a two-fold ESG measure with two dependent variables (Table 2). The first, ESG Overall Performance Score (ESG_Total), measures corporate sustainability performance, considering self-reported environmental, social and governance disclosures, which reflect sustainable investment and development (Friede et al., 2015). The second, Average ESG Controversy Score (Cont_Mean), assesses the lack of negative sustainability performance (excluding corruption controversies) with a higher score suggesting fewer controversies and more sustainable practices (Elamer and Boulhaga, 2024; Tonelli et al., 2024).

We consider two sets of independent variables: Corruption control and board characteristics. Corruption control is assessed using the

Anti-Corruption Policy Index (ACP_Index), which measures the firms' anti-bribery and anti-corruption policies in their internal codes (Wei et al., 2024; Cicchiello et al., 2025).

Board governance characteristics include CEO duality (CEO_Chair), board meeting frequency (BMeet_Freq), board size (BSize), board independence (BIndep_%) and gender diversity (BGender_%) which affect board governance quality and ESG performance (Fan et al., 2024; Issa, 2023; Rath et al., 2025).

Control variables include firm size (Ln_FirmAssets), leverage (Debt_Equity), profitability (ROA), firm age (Firm_Age), and audit quality (Big4_Audit), and industrial, country and year fixed effects (Elamer and Boulhaga, 2024; Candio et al., 2024; Freeman and Velamuri, 2023).

3.3. Analytical Framework

The study conducted the panel regression analyses in STATA 17. The Hausman test (Hausman, 1978) was used to determine whether the fixed effects (FE) or random effects (RE) models were

Table 2: Definitions of key variables

Factor	Identifier (symbol)	Calculation	Bibliography (references)
Dependent variables: ESG performance			
ESG overall performance score	ESG_Total	A comprehensive score assessing firm performance across Environmental, Social, and Governance pillars, based on company-reported disclosures.	Friede et al. (2015); Hanson and Sharpe, (2025)
ESG controversy score (average)	Cont_Mean	Average of controversy scores (excluding corruption-related issues) from EIKON, including diversity, workforce, environment, accounting, product quality, executive compensation, anti-competition, and consumer complaints. A value of 100 indicates no controversies.	Elamer and Boulhaga (2024); Tonelli et al. (2024)
Independent variables: Corruption control			
Anti-corruption policy index	ACP_Index	Measures the company's policy stance against bribery and corruption in its internal code of conduct, excluding legal enforcement data. Includes references to kickbacks, extortion, and improper payments.	Wei et al. (2024); Cicchiello et al. (2025)
Independent variables: Board characteristics			
CEO duality	CEO_Chair	Binary indicator (1=CEO also serves as board chair; 0=otherwise).	Rath et al. (2025)
Board meeting frequency	BMeet_Freq	Number of formal board meetings conducted during the fiscal year.	Fan et al. (2024)
Board size	BSize	Total number of directors serving on board at fiscal year-end.	Elamer and Boulhaga (2024)
Board independence ratio	BIndep_%	Percentage of independent (non-executive) board members relative to total board size.	Fan et al. (2024)
Board of gender diversity	BGender_%	Proportion of female directors on the company's board.	Issa (2023)
Control variables			
Firm size	Ln_FirmAssets	Natural logarithm of total firm assets, capturing the scale of operations.	Elamer and Boulhaga (2024)
Debt-to-equity ratio	Debt_Equity	Ratio of total liabilities to total shareholders' equity, representing leverage and capital risk.	Candio et al. (2024)
Return on assets	ROA	Net income divided by total assets, reflecting firm profitability relative to asset base.	Freeman and Velamuri, (2023)
Firm age	Firm_Age	Number of years since the firm's establishment or incorporation.	Elamer and Boulhaga (2024)
Audit quality	Big4_Audit	Dummy variable indicating whether the firm is audited by one of the Big Four auditing firms (1=Yes, 0=No).	Elamer and Boulhaga (2024)
Sector classification	Industry_Dummy	Dummy variables representing industry or sectoral affiliation of the firm.	—
Country classification	Country_Dummy	Dummy variables capturing country-level institutional, regulatory, and cultural differences.	—
Year classification	Year_Dummy	Time-fixed dummy variables to control macroeconomic and global year-specific effects.	—

