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## **RESEARCH PAPER**

## Impact of Corporate Governance on Firm Performance with Moderating Role of Leverage: A Study of Non-Financial Listed Firms on Pakistan Stock Exchange

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#### **ABSTRACT**

This study investigates the moderating role of leverage in the link between corporate governance variables and business performance using data from non-financial companies registered on the Pakistan Stock Exchange for the years 2018–2023. The findings show that performance is much enhanced by board size, independence, and experience, with firm size also having a substantial impact. As a moderating variable, leverage has a direct negative influence on performance, but it also mitigates the effects of governance variables like company age, board independence, and board meetings. The study emphasizes how crucial sound corporate governance is, as well as how leverage plays a complicated moderating role in influencing business performance. These results offer valuable perspectives for scholarly investigations and business operations in developing economies such as Pakistan.

### **KEYWORDS** Corporate Governance, Leverage, Firm Performance, Board Size

## Introduction

Corporate governance is the cornerstone of an effective business operation by ensuring accountability, transparency, and alignment of management actions with stakeholder interests (Efunniyi et al.2024). Corporate governance is important because it affects the company's image in the eyes of stakeholders and the public as it promotes cooperation and accountability within the organization and contacts with external stakeholders. It also promotes ethical business practices to show responsibility. So, corporate governance has the potential to improve the business environment and investment. The Human Resources Department is responsible for smooth business operations, its responsibilities include preparing and presenting committee papers, conducting audits, and conducting audits.

Moreover, Corporate governance has grown in importance in recent years. Corporate governance procedures have advanced because of the recent global financial crisis, the quick rise of privatization, and the growth of financial institutions. Improving corporate governance procedures is essential to raising company performance. Enhancing a company's reputation is one of the many facets of business operations that depend on effective corporate governance. boosting investor trust and lowering the possibility of fraud corporate governance's primary objective is to enhance corporate performance through the creation and upkeep of initiatives that support private information to increase the operational and commercial effectiveness of the organization. and long-term company growth Reduce the likelihood that business resources may be misused as explained by Guluma, (2021). In the context of modern corporations, the relationship between corporate governance and firm performance has garnered significant attention, with leverage emerging as a critical moderating factor. Leverage represents the extent of debt in a firm's capital structure, influencing how governance mechanisms impact decision-making, risk management, and overall firm outcomes. This

study seeks to explore how corporate governance practices interact with leverage to shape firm performance, providing insights into optimal governance and capital structure strategies. Despite extensive research on corporate governance and firm performance, the role of leverage as a moderating factor remains underexplored, particularly in emerging economies. Firms with similar governance structures often exhibit varying performance outcomes due to differences in leverage, suggesting that leverage may amplify or dampen the effects of governance mechanisms. However, there is limited empirical evidence to explain this interaction, leaving a critical gap in understanding how firms can balance governance and leverage to maximize performance.

#### **Literature Review**

Agency theory forms the foundation of corporate governance practices. Its central premise revolves around the contractual relationship between two parties: the principal (investor) who delegates authority and the agent (manager) who executes it. This dynamic often leads to agency conflicts due to the separation of ownership and control within corporations. Agency costs, which arise from these conflicts, are influenced by the resources under managerial control and their impact on capital structure (CS). Jensen (1986) argued that managers might take on debt to expand their control over resources, potentially incurring debt-related agency costs such as bankruptcy risks. In this scenario, corporate governance serves as a mechanism to align the interests of managers (agents) and shareholders (principals). The relationship between corporate governance and capital structure is well-documented (Borges Junior, 2022; Muzaffar, et. al., 2023; Muzaffar, et. al., 2024), as governance mechanisms can influence decisions regarding a firm's funding mix. Agency theory also posits that corporate governance and financial decisions, including CS, significantly affect firm value. CS is considered a strategic tool that shapes governance structures and enhances firm performance (FP) (Bashir et al., 2024). Agency problems are fundamental problems of corporate governance that arise when the interests of management and shareholders diverge. The board, which represents the shareholders, can achieve its goals regardless of which shareholders are the managers. This can lead to increased costs for the company, such as reduced productivity from damaged value and loss of reputation. So, the firm's performance is negatively impacted by agency problems which lead to misallocation of resources, various types of inefficiencies arise due to managerial decisions etc. Again, the firms' values become lower by higher cost of capital and lower shareholder's wealth.

