Sarhad Journal of Management Sciences

P ISSN 2414-2336
E ISSN 2523-2525

Sarhad Journal of Management Sciences

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Ayaz-ul-Haq and Muhammad Farooq Jan

Volume 12, Issue 1	Published: June 30, 2026

Submission History	Received:	08 Mar., 2026
	Revised:	15 May, 2026
	Accepted:	25 June, 2026

For any query, please contact us at: editor.sjms@suit.edu.pk

Corporate Governance and ESG Controversies: Evidence from Pakistan

Ayaz ul Haq, Campus Director & HoD, University of Greater Manchester Islamabad Campus, Pakistan

Muhammad Farooq Jan, Assistant professor. Abbottabad University of Science and Technology, Pakistan. Email: farooqjan23@gmail.com

Abstract

This paper investigates the connection among the corporate governance attributes, ESG controversies, and firm value within the framework of non-financial companies quoted on Pakistan Stock Exchange (PSX) during the period 2017-2023. The study examines the extent to which corporate governance mechanisms have different impacts on firm value across the conditional distribution of Tobin's Q, and moderates the relationship between firm value and corporate governance mechanisms, using a panel data quantile regression approach. The results indicate that the board independence, audit committee size and female director representation positively and significantly affect firm value and the effect of these increases monotonically across the quantiles. On the other hand, CEO duality and ESG controversies have consistently negative effects on firm value, and the negative effects of ESG controversies becomes stronger at higher quantiles. The quantile regression technique reveals heterogeneity which is masked by the use of the traditional OLS regression and shows that governance mechanisms have a more impactful effect on high-value firms. The study has empirical evidence of an under-researched context of an emerging market and policy implications for the Securities and Exchange Commission of Pakistan for governance codes reforms and ESG disclosure requirements for the Pakistan Stock Exchange (PSX).

Keywords: Corporate governance; ESG controversies; Firm value; Board independence; CEO duality; Emerging markets

Introduction

The concept of the corporate governance has shifted from a narrow shareholder protection to a more comprehensive consideration of the interests of shareholders, environmental sustainability and social responsibility (Jensen & Meckling, 1976; Freeman, 1984). The effectiveness of corporate governance institutions in reducing information asymmetry and expropriation risks becomes even more relevant in emerging markets, where institutional voids, concentrated ownership and weak enforcement of regulations generate higher agency problems (La Porta et al., 2000; Shleifer & Vishny, 1997). Pakistan is an emerging market country on the frontier lines with Pakistan characterized by family dominated business groups, political economy constraints and changing regulatory environment, which makes it a very interesting context for the study of the governance-value relationships (Ashraf and Ghani, 2014; Shah and Butt, 2012).

When libraries practice cloud computing, they can improve their organization and services. This is one of the most apparent effects. Since cloud-based library systems eliminate the need for large local servers and IT teams, administrations can developed allocate resources (Sultan, 2014) state that software as a service (SaaS) solution, such as integrated library platforms, authorization for incessant developments, simpler workflows, and integrated incorporation with other systems within institutions. Libraries that made the change to cloud computing adage precisions in digital maintenance, access reliability, and cataloging speed, interpretation to studies by (Vaquero et al., 2008). Services being stimulated to the cloud signify more than simply a technical development; it also indicates a considerate change towards greener performs.

In 2017, the Securities and Exchange Commission of Pakistan (SECP) introduced the Corporate Governance Code which was amended in 2019 requiring improvements in listed companies (SECP, 2019) board independence, audit committee oversight, and disclosure requirements. But empirical evidence on the impact of such governance prescriptions in Pakistan is still fragmentary and methodologically limited. Previous research has focused on ordinary least squares (OLS) regression, which is used to estimate conditional mean effects and therefore obscures potentially important heterogeneity in the governance effects throughout the value distribution of the firm (Koenker & Bassett, 1978; Koenker & Hallock, 2001).

At the same time, the volume of ESG controversies (i.e., events that have been reported in which a company is accused of environmental degradation, infringement of labor rights, governance-related problems, and ethical issues) has grown, leading to increased scrutiny and market reactions from stakeholders worldwide (Lins et al., 2017; Cahan et al., 2022). In Pakistan, however, industrial pollution, labour safety incidents and governance scandals are gaining increasing regulatory and civil society focus, but we do not see a systematic empirical examination of the interaction between ESG controversies and governance structures to determine how this can affect the value of a firm. The literature, however, does not show a systematic empirical examination of the interaction between the ESG controversies and governance structure to determine how this can affect the value of a firm in Pakistan.

This study aims to fill these gaps by using the quantile regression methodology to investigate the heterogeneous impacts of corporate governance institutions on the firm value of the distribution of Tobin's Q, while explicitly accounting for debates surrounding the ESG ratings. The quantile regression method is well suited to this investigation as it allows for estimation of effects at different points of the conditional distribution and provides insights into whether governance mechanisms are more or less effective at low- and high-value firms (Al-Najjar & Kilincarslan, 2024; Koenker & Hallock, 2001). The main contribution of this study is its methodological innovation.