most appropriate for the data. The models were estimated with the following specifications:

$$ESG_Total_{it} = \beta_0 + \beta_1 ACP_Index + \beta_2 BMeet_Freq + \beta_3 CEO_Chair + \beta_4 BGender_ \% + \beta_5 BSize + \beta_6 BSize^2 + \beta_7 BIndep_ \% + \beta_8 Ln_FirmAssets + \beta_9 Debt_Equity + \beta_{10} ROA + \beta_{11} Big4_Audit + Industry_{FE} + Country_{FE} + Year_{FE} + e_{it}$$

$$Cont_Mean_{it} = \beta_0 + \beta_1 ACP_Index + \beta_2 BMeet_Freq + \beta_3 CEO_Chair + \beta_4 BGender_ \% + \beta_5 BSize + \beta_6 BSize^2 + \beta_7 BIndep_ \% + \beta_8 Ln_FirmAssets + \beta_9 Debt_Equity + \beta_{10} ROA + \beta_{11} Big4_Audit + Industry_{FE} + Country_{FE} + Year_{FE} + e_{it}$$

4. RESULTS AND INTERPRETATIONS

4.1. Summary Statistics and Correlation Insights

Table 3 presents descriptive statistics for 1,487 firm-year observations. The ESG_Total score averages 57.432 (SD = 18.763), indicating moderate ESG engagement, while Cont_Mean (mean = 59.142, SD = 3.982) suggests relatively low levels of ESG controversies. The ACP_Index (mean = 54.983, SD = 21.305) shows substantial variation in anti-corruption policy adoption across firms.

Board characteristics reveal diversity in governance practices, with board meeting frequency (mean = 9.842, SD = 5.218), board size (mean = 9.551), independence (61.378%), and gender diversity (32.174%). Control variables indicate variation in firm size (Ln_FirmAssets mean = 15.208), leverage (Debt_Equity = 0.642), and profitability (ROA mean = 0.047). Firms are relatively mature (mean age = 24.116), and 82.1% are audited by Big Four firms, reflecting strong external oversight.

Correlation analysis indicates that ESG_Total is highly and positively correlated with firm size (Ln_FirmAssets = 0.55*), implying that larger firms have better ESG performance, probably because they have more resources and attract more attention from stakeholders. However, ESG_Total is negatively associated with Cont_Mean (−0.27*), which suggests an apparent paradox between higher ESG performance and greater controversy. This may be due to visibility-driven transparency and legitimacy gaps, with higher profile firms facing higher scrutiny and expectations.

Board independence (BIndep_%) is positively related to ESG_Total (0.21*), underscoring its impact on governance and sustainability. Other factors, such as Debt_Equity, BSize and BGender_%, show moderate correlations with ESG performance, indicating the impact of governance structures. Significantly, all correlation values are <0.60, and VIF values are <10 (Gujarati, 2004; Hair et al., 2013; Salmerón-Gómez et al., 2020), indicating no multicollinearity issues (see Appendix A1).

4.2. Regression Results

The regression results of corporate governance mechanisms and ESG performance are shown in Tables 4 and 5. Our models are all significant at $P < 0.01$, with adjusted R^2 between 0.25 and 0.41, suggesting modest explanatory strength.

Most notably, anti-corruption policies (ACP_Index) have a positive and robust impact on ESG. The coefficient varies from 0.175 (Model 1) to 0.148 (Model 7), indicating that companies with robust anti-corruption measures score better on ESG. CEO duality (CEO_Chair) has a negative significant effect (−1.14 in Model 2; −0.81 in Model 7), implying that CEO duality is associated with poor governance and ESG performance.

The frequency of board meetings (BMeet_Freq) has a positive impact (1.95 in Model 3; 1.73 in Model 7), reflecting the value of board activity. Board size (BSize) is positively associated but the quadratic term is negative and significant, suggesting diminishing returns to size due to coordination problems. Both board independence (BIndep_%) and gender diversity (BGender_%) are positive and significant, highlighting their benefits to governance.