Another theory explaining this is the trade-off theory of capital structure which says that a company's financial ratios are determined by considering the costs of bankruptcy versus the benefits of tax savings. This theory was developed in the early 1970s and, despite some major obstacles, is considered the most widely accepted description of a firm's capital structure. If the tax law allows a larger interest deduction, this theory predicts that corporate debt will increase along with the risk-free interest rate. Bankruptcy. Losses due to bankruptcy indicate a reduction in debt. Reducing the tax cut and increasing the risk-free interest rate will increase the equilibrium price of debt. The TOT predicts a positive relationship between profitability and debt usage, as profitable firms can afford higher interest payments, which reduces taxable income (Ponce et al., 2018). Additionally, fewer shares in circulation lead to increased earnings per share.

## **Corporate Governance and Firm Performance**

Khatib et al. (2021) investigated that the board size of the firm exerts a significant positive impact on the performance of the firm in the selected countries during Covid-19. They used data from 188 non-financial firms of Malaysia for the period of 2019-2020. Similarly, the research study conducted by Almashhadani & Almashhadani (2022) for Asian economies and confirmed that both size and composition of firm board has positive impact on performance of the firms in the respective region. Tobin's Q and ROA are both

indicators of financial success. They are provided by some corporate governance practices. These include the size of the board and independent directors. This result is consistent with Christensen et al. (2010) who also concluded that one way to solve agency problems is to reduce costs. This will help improve financial performance. The frequency of audit committee meetings does not show that these meetings have a negligible impact on Tobin's Q, but it does have a significant impact on ROA, which is a measure of financial performance as explained by Kyere & Ausloos (2021) by using data from UK firms. Effective corporate governance (CG) mechanisms play a pivotal role in enhancing firm performance (FP) by mitigating agency costs (Fama and Jensen, 1983). Empirical research underscores a direct relationship between robust CG practices and firm share prices in Pakistan, with varying levels of CG exhibiting distinct effects on share prices and overall performance (PeiZhi and Ramzan, 2020). Similarly, Teker and Yuksel (2014) observed a significant positive impact on share prices in Turkey, particularly on the first day of CG-related announcements.

## **Leverage and Firm Performance**

Alim et al. (2022) investigated that how leverage affects company performance in the fertilizer industry of Pakistan by including three types of leverages: operational leverage, financial leverage as well as combined leverage. They used data from the annual reports of five different firms operating in the fertilizer sector ranging from 2016-20. The results of the descriptive statistics show that the company's leverage has a significant impact on the return on assets. However, no clear relationship between a company and its return on equity has been observed. This proves that as the debt is increasing, the company's income is declining. Similar findings have been reported by Magli et al. (2018) for Indian fertilizer firms. Additionally, data from 424 non-financial firms based on Pakistan over the period of 2001-2017 were analyzed by Akhtar et al. (2022) to test the impact of financial leverage on the firm's performance by using short term debt, long term debt and total debt as an indicator of financial leverage. The findings from applying GMM confirmed that there exists an inverted U-shape relationship between the two indicators. Conversely, for Indian firms, Danso et al. (2021) added a new perspective by examining the relationship between financial strength and performance and provided direct evidence from a sample of 2,403 firms and 19,544 fiscal year observations by applying GMM. The results show that leverage reduces firm performance. Furthermore, large firms are less affected by operating leverage than small firms, suggesting that the recent global financial crisis had little impact on firms' debt-to-income ratios.

#### **Moderating Role of Leverage**

The interaction between governance and leverage can influence decision-making, risk management, and resource allocation. Strong governance may mitigate the risks associated with high leverage, while weak governance may exacerbate them. To check the impact of financial leverage on the performance of the firm by using operational leverage as a moderator, a study was conducted by Chen (2020) while using data from Chines firms. The results confirmed that higher financial leverages are adversely affecting the firm's performance. It implies that the debt has negative impact on the firms operating in China. Moreover, the impact of ownership structure and leverage on R&D spending and company performance has been analyzed by Hsu (2013). The findings indicate that increasing debt levels for research and development investment will increase the power of lenders by making complicated managerial decisions and as a result, the company's efficiency will be reduced. Again, the mediating role of financial leverage was studied by Kijkasiwat et al. (2022). Using survey data from 2,568 companies (2002-17) and applying the Generalized Method of Moments (GMM) with a two-stage dynamic panel design, the findings support that excessive leverage negatively affects corporate governance and organizational success. So, the Management should be responsible for sing minimum financial leverage to

improve company performance. Large management companies in developing countries have less influence than in industrialized countries.