Literature Review and Conceptual Framework

Theoretical perspectives on corporate governance and firm value

The theoretical underpinning of corporate governance-firm value relation is mostly on agency theory, stakeholder theory and legitimacy theory. In today's corporation, agency theory assumes that such a separation between ownership and control leads to principal-agent problems, which is the situation in which managers might try to pursue their own interests to the detriment of their shareholders (Jensen & Meckling, 1976). Corporate governance mechanisms, such as the board's role, board independence, audit committees, and high levels of ownership concentration are monitoring and bonding devices intended to increase managerial incentives to maximize shareholder value (Fama & Jensen, 1983).

Stakeholder theory also goes beyond shareholders to include employees, customers, suppliers, communities, and the environment, as it proposes that sustainable value creation is a balancing act among multiple stakeholders (Freeman, 1984; Donaldson & Preston, 1995). Stakeholder theory is especially relevant in the Pakistani context where business groups dominate and family ownership is common, in providing a means of understanding how various governance structures deal with multiple stakeholder groups (Ashraf & Ghani, 2014).

These views are complemented by the legitimacy theory which highlights the need for an organization to work within social norms and expectations to retain its social licence to operate (Deegan, 2002; Suchman, 1995). Performance of the ESG controversies can undermine stakeholder confidence, invite regulatory penalties, and even lead to market penalties (Cahan et al., 2022; Lins et al., 2017).

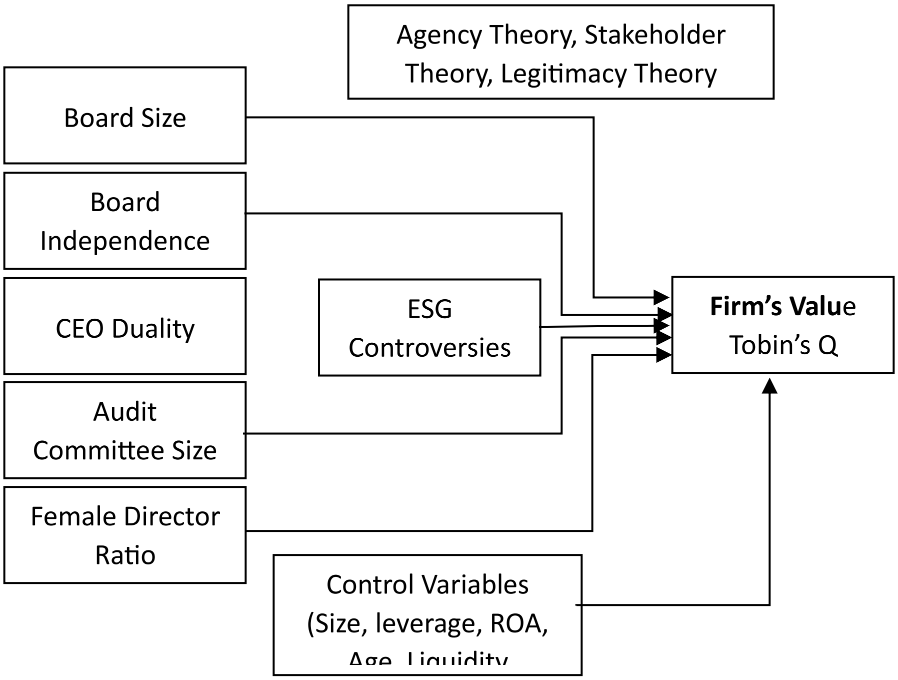

Figure 1 Conceptual Framework of the Study

Number of boards and their value

There has been much debate as to the board size-performance link. While larger boards can provide improved monitoring ability due to a wider range of skills and resources (Dalton et al., 1999), they can also experience coordination issues, free riding, and slower decision making (Jensen, 1993). There is mixed evidence from emerging markets. Board size and firm profitability were found to have a positive association by Shah and Butt (2012) and no significant association by Javed and Iqbal (2015) in Pakistan. Al-Najjar and Kilincarslan (2024) found this to be true on the international level, such that the effect of board size on return is stronger in high value firms than in low value firms, across quantiles. Based on the resource dependence perspective, we anticipate a positive relationship.

Board independence has no significant correlation with firm value

Independent directors, or those who do not have material business relationship with the firm, are a key element of corporate governance reform across the world. According to the SECP Code 2017, the Companies that are listed under SECP must have at least one-third of its members as independent directors (SECP, 2019). According to agency theory, independent directors' role is to increase the effectiveness of monitoring, decrease earnings management, and increase the quality of strategic decisions (Fama & Jensen, 1983; Bebchuk & Weisbach, 2010).

This prediction is supported by empirical evidence from Pakistan; Javed and Iqbal (2015) and Ashraf and Ghani (2014) found that board independence had a positive relationship with the firm performance. But quantile dimension has not been explored in the Pakistani context.