Controls include firm size, which is consistently positive and significant, and audit quality (Big4_Audit) which is also positive. Leverage is generally negative but not significant, and profitability (ROA) is insignificant.

Table 5 presents factors affecting ESG controversies (Cont_Mean) as a proxy for irresponsible conduct. ACP_Index has a positive and significant coefficient, which implies that companies with better anti-corruption policy might be able to put in place measures to avoid or minimise the negative effects of ESG events.

As for governance variables, only board size (BSize) is consistently significant (with a positive coefficient). But the negative coefficient

Table 3: Statistical overview

Variable	Obs.	Mean	Min	Max	SD	CV	p25	p50	p75
ESG_Total	1,487	57.432	2.105	94.221	18.763	0.327	45.209	58.932	70.102
Cont_Mean	1,487	59.142	28.430	60.000	3.982	0.067	57.703	59.904	60.000
ACP_Index	1,487	54.983	0.000	81.750	21.305	0.388	41.205	55.667	70.894
CEO_Chair	1,487	0.291	0.000	1.000	0.454	1.561	0.000	0.000	1.000
BMeet_Freq	1,487	9.842	1.000	32.000	5.218	0.530	6.000	9.000	13.000
BSize	1,487	9.551	3.000	24.000	3.968	0.415	7.000	9.000	12.000
BIndep_ %	1,487	61.378	10.000	100.000	25.227	0.411	45.000	62.500	77.778
BGender_ %	1,487	32.174	0.000	80.000	14.862	0.462	22.222	30.000	40.000
Ln_FirmAssets	1,487	15.208	5.804	22.193	2.316	0.152	13.720	15.112	16.821
Debt_Equity	1,487	0.642	0.000	4.310	0.267	0.416	0.489	0.631	0.781
ROA	1,487	0.047	−6.912	12.405	0.965	20.532	0.018	0.066	0.133
Firm_Age	1,487	24.116	2.000	89.000	13.071	0.542	13.000	22.000	33.000
Big4_Audit	1,487	0.821	0.000	1.000	0.384	0.468	1.000	1.000	1.000

Table 4: Regression outcomes for ESG (fixed effects panel models)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
ACP_Index	0.175***						0.148***
CEO_Chair		-1.14**					-0.81**
BMeet_Freq			1.95***				1.73**
BSize				0.88**			0.83***
BSize ²				-0.031**			-0.028**
BIndep_%					0.11***		0.10***
BGender_%						0.14***	0.11***
Ln_FirmAssets	3.61***	4.28***	4.30 ***	4.12 ***	4.14 ***	4.15***	3.44***
Debt_Equity	-1.48	-2.01*	-1.98 *	-2.38**	-1.85	-2.13**	-1.58
ROA	0.037	0.052	0.05	0.049	0.049	0.014	-0.012
Big4_Audit		0.64**	0.58**	0.62 **	0.59 **	0.60**	0.53**
_cons	-7.82	-8.37	-8.18	-4.21	-11.12	-12.43	-17.34
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,487	1,487	1,487	1,487	1,487	1,487	1,487
Adj. R-squared	0.39	0.27	0.26	0.25	0.29	0.3	0.41
Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000

*, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. Fixed effects for sector and year are included in all models

Table 5: Regression outcomes for Av_Cont (random effects panel models)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
ACP_Index	0.009***						0.007**
CEO_Chair		0.045					0.052
BMeet_Freq			-0.005				-0.002
BSize				0.026**			0.302***
BSize ²				0.012			-0.015**
BIndep_%					-0.003		-0.003
BGender_%						0.008**	0.003
Ln_FirmAssets	-0.60***	-0.29***	-0.56***	-0.61***	-2.15**	-0.55***	-0.58***
Debt_Equity	-0.435*	-0.075	-0.396	-0.562*	-2.45	-0.403	-0.395
ROA	0.02	0.027	0.021	0.037	-0.018	0.023	0.034
Big4_Audit		0.62**	0.59**	0.57 **	0.60**	0.54**	0.56**
_cons	62.8	52.9	62.3	63.1	120.8	62.5	53.4
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,487	1,487	1,487	1,487	1,487	1,487	1,487
Adj. R-squared	0.21	0.4	0.2	0.21	0.09	0.2	0.42
Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000

*, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. Fixed effects for sector and year are included in all models

of the square term (BSize²) shows a nonlinear effect, suggesting that boards with a moderate size are more effective in curbing controversies than large boards, likely due to efficiency in coordination.