## **Hypotheses**

- H1: There is a negative impact of corporate governance on non-financial firm performance.
- H2: There is no moderating role of leverage on non-financial firm's performance in Pakistan.

## **Conceptual Framework of Research**

The following outlay depicts our research model where we have displayed our dependent as well as independent variables. Firm leverage will act as a moderator in our model.

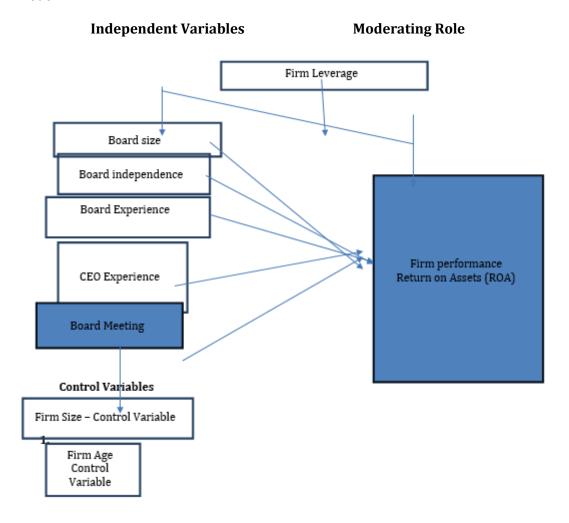


Figure 1 Conceptual Framwork

Table 1 Variables and Measurement

Variable	Variable Nature	Meaning	Measurement
ROA	DV	Return on Assets	Profit before tax divided by total assets.
KUA	DV	Return on Assets	ROA is a proxy for firm's performance
Board SIZE	IV	Committee Size	Total audit committee members
Board IND	) IV	Committee	Independent directors on committee
Doard IND	1 V	Independence	independent directors on committee
Board EXP	IV	Committee Experience	Members with education / experience in
DOGIU EXF	IV	Committee Experience	accounting or finance

Board MEET	IV	Frequency of Meetings	Meetings conducted during the year
CEO Exp	IV	Practical Experience	Number of years worked
FLEV	MV	Leverage Ratio	Total liabilities divided by total assets
FSIZE	CV	Company Size	Natural log of firm's total assets
FAGE	CV	Company Age	Natural log of company age

#### **Econometric Model**

For Regression Analysis, we have a model as follows,

$$ROA_{i,t} = \beta O + \beta 1BSIZE_{i,t} + \beta 2BIND_{i,t} + \beta 3BEXP_{i,t} + \beta 4BMeet_{i,t} + \beta 5CEO_{i,t} + \beta 6FLEV_{i,t} + \beta 7FSIZE_{i,t} + \beta 1FAGE_{i,t} + \mathcal{E}_{i,t}$$
 (1)

Where:

i= firm

t= time (year)

β= beta

 $\beta$ 0 = intercept

 $\varepsilon_{i,t}$  = Error term.

The description of the variable is given in the table.

Again, Econometric models for moderating analysis are given as

$$ROA_{i,t} = \beta O + \beta 1BIND_{i,t} + \beta 2FLEV_{i,t} + \beta 3(BIND^*\beta 2FLEV)_{i,t} + \mathcal{E}_{i,t} \qquad ....(3)$$

$$ROA_{i,t} = \beta O + \beta 1BEXP_{i,t} + \beta 2FLEV_{i,t} + \beta 3(BEXP^*\beta 2FLEV)_{i,t} + \mathcal{E}_{i,t}$$
 .....(4)

$$ROA_{i,t} = \beta 0 + \beta 1BM_{i,t} + \beta 2FLEV_{i,t} + \beta 3(BM^*\beta 2FLEV)_{i,t} + \mathcal{E}_{i,t}$$
 ....(5)

$$ROA_{i,t} = \beta O + \beta 1CEO EXP_{i,t} + \beta 2FLEV_{i,t} + \beta 3(CEO EXP^*\beta 2FLEV)_{i,t} + \mathcal{E}_{i,t}$$
 ----(6)

## **Data**

The data has been collected from the Pakistan Stock Exchange of 294 non-financial listed firms focusing on the period 2018-23. The advanced econometrics techniques: ANOVA and regression analysis have been done to test the results