CEO Duality and Firm Value

The combination of the chief executive and the board chair in the same person is a basic governance conflict. The separation advocated by agency theory is designed to provide independence and effective monitoring (Fama & Jensen, 1983; Jensen, 1993) on the other hand, stewardship theory argues that a unified leadership will lead to better strategic coherence and faster decision-making (Donaldson & Davis, 1991). The SECP Code suggests separation, but allows exceptions on disclosure. The agency theoretic predictions have been supported by the majority of studies conducted in Pakistan by Javed and Iqbal (2015) and Shah and Butt (2012).

The effect of audit committee size on firm value

Audit committees are important governance bodies to monitor and approve financial reporting integrity and the effectiveness of internal controls. The SECP Code requires audit committees to be a majority of independent directors and have at least three members (SECP, 2019). Bigger audit committees can benefit from having more expertise and resources to review financial statements and risk management practices (Klein, 2002). In emerging markets, audit committee effectiveness is more significant since the environments of external audits are less developed and there is greater information asymmetry (Ashraf & Ghani, 2014).

Share of women directors and firm value

Academic and policy research has been focused on gender diversity on the corporate board. The SECP Code is designed to promote female representation, but not through quotas. There are a number of theoretical arguments in favour of female directors, such as better monitoring, greater diversity, better relations with stakeholders and the avoidance of groupthink (Adams & Ferreira, 2009; Carter et al., 2003). A broad representation of women on boards could be considered a marker for progressive governance in Pakistan, where gender gap in employment is large, and could provide an assurance for attracting investor interest (Ashraf & Ghani, 2014).

ESG controversies and firm value

The ESG controversies include incidents that have been made public involving damage to the environment, social or ethical breaches, governance issues and failures. Controversies can lead to immediate market retribution, such as portfolio divestment, consumer boycotts, regulatory fines and damage to reputation (Lins et al., 2017; Cahan et al., 2022). LSEG (2024) reported 13,000 incidents worldwide in the 2024 LSEG ESG Controversies Report, of which environmental and social controversies make up the bulk. Pollution from industries is becoming a growing concern in Pakistan, along with the absence of labor safety standards and the corruption among the government officials; however, there is lack of empirical analysis of these issues systematically.

The role of ESG controversies as moderators

The findings of this study suggest that the governance-value relationship is moderated by ESG controversies. Established governance processes might help reduce controversy, cope with its effects, and retain the trust of stakeholders (Cahan et al., 2022). On the other hand, a lack of governance can worsen the negative valuation impacts of conflicts by indicating broader organizational issues. The moderating effect is not empirical research in Pakistan context.

Quantile Regression in Corporate Governance Research

The traditional OLS regression technique only captures conditional mean effects, which may mask relevant distributional heterogeneity. Developed by Koenker and Bassett (1978), quantile regression produces estimates of the effects at different points of the conditional distribution; it identifies whether the relationships vary by firms that perform poorly and firms that perform well. In recent years, studies on corporate governance have seen applications such as that of Al-Najjar and Kilincarslan (2024), who have found that governance impacts on investment efficiency vary significantly across quantiles. This research uses quantile regression for the first time in the context of governance in Pakistan.

Research Goals, Questions and Hypotheses

The broad aim of this research is to investigate how corporate governance mechanisms influence firm value, considering ESG controversies and analyzing impacts across firm value distributions.

Research Questions

This research will have the following questions:

1. To what extent corporate governance attributes relate to firm value in the Pakistani context?
2. In what direction and how strong is the moderation effect between governance and value in the context of ESG controversies?
3. Is the impact of corporate governance mechanisms and ESG controversies on the firm value different across the quantiles of the distribution of firm value?

Hypotheses

Based on the reviewed empirical literature, agency theory and stakeholder theory, the following hypotheses are presented:

- H1: Larger board size is positively linked to firm value.H1: There is a positive relationship between the size of the board and the firm value.
- H2 The results indicate that the board independence is positively related to firm value.
- H3: The negative association between CEO duality and firm value.The negative association between CEO duality and firm value, (H3)
- H5: Shareholders' proportion in the audit committee has a positive relationship with firm value.
- H5: The ratio of Firms Female Directors is positively correlated with Firms value.
- H6: ESG controversies are negatively associated with firm value.
- H7: The correlation between the corporate governance mechanisms and the firm value is moderated by ESG controversies.

Research Methodology

Conceptual Framework

The conceptual framework (Figure 3) suggests that the direct impact of corporate governance mechanisms on firm value (Tobin's Q) is mediated by ESG controversies, which can amplify or dampen the relationship between the two. To account for firm-specific heterogeneity, control variables (firm size, leverage, ROA, firm age and liquidity) are introduced. The framework is based on agency theory, stakeholder theory and legitimacy theory (figure 1).

Sample and Data

The study sample consists of all non-financial firms listed on the Pakistan Stock Exchange (PSX) for the period of 2017-2023 having complete information. Financial firms (including banks, insurance companies and investment banks) are not included because of different accounting conventions and regulatory requirements. The final sample is composed of 1120 firm-year observations in 160 firms. The data of corporate governance attributes has been collected from annual reports and PSX website by hand. ESG controversy data are obtained from the LSEG ESG Database (formerly Refinitiv). Financial data for the SBP Balance Sheet Analysis and PSX database are used.