Big4_Audit (audit quality) and controversy scores also have a positive relationship, due to increased disclosure. The negative and significant coefficient of firm size (Ln_FirmAssets) suggests that larger firms are less controversial. Debt_Equity and ROA have negative and insignificant effects on ESG controversies.

4.3. Sensitivity Analyses

To control for endogeneity (reverse causality and autocorrelation), the paper uses Quasi-Maximum Likelihood (QML) estimation (taking Kripfganz, 2016 as a starting point), as shown in Table 6. Models have good fit and significance, supporting the results in the previous models. The lagged ESG performance (ESG_Total L1) is positive and significant ($\beta = 0.584$) confirming the persistence of ESG performance and the lagged controversy score (Cont_Mean L1) is positive ($\beta = 0.103$), implying that prior irresponsible practices affect future performance.

Crucially, ACP_Index is positive and significant in the two models (0.089; 0.025), confirming the positive impact of anti-corruption policies on ESG performance and controversies. Audit quality (Big4_Audit) has a positive impact on ESG performance (0.057), but is insignificant for controversies. CEO duality negatively affects ESG performance (-0.964), but board size has a nonlinear effect (BSize = 0.735; BSize² = -0.029*). Board gender diversity has a negative impact on controversies (-0.191) but is important in governance, while other controls are insignificant.

5. RESULTS INTERPRETATIONS

Our findings offer great insights from the governance tools that achieve corporate sustainability point of view in setting up best practices in Gulf Cooperation Council (GCC) countries. Long-term ESG performance is coupled with quality anti-corruption policies; indeed, it is the most successful predictor of responsible ESG practices in the industry. In all fixed effects panel regressions and QML analyses, ACP_Index is positively and significantly related to ESG scores (e.g., 0.175 in Model 1 and 0.089 in QML Model 1),

Table 6: Robustness check for endogeneity – quasi-maximum likelihood (QML) approach

Variables	Model 1: ESG_Total			Model 2: Cont_Mean		
	Coefficient	z-stat	P>z	Coefficient	z-stat	P>z
ESG_Total (L1)	0.584***	27.13	0.000	—	—	—
Cont_Mean (L1)	—	—	—	0.103***	4.970	0.000
ACP_Index	0.089***	8.94	0.000	0.025***	2.760	0.006
CEO_Chair	−0.964**	−2.54	0.011	−0.123	−0.48	0.634
BMeet_Freq	0.038	0.45	0.651	−0.013	−0.11	0.911
BSize	0.735***	3.12	0.002	0.219	0.710	0.476
BSize ²	−0.029***	−3.79	0.000	−0.007	−0.53	0.597
BIndep_%	0.049***	5.87	0.000	0.008	0.440	0.662
BGender_%	0.062***	4.9	0.000	−0.191***	−3.41	0.001
Big4_Audit	0.057***	3.11	0.002	0.016	0.640	0.521
Ln_FirmAssets	0.319	1.01	0.311	−1.351	−1.43	0.153
Debt_Equity	−0.593	−0.58	0.564	0.398	0.270	0.789
ROA	0.061	0.49	0.621	0.453	1.490	0.136
Firm_Age	0.008	0.41	0.679	−0.005	−0.32	0.748
Year fixed effect	Yes			Yes		
Observations	1,487			1,487		
Number of groups	985			985		
Prob>Chi ²	0.00			0.014		

*, **, *** denote significance at the 10%, 5%, and 1% levels, respectively. Fixed effects for sector and year are included in all models

implying that firms with a higher extent of internal anti-corruption practices tend to embrace sustainability principles together with disclosure transparency (Chen et al., 2022; Ahmed and Anifowose, 2024; Ghazwani et al., 2024). This component is a critical part of this study in line with global governance theory and suggests that regional compliance does not per se constitute a proper control of corruption, but it should be seen as one of the factors that contribute to a strategic approach to improvement of environmental, social and organisational practices (Carr and Outhwaite, 2011; Hope, 2020).