## **Results and Discussion**

Table 2
Descriptive Statistics

Description	ROA	BSIZE	BIND	BEXP	CEOEXP	<b>BMEET</b>	FAGE	FSIZE	LEVE (M)
Mean	4.9872	7.849	1.44	2.98	1.410	5.217	36.2	8.436	0.555
Median	4.1179	7	1	3	1	5	33	8.441	0.549
Mode	19.894	7	1	2	0	4	15	6.373	0.923
S. Dev	0.2045	0.035	0.02	0.04	0.04	0.045	0.356	0.038	0.007
Minimum	8.8093	0	0	0	0	0	0	0	0
Max.	19.894	17	22	33	9	20	85	10	5
Skewness	0.1947	1.284	4.73	3.16	1.64	2.239	0.424	-1.03	6.842
Sum	8797	13847	2542	5260	2488	9203	63988	14822	980
Count	1764	1764	1764	1764	1764	1764	1764	1764	1764

Table 2 shows the summary statistics or output of our analysis. Here, we have reported various types of averages such as mean, median, mode etc. for all our variables;

they are dependent or independent. Moreover, Skewness values are also given, which are positively skewed except firm size. The values S.Dev of ROA and FAGE are more than other variables which implies that their values are more away from mean value.

Table 3
Correlation Analysis

					- , , -				
	ROA(D)	BSIZE	BIND	BEXP	CEOEXP	BMEET	FAGE	FSIZE	LEVE(M)
ROA(D)	1								
BSIZE	0.1635	1							
BIND	0.100	0.278	1						
BEXP	0.0879	0.130	0.10	1					
CEOEXP	-0.05	-0.07	-0.06	0.431	1				
BMEET	0.0753	0.06	0.05	-0.06	-0.024	1			
FAGE	0.0673	0.095	0.06	0.050	-0.068	-0.029	1		
FSIZE	0.296	0.238	0.14	0.131	-0.117	0.1342	0.05	1	
LEVE(M)	-0.34	-0.05	-0.02	0.00	0.0759	0.007	-0.10	0.012	1
			_						1

The above table reveals that Leverage (LEVE) exhibits the strongest negative correlation (-0.3417) with ROA, indicating that higher debt levels lower profitability, while Firm Size (FSIZE) has the strongest positive correlation (0.297), suggesting that larger firms typically perform better financially. The weak positive correlations between ROA and other variables, including Board Size (BSIZE), Board Independence (BIND), and Board Expertise (BEXP), suggest that these factors have little bearing on financial performance. Additionally, there is a very slight negative connection (-0.0513) with CEO Experience (CEOEXP). A relationship between board expertise and CEO experience is indicated by the somewhat positive correlation (0.4311) between Board Expertise (BEXP) and CEO Experience (CEOEXP). Overall, the most important elements influencing profitability are firm size and leverage, with other factors having lesser impact.

Table 4
Regression Analysis ANOVA Results without Moderator

					**-
	Df	SS	MS	F	Significance F
Regression	8	28289.84	3536.229	60.9607	4.23E-88
Residual	1755	1018046	58.00834		_

The incredibly small p-value (p<0.05) indicates that the regression model is statistically significant. As evidenced by the high F-statistic (60.96), the predictors account for a significant amount of the variation in the dependent variable. Nonetheless, the residual sum of squares (101,804.64) indicates that the model is still unable to account for a sizable portion of the variation in the dependent variable. To ascertain the precise contributions of each predictor, additional analysis may entail assessing each one separately.

Table 5
Regression Results

		regression results		
	Coefficients	Standard Error	t Stat	P-value
Intercept	-6.81819	1.402781	-4.86048	1.28E-06
BSIZE	0.370707	0.130337	2.844229	0.004504
BIND	0.196878	0.16446	1.197121	0.231421
BEXP	0.243779	0.121135	2.012459	0.044324
CEOEXP	-0.03099	0.104979	-0.29519	0.767881
BMEET	0.174614	0.095424	1.829884	0.067437
FAGE	0.00301	0.012317	0.244378	0.806966
FSIZE	1.438497	0.119971	11.99034	6.78E-32
LEVE(M)	-9.4131	0.58975	-15.9612	1.18E-53

**Regression Statistics** 

R Square	0.217456
Adjusted R Square	0.213889
Standard Error	7.616321
Observations	1764