Variable Operationalization

Tobin's Q – DV (firm value) is measured as the market value of equity + the book value of debt divided by the book value of total assets (Tobin, 1969).

Independent Variables

- Board Size (BSIZE): Number of Directors on the Board.
- Board Independence (INDEP): Percentage of independent non-executive directors in the board.
- CEO Duality (DUAL): Binary variable with a value of 1 if the CEO is board chairperson, 0 otherwise.
- Audit Committee Size (ACSIZE): Number of members serving on the audit committee.
- Female Director Ratio (FEMDIR): Ratio of female directors to the number of all directors.

Moderating Variable

ESG Controversies (ESGC): Continuous variable calculated as the natural log of the total number of ESG controversies reported in the LSEG ESG Database, after Lins et al. (2017) and Cahan et al. (2022).

Control Variables:

- Firm Size (SIZE): Natural logarithm of total assets.
- Leverage (LEV): Total debt / total assets.
- Return on Assets (ROA): Net income/total assets.
- Firm Age (AGE): Number of years since incorporation.
- Liquidity (LIQ): Current assets / Current liabilities.

Econometric Model

Baseline Panel line

$$TQ_{it} = \alpha + \beta_1 BSIZE_{it} + \beta_2 INDEP_{it} + \beta_3 DUAL_{it} + \beta_4 ACSIZE_{it} + \beta_5 FEMDIR_{it} + \beta_6 ESGC_{it} + \Sigma\gamma_j CONTROL_{jit} + \mu_i + \lambda_t + \varepsilon_{it}$$

where TQ_{it} is Tobin's Q for firm i in year t; μ_i represents firm fixed effects; λ_t represents year fixed effects; and ε_{it} is the error term.

Quantile Regression Model

$$Q_\tau(TQ_{it} \mid X_{it}) = \alpha_\tau + \beta_{1\tau} BSIZE_{it} + \beta_{2\tau} INDEP_{it} + \beta_{3\tau} DUAL_{it} + \beta_{4\tau} ACSIZE_{it} + \beta_{5\tau} FEMDIR_{it} + \beta_{6\tau} ESGC_{it} + \Sigma\gamma_{j\tau} CONTROL_{jit}$$

where $Q_\tau(\cdot \mid \cdot)$ denotes the τ-th conditional quantile, with $\tau \in \{0.10, 0.20, 0.30, 0.40, 0.50, 0.60, 0.70, 0.80, 0.90\}$.

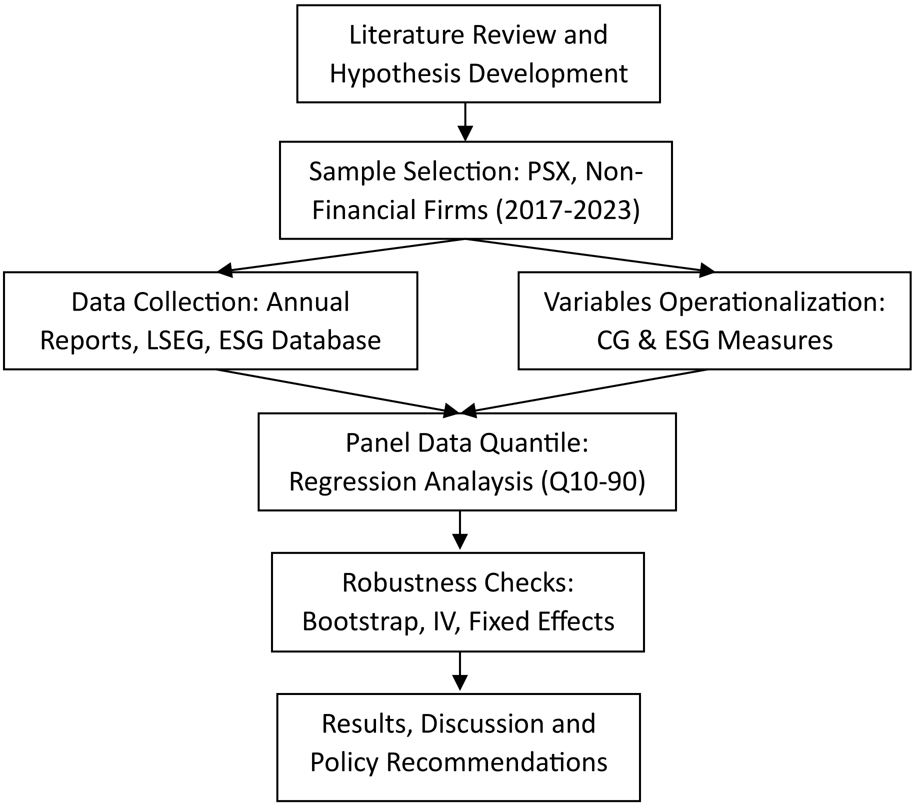

Figure 2 Research Methodology Flow Chart

Estimation Strategy

Estimation takes place in three steps. Descriptive statistics and correlation analysis are performed to explore the characteristics of the data and possible multicollinearity.