Likewise, the variable of anti-corruption is found to be significantly associated with ESG Controversies (0.007 in Model 7 and 0.025 in QML Model 2), suggesting that firms having effective governance systems can reduce the damages of unethical practices through quick actions or effective communication channels on actionable information (Elamer and Boulhaga, 2024; Hanson and Sharpe, 2025). Also, it shows the two dimensions of integrity policies: Improving ESG performance and limiting ESG risks (Cicchello et al., 2025).

The results on board governance are not as encouraging. Thus, it seems that CEO duality (CEO_Chair) is also related to poor ESG performance (−1.14 in Model 2 and −0.964 in QML Model 1), which paradoxically means that excessive CEO power may not help the sustainability and accountability (Harjoto et al., 2015; Rath et al., 2025). Conversely, board meetings (BMeet_Freq) are significantly and positively related to SR in main regressions (pod = 1.95 in Model 3); but this variable is not significant in QML regressions, reflecting that regular engagement of management helps mitigate ESG oversight but may not change outcomes in dynamic environments (Disli et al., 2022).

The coefficient of board size (BSz) has a U-shaped relationship with ESG, with the linear coefficient showing a positive level of significance of 1% (0.83 in M4 model and 0.735 in QML model), while in the quadratic model the coefficient is significant negative at 1% level (−0.028 and −0.029), as large boards may boost cohesion in the first instance but later on may be counterproductive

(Birindelli et al., 2018; Chams and García-Blandón, 2019). Table 3 delivers a similar message when it comes to controversy: Large boards are also more likely to be involved in ESG controversy than smaller boards, thus showing diminishing returns in board effectiveness (Agnese et al., 2023).

Finally, all models report board independence (BIndep_%) and gender diversity (BGender_%) as significantly positive factors in ESG performance, which is in line with previous international research that highlights the importance of the myriad perspectives of gender diverse and independent boards in advancing sustainable practices (Adams & Funk, 2012; Harjoto et al., 2015; Odriozola et al., 2024). Yet, few demographic board diversity characteristics are significant for controversy alleviation, and Bgender_% is the only negatively significant variable (QML Model 2: $\beta = -0.191$), proxying for gender diversity on boards and suggesting that boards with greater gender diversity are more likely to be effective at stamping out irresponsible or controversial practices (Fathoni et al., 2025; Godfrey et al., 2024).

Another governance level is audit quality (Big4_Audit). This is reflected in the findings, where it shows a consistent positive association with ESG scores (for instance, 0.64 in Model 2 and also with 0.057 under QML), suggesting that more external assurance has also been found as important in building trust and accountability (Camilleri, 2015; Darnall et al., 2022). This confirms the transparency hypothesis put forward by Elamer and Boulhaga (2024), that firms that have their financials audited by a Big 4 auditor are transparent in disclosing information on ESG controversy incidents rather than being more likely to have an ESG controversy.

We also observe that the firm size (Ln_FirmAssets) is positively and significantly associated with the ESG score and is negatively related with the incidence of controversy. One would expect corporate governance to drive out degradation and depletion of common resources because it is relatively easy to quantify the impact on financial statements, although governmental regulation

is likely needed (Johnson et al., 2009), but less so if firms are rewarded for depleting resources rather than managing resource flow sustainably (Agyei-Mensah and Buerter, 2019). Conversely, debt-equity ratios and ROA are not significant in all models; firm age is mostly insignificant, which suggests that financial variables may not play an important role in accounting for ESG circumstances in the GCC (Ghazwani, 2025).