From above table, we can deduce that Leverage (LEVE) has the biggest negative impact on ROA (coefficient: -9.413, p < 0.001), whereas firm size (FSIZE) has the strongest positive influence (coefficient: 1.438, p < 0.001), according to the regression results. Both are the most important elements, as evidenced by their high statistical significance. Additionally, ROA is significantly positively impacted by board size (BSIZE) and board expertise (BEXP) (coefficients: 0.371 and 0.244, respectively, p < 0.05). The lack of statistical significance for other variables, such as board independence (BIND), CEO experience (CEOEXP), board meetings (BMEET), and firm age (FAGE), indicates that they have little to no effect on company performance in this model. Moreover, with a somewhat positive correlation between observed and projected values (Multiple R: 0.4663), the regression model accounts for 21.75% of the variation in ROA. Firm size and leverage are important variables that have a large impact on ROA; the remaining variability indicates that the model should be improved. Moderate prediction accuracy is indicated by the standard error of 7.62.

Table 6
Regression Results with Moderator

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	Coefficients	Standard Error	t Stat	P-value
Intercept	-11.093901	2.47909587	-4.474978615	8.13487E-06
BSIZE	0.719563366	0.310434721	2.317921667	0.020568517
BIND	1.746069733	0.367380785	4.752751922	2.1709E-06
BEXP	0.47658469	0.162703833	2.929154658	0.003442885
CEOEXP	0.131938465	0.129605567	1.017999987	0.308818838
BMEET	0.114411871	0.105591299	1.083535018	0.278720448
FAGE	-0.022791434	0.013256188	-1.719305311	0.085735827
FSIZE	1.499103576	0.122011791	12.28654674	2.43302E-33
LEVE(M)	-7.536859717	3.912334249	-1.926435534	0.054211983
LEVBSIZE	0.127023748	0.556877453	0.228100001	0.819595177
LEVBIND	-0.317846788	0.093503813	-3.399292279	0.000690788
LEVEXP	-0.003904148	0.013866052	-0.281561648	0.778312978
LEVBMEET	-0.017375949	0.007347284	-2.364948538	0.018141262
LEVCEOEXP	-0.003256946	0.002089242	-1.558913122	0.119197964
LEVFAGE	0.000320167	6.08159E-05	5.264524588	1.57914E-07
LEVSIZE	-2.23791E-05	6.81232E-06	-3.285097834	0.001039634

Board size (BSIZE), board independence (BIND), and board experience (BEXP) all show statistically significant positive effects on the dependent variable, according to the regression results. In particular, the dependent variable rises by 0.72 and board independence by 1.75 for every unit increase in board size. Experience on the board leads to a 0.48 rise. Firm size (FSIZE) has a significant positive impact; for every unit increase in firm size, the dependent variable increases by 1.50. With a decline of 0.023 for every extra year of firm age, firm age (FAGE) has a negative but marginally significant impact. Despite having a negative effect of -7.54, leverage (LEVE(M)) is marginally significant (p = 0.054). Leverage and firm age (LEVFAGE) exhibits a small but significant positive effect of 0.00032, while leverage and board independence (LEVBSIZE) exhibits a negative and significant effect of -0.32. Leverage and board meetings (LEVBMEET) also exhibit a significant negative effect of -0.02. There was no discernible effect of the relationships between leverage and board size (LEVBSIZE), leverage and CEO experience (LEVCEOEXP), or leverage and board experience (LEVEXP). As a result, company size and board-related factors are essential drivers, whereas leverage-related interactions are also significant, albeit to a lower degree.

#### Conclusion

The results of this study lead us to the conclusion that several corporate governance elements, including board independence, size, and experience, significantly influence the dependent variable that is being studied. More specifically, bigger, more autonomous boards with seasoned members typically have a favorable impact on the result. A significant driver was also found to be firm size, with larger firms exhibiting higher values for the dependent variable. Board-related characteristics have the strongest influence, whereas firm age has a negative but slightly significant effect. Although it was discovered that leverage generally had a negative impact, its interaction with certain governance characteristics, such as board independence, board meetings, and firm age, showed that leverage could either increase or lessen the consequences of these factors. The findings imply that leverage's effects on governance systems are complex, with certain interactions being important while others are not. To enhance overall results, our findings emphasize the significance of corporate governance in firm success and recommend that businesses concentrate on enhancing board independence, size, and experience. The dynamic relationship between leverage and governance characteristics in various institutional contexts, as well as the long-term impacts of these interactions on company performance.

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