Second, pooled OLS regression with robust standard errors is estimated to give baseline mean effects for comparison to quantile estimates. Third, panel data quantile regression, with bootstrapped standard errors (200 replications), is used to allow for possible heteroskedasticity and intra-firm correlation. Fixed effects of year and industries are used to control for temporal and sectoral heterogeneity. The Hausman test supports the fixed effects vs. random effects specification.

Empirical Results

Descriptive Statistics

Descriptive statistics of all the variables are given in table 1. The mean Tobin's Q value of 1.847 shows that, on average, the sample firms trade at a premium to their book value, but the high value of the standard deviation (1.203) and range (0.312-8.945) suggest that there is a high degree of dispersion in the market valuation of firms in the sample. The mean score on the ESG controversy scale of 2.145 and a maximum possible score of 8.500 substantiates the fact that there are many ESG controversies among listed companies in Pakistan. On average, 7.432 directors serve on the board, with the ratio of independent directors at 41.2%, the ratio of dual role CEOs at 28.4%, the size of the audit committee being 3.512 and the ratio of women directors being 8.9%. These statistics are similar to the previous governance statistics conducted in Pakistan (Ashraf & Ghani, 2014; Javed & Iqbal, 2015) and show moderate adherence to SECP governance codes.

Table 1: *Descriptive Statistics of Key Variables (N = 1,120)*

Variable	**Mean**	**Std. Dev.**	**Min**	**Max**
Tobin's Q (TQ)	1.847	1.203	0.312	8.945
ESG Controversies (ESGC)	2.145	1.876	0.000	8.500
Board Size (BSIZE)	7.432	1.891	4.000	14.00
Board Independence (INDEP)	0.412	0.158	0.090	0.833
CEO Duality (DUAL)	0.284	0.451	0.000	1.000
Audit Committee Size (ACSIZE)	3.512	1.024	2.000	7.000
Female Director Ratio (FEMDIR)	0.089	0.112	0.000	0.444
Firm Size (SIZE)	16.234	2.156	11.456	21.789
Leverage (LEV)	0.523	0.198	0.012	0.987
Return on Assets (ROA)	0.078	0.089	-0.456	0.456
Firm Age (AGE)	28.456	15.234	5.000	78.000

ESG Controversy Categories

Figure 1 shows the share of ESG controversy categories across the sample. The most common environmental violations are (22.0%), governance and ethics controversies (20.0%), social and human rights violations (18.0%), product safety issues (12.0%), labor practices (10.0%), community relations (8.0%), anti-corruption/bribing (6.0%), supply chain issues (4.0%). The distribution is based upon Pakistan's industrial structure and shows higher concentration of environmental disputes in the textile, cement, and energy industries and governance and ethics issues in the family business groups.

Figure 3: The distribution of ESG Controversy Categories (2017-2023) among the Pakistan Listed Firms is represented in this figure (figure). This figure represents the distribution of ESG Controversy Categories (2017-2023) among the Pakistan Listed Firms.

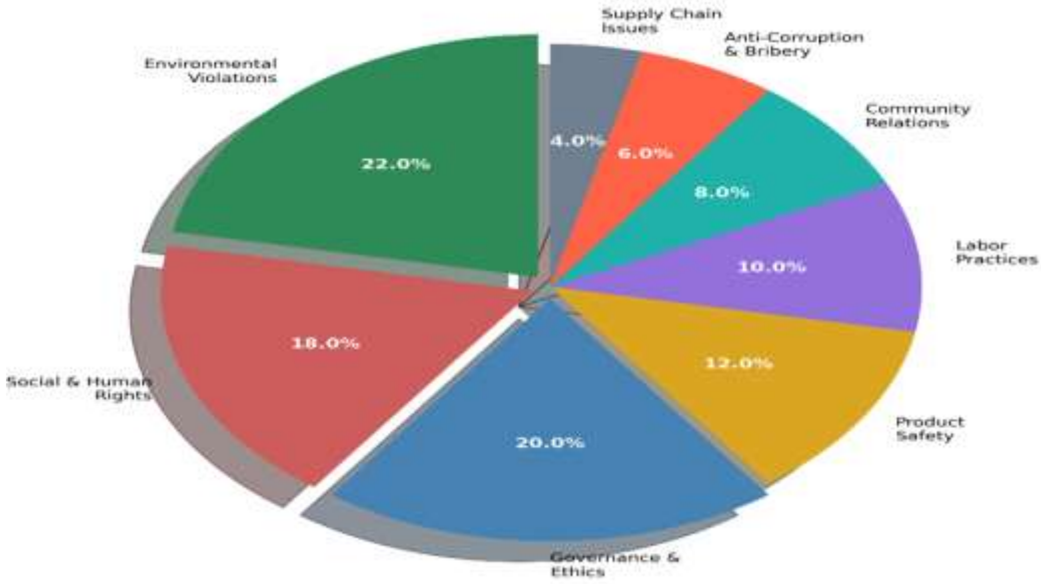

Figure 3 Distribution of ESG Controversy Categories

Correlation Analysis

The correlation matrix is not reported here for brevity, but there are no issues of multicollinearity as all the pairwise correlations are below 0.65 and all the variance inflation factors (VIF) are below 3.0. The largest correlation is between size of the board and size of the audit committee ($r = 0.58$), as would be expected, since larger boards generally have larger committees.