Overall, this suggests the dual and complex nature of ESG governance in the Gulf. A gender diverse board as well as a board that has effective anti-corruption mechanisms, strong audit practices and sophisticated board structures are key elements to not only improve ESG practices but also to avoid ESG controversies related (Lopatta et al., 2017; Pucheta-Martínez and Gallego-Álvarez, 2019). On the other hand, they indicate that financial measures such as profitability or leverage are not as important. This is a key insight confirming the increasing need for institutional and regulatory reform in the Gulf to align corporate governance into global practices of sustainable development (Chouaibi et al., 2022; Giner and Luque-Vílchez, 2022). Corporations that invest in changing their boards and integrity systems, and transparency systems, are more likely to achieve sustainable growth with stakeholders' confidence as ESG environment evolve under regulatory agencies at regional levels (Freeman, 2010; Bekaert et al., 2023).

6. CONCLUSION

This research explores the relationship between board governance, anti-corruption measures and ESG performance in firms in the Gulf Cooperation Council (GCC) employing a balanced sample of 1,487 firm-year observations between 2010 and 2023. A two-pronged approach is used to understand both positive and negative ESG practices, providing a holistic view of ESG strategies within governance frameworks.

Our findings highlight that corruption control is a powerful predictor of better ESG performance. Companies with effective corruption control and ethical governance frameworks have better ESG performance, highlighting the importance of integrity and transparency. Board attributes, such as diversity, independence and expertise, also have positive impacts on ESG performance, while frequency of board meetings does not significantly influence ESG. This implies that effectiveness in governance is more related to board strategy and ethics than to the number of meetings.

Although ESG is increasingly important, reporting practices across the GCC are diverse and largely voluntary during the study period, and cannot be compared. These insights demonstrate the importance of standardised ESG reporting in line with international standards to improve reporting consistency and transparency.

The research advocates for governance reforms in the GCC to strengthen anti-corruption measures and integrate sustainability into corporate governance. Such initiatives are essential for enhancing ESG performance and managing reputational and regulatory risks. This is crucial to enhance ESG performance and to reduce reputational and regulatory risks. This study bridges the gaps between governance, integrity and sustainability to contribute

to the existing literature and offer guidance to policymakers and business leaders. It further supports national development plans such as the Saudi Vision 2030, Qatar National Vision 2030, and the UAE Green Agenda 2030, by stressing that achieving sustainability in the region requires ongoing governance and integrity reforms.

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APPENDIX A

Appendix A1: Pearson correlation matrix

Variable	ESG_ Total	Cont_ Mean	ACP_ Index	CEO_ Chair	BMeet_ Freq	BSize	BIndep_ %	BGender_ %	Ln_ FirmAssets	Debt_ Equity	ROA	Firm_ Age	Big4_ Audit
ESG_Total	1												
Cont_Mean	-0.27***	1											
ACP_Index	0.47***	-0.05**	1										
CEO_Chair	0.06**	-0.01	0.02	1									
BMeet_Freq	0.19***	-0.15***	0.14***	0.08***	1								
BSize	0.39***	-0.22***	0.15***	0.11***	0.41***	1							
BIndep_ %	0.21***	-0.06**	0.11***	-0.13***	0.07**	-0.16***	1						
BGender_ %	0.26***	0.03*	0.10***	0.07**	0.13***	0.15***	0.18***	1					
Ln_FirmAssets	0.55***	-0.30***	0.25***	0.01	0.29***	0.49***	0.17***	0.21***	1				
Debt_Equity	0.19***	-0.09***	0.12***	0.03*	0.06**	0.20***	-0.03	0.04**	0.24***	1			
ROA	0.06***	0.01	0.05**	0.01	-0.04*	0.03*	0.02	0.02	0.05**	0.03	1		
Firm_Age	0.12***	-0.05**	0.09***	0	0.07**	0.18***	0.08***	0.10***	0.22***	0.04**	0.02	1	
Big4_Audit	0.17***	-0.01	0.13***	-0.01	0.09***	0.20***	0.09***	0.08***	0.25***	0.07**	0.04**	0.06**	1

***p<0.01, **p<0.05, *p<0.10. All values reflect Pearson correlation coefficients