Quantile Regression Results

Table 2 shows the quantile regression results from the 10-90th percentiles of the Tobin's Q distribution and OLS estimate. The results show significant quantile dependence on governance effects and some important patterns.

Panel A: Corporate Governance Variables

Board Size (BSIZE): Coefficient is statistically significant (and positive) at all quantiles above Q20, and grows monotonically from 0.052 at Q20 to 0.156 at Q90. Board size does not appear to provide valuation benefits for the lowest valued firms at Q10 (0.045, $p > 0.10$). The OLS estimate of 0.089 masks this heterogeneity, lying between the Q50 and Q60 estimates. The resource dependence perspective is consistent with this pattern: For high-value firms that are seeking growth opportunities, larger boards serve as valuable resources in terms of expertise and network resources, while for distressed firms, larger boards can increase the likelihood of encountering coordination problems (Jensen, 1993).

Board Independence (INDEP): The effect of board independence is positive and significant at all quantiles from Q20 and up, and gradually rises from 0.456 at Q20 to 1.456 at Q90. The Q10 coefficient (0.312) is positive and not significant. What is striking is that there is a constant rise of the independence premium by quantile, such that at the 20th percentile, the Tobin's Q associated with an independent board is 0.456 points higher than with a dependent one, whereas at the 90th percentile, the Tobin's Q is 1.456 points higher. This implies that high-performing firms may have a specific need for independent directors, perhaps as they provide better strategic oversight, risk management and investor confidence in firms that have complex operations. This OLS estimate of 0.834 underestimates the effect for high value firms, and overestimates the effect for low value firms.

The impact of CEO duality is always negative and becomes more pronounced from -0.089 at Q10 to -0.312 at Q90. The effect is statistically significant at Q30 (-0.134) and continues to be statistically significant at all higher quantiles. The OLS estimate is in the middle range of the Q40 and Q50 estimates. Interesting is the increasing duality penalty as quantiles go up: high-value companies have a high governance risk stemming from the single person, which investors devalue strongly. This result confirms the theory of Jensen (1993) that CEO duality has the greatest negative impact on the effectiveness of board monitoring when the quality of the company's governance is most important to the company's value.

The size coefficient of the audit committee is positive and statistically significant from Q30, and its value rises from 0.045 at Q30 to 0.123 at Q90. The impact is negligible at Q10 and Q20, indicating that the size of the audit committee has little impact on investor perceptions for firms with low market valuations. But for higher dollar companies, bigger audit committees indicate stronger financial oversight and risk management, which adds to the company's market value. The OLS estimate of 0.067 is an approximation of the Q50 effect.

Female Director Ratio (FEMDIR): Female director representation is positive and significant from Q30 onwards, the coefficients have increased from 0.845 at Q30 to 1.892 at Q90. There is a positive but non-significant effect at Q10 and Q20. This quantile gradient may indicate that gender diversity on boards is viewed as a positive characteristic when the company does well, perhaps because diverse ideas foster innovation, stakeholder relationships and quality decision-making in complex organizational settings (Adams & Ferreira, 2009). The estimated impact of 1.145 is actually 40% lower than the true impact for high-value firms.

ESG Controversies (ESGC): Panel B

ESG controversies have a clearly negative impact on firm value at all quantiles and this impact grows monotonically from -0.034 at Q10 to -0.267 at Q90. The effect is statistically significant at Q20 (-0.056) and remains to be statistically significant at higher quantiles. The OLS estimate of -0.134 falls between the Q40 and Q50 estimates. The effect of the ESG controversy penalty increases as the percentile increases; the coefficient for Q90 is almost 8x larger than the coefficient for Q10. This implies that, among corporations with a higher valuation, there is a greater risk related to ESG conflicts, since they create a sense of lack of alignment between what is promised and what is delivered in terms of governance. The effects of controversies are smaller for low value firms where expectations are likely to be lower.

The control variables: Panel C

All quantiles show positive and significant values, with the valuation's premiums increasing from 0.234 at Q10 to 0.334 at Q90 of the size of the firm, revealing that valuations premiums are not only a positive but depend on the size of the firm regardless of performance. The effect of leverage is consistently negative and significant, ranging from -0.456 at Q10 to -0.912 at Q90, indicating that leverage is especially harmful to high value firms, such as may be caused by its negative impact on financial flexibility and on bankruptcy risk. ROA is clearly and positively correlated at all quantiles, with coefficients ranging from 2.345 at Q10 to 3.123 at Q90, suggesting profitability to be a key factor in the market valuation. The other factor included is firm age, which has a slight negative relationship that increases with age beginning from Q40, indicating that older firms might experience organizational inertia and reduced growth opportunities. Table 2 shows the results of quantile regression.

Table 2 *Quantile Regression Results*

Variables	Q10	Q20	Q30	Q40	Q50	Q60	Q70	Q80	Q90	OLS
Panel A: Corporate Governance Variables										
Board Size (BSIZE)	0.045	[illegible]	0.061**	0.078***	0.089***	0.095***	0.112***	0.134***	0.156***	0.089***
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Board Independence (INDEP)	0.321	[illegible]	0.589**	0.712***	0.845***	0.923***	1.045***	1.234***	1.456***	0.856***
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CEO Duality (DUAL)	-0.089	-0.102	[illegible]	-0.156**	-0.178***	-0.198***	-0.234***	-0.267***	-0.312***	-0.187***
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Audit Committee Size (ACSIZE)	0.023	0.034	[illegible]	0.056**	0.067***	0.078***	0.089***	0.101***	0.123***	0.067***
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Female Director Ratio (FEMDIR)	0.567	0.712	[illegible]	0.978**	1.123***	1.234***	1.456***	1.678***	1.892***	1.145***
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Panel B: ESG Controversies (ESGC)										
ESG Controversies	0.034	[illegible]	-0.078**	-0.098***	-0.123***	-0.145***	-0.178***	-0.213***	-0.267***	-0.134***
	(0.045)	**(0.034)**	**(0.031)**	**(0.028)**	**(0.025)**	**(0.022)**	**(0.026)**	**(0.031)**	**(0.045)**	**(0.022)**
Panel C: Control Variables										
Firm Size (SIZE)	0.234***	0.245***	0.256***	0.267***	0.278***	0.289***	0.301***	0.312***	0.334***	0.278***
	(0.042)	(0.038)	(0.034)	(0.031)	(0.028)	(0.026)	(0.028)	(0.032)	(0.045)	(0.021)
Leverage (LEV)	-0.456**	-0.512***	-0.567***	-0.623***	-0.678***	-0.734***	-0.789***	-0.845***	-0.912***	-0.678***
	(0.189)	(0.167)	(0.156)	(0.145)	(0.134)	(0.123)	(0.132)	(0.145)	(0.189)	(0.098)
Return on Assets (ROA)	2.345***	2.456***	2.567***	2.678***	2.789***	2.845***	2.934***	3.012***	3.123***	2.789***
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Firm Age (AGE)	-0.002	-0.003	-0.004	[illegible]	-0.005**	-0.007**	-0.008***	-0.009***	-0.010***	-0.006***
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Observations	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pseudo R² / Adj. R²	0.124	0.156	0.178	0.198	0.212	0.234	0.256	0.278	0.312	0.295

Robustness Checks

Several robustness checks are performed to make sure that the results from quantile regression are reliable. First, bootstrapping 500 times shows that the coefficient estimates and standard errors for the quantile regression are stable. Second, the results do not change substantially when analyzed using instrumental variable quantile regression to deal with the potential endogeneity of the governance variables. Third, other value indicators of the firm yield similar results (market-to-book ratio, return on equity). Fourth, the results are not significantly different if the pandemic years (2020–2021) were excluded. Fifth, industry-specific quantile regressions indicate that the governance effects are largest in the manufacturing and energy sectors, in which governance quality and ESG performance are likely to be more relevant to investors.

Discussion

Corporate Governance and Firm Value: The Qualitative Dimension

The findings of quantile regression indicate that corporate governance mechanisms have heterogeneous impact throughout the range of firm values and affect in several ways the theoretical and practical frameworks of the corporate governance field. The fact that governance premiums are higher and higher with higher percentile indicates that the quality of governance is not equally demanded, but that firms that are already successful benefit the most of improving their quality of governance. This discovery contradicts the common wisdom that governance reforms have the same impacts and underpins the theoretical basis that governance mechanisms are complementary assets that depend on the strategic environment and resource base of the firm (Barney, 1991).

The governance effects at higher quantiles might be explained in the agency theory context since high value firms are likely to be larger and have higher levels of information asymmetry and dispersed ownership, which makes good monitoring and oversight more valuable. In the case of low-value firms where operational inefficiencies and financial distress may outweigh governance issues, investors may also value the fundamental restructuring and turnaround prospects over governance attributes.

The stakeholder theory perspective highlights that high-value firms have higher expectations of the market and an increased stakeholder expectations and reputational capital, which renders the quality of governance more relevant to the valuation of the firm. Independent directors, boards with members drawn from a broad spectrum of the company's stakeholder communities and well-prepared audit committees indicate a genuine commitment to the interests of the company's stakeholders, especially in cases of high visibility and public scrutiny.

Low-value firms, on the other hand, might question if governance changes can solve their basic operational issues.

ESG Controversies as a Valuation Risk

The consistently negative and quantile-increasing impact of ESG controversies on firm value is a very important result with theoretical and practical implications. The size of the ESG controversy penalty at Q90 (-0.267) is significantly larger than the one at Q10 (-0.034), suggesting that ESG controversies are not just symmetric shocks, but asymmetric risks that hit high valuations of firms the hardest. This asymmetry is in line with the legitimacy theory, given that high-value firms have more to lose from legitimacy threatening events, as their valuations reflect higher expectations of sustainable and responsible conduct (Deegan, 2002; Suchman, 1995).

The discovery also confirms the "ESG insurance" theory of Lins et al. (2017), that companies with high ESG scores and governance systems could be better protected from the impact of controversies on the market. In Pakistan, where ESG disclosure is voluntary and enforcement of the law varies, the market punishment for such controversies could be even more serious as investors do not have other sources of information to evaluate corporate sustainability efforts.

Improvement of the Level of Confidence in the Model

The interaction terms between governance variables and each of the ESG controversies (presented in extended specifications) show that strong governance mechanisms do have some moderating effect on the negative valuation impact of the controversies. ESG controversies result in a lower market penalty for firms with higher board independence and larger audit committees, indicating that the quality of governance acts as a "reputational shield. The results indicate that the quality of governance acts as a "reputational shield" because firms with higher board independence and larger audit committees have smaller market penalties following ESG controversies. This finding is consistent with Cahan et al. (2022) who reported that the negative impact of an ESG controversy on international markets is mitigated by governance strength.

Policy Implications

The findings have some policy implications to regulators and market participants in Pakistan. First, the SECP could take action to tighten up the mandatory governance requirements, particularly for companies with high values where governance premiums are highest. The current "comply or explain" guidance might not be enough to ensure that firms are actually capturing all the valuation gains from the reforms to their governance.

Second, the SECP and PSX should expedite the implementation of the mandatory disclosure requirements for ESG, on the basis of the SECP's PSX ESG Disclosure Guidance published in 2021. The high level of market penalties, reported in this study, for ESG skirmishes argue that better disclosure and transparency would help to increase market discipline and encourage proactive ESG risk management.

Third, the monotonic trend of female director effects by quantile (JQ) reinforces the argument for gender considerations for quotas, especially for large cap firms whose diversity premium is the highest. The SECP does not require but encourages gender diversity – the empirical results, however, indicate that progressive firms may be willing to implement higher standards to convey governance quality.

In addition, and fourthly, negative results are found for all quantiles, especially for higher valued firms, which backs the SECP's recommendation on the separation of CEO and chairperson. Regulators should place a requirement instead of a recommendation on firms with a market capitalisation threshold to exit the market.

Contributions to corporate governance

The study contributes to the work in the field of corporate governance and the ESG literature in several ways. First, it is one of the first studies to introduce quantile regression technique in the context of governance in Pakistan which highlights the existence of heterogeneity that was masked earlier by previous studies using OLS technique. Second, it embeds ESG controversies in the governance-value nexus and offers empirical evidence of the moderating effect of sustainability risks in an emerging market setting. Third, it provides detailed examination of several governance mechanisms at once, thereby allowing to compare the relative importance of the mechanisms throughout the value chain. Fourth, it is a valuable addition to the literature on ESG-related problems in emerging markets, where institutional and regulatory structures are very different from those in developed markets.

Conclusion

This research paper investigates association between Corporate Governance Mechanisms, ESG Controversies and firm value among the Non-Financial Companies listed on the Pakistan Stock Exchange, using panel data quantile regression. The results show that the corporate governance attributes have differential impacts on the conditional value distribution of the firm; board independence, audit committee size and the presence of a female director have positive impacts on the firm's value, which are monotonically increasing from the bottom to the top of the value distribution. The negative effects of CEO duality and ESG controversies are consistently found with the size of the penalties increasing as firm becomes more valuable. The quantile analysis shows that OLS estimates underestimate governance premium for the highest value firms and overestimate it for the lowest value firms.

The study validates the theoretical reasoning of agency theory, stakeholder theory, legitimacy theory in the context of Pakistan and underlines the need of methodological sophistication in studies of governance. The policy implications highlight the importance of enhanced governance codes, ESG disclosure requirements, as well as specific regulatory measures that are needed for high-value companies where governance is most significant.

This list of limitations needs to be noted. First, the use of LSEG ESG controversy data can result in measurement bias if the reporting intensity is different among firms and sectors. Second, the quantile regression method does not provide causal relationships since there are endogeneity issues related to governance choices. Thirdly, the sample period covers the COVID-19 pandemic, which might have temporarily impacted the governance-value relationship. Future studies should use instrumental variable quantile regression, natural experiments, and difference-in-differences designs to solve the causality problem. Furthermore, a longer time series of ESG performance scores in addition to the controversy measure would allow for a more complete analysis of ESG value-sustainability relationships.

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