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WHEN DEBT TALKS: UNVEILING LEVERAGE'S ROLE IN STEERING GOVERNANCE AND FIRM PERFORMANCE IN PAKISTAN

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ABSTRACT

Purpose: Effective corporate governance is critical for safeguarding firms against scandals, fraud, and legal liabilities, while also enhancing organizational performance. This study aims to examine the impact of corporate governance mechanisms on firm performance, with particular emphasis on the moderating role of leverage.

Design/Methodology: The study draws on panel data from non-financial firms in the cement and chemical sectors listed on the Pakistan Stock Exchange (PSX) over the period 2013–2020. Data were analyzed using descriptive statistics, pairwise correlation analysis, multicollinearity diagnostics (VIF), and fixed-effects regression models, employing STATA software to test the proposed relationships.

Findings: The empirical results reveal that key corporate governance mechanisms—namely the number of board of directors, independent board members, female directors on the board, ownership concentration, number of board meetings, independent audit committee members, and number of audit committee meetings—have a significant relationship with firm performance. Moreover, leverage significantly moderates the relationship between firm performance and several governance mechanisms, including board size, board independence, female board representation, ownership concentration, audit committee composition, and audit committee meetings.

Originality: This study contributes to the corporate governance literature by highlighting the conditional role of leverage in strengthening or altering the effectiveness of governance mechanisms on firm performance. The findings offer valuable insights for regulators, policymakers, and managers in the cement and chemical sectors, providing guidance for designing more effective corporate governance strategies to enhance firm performance in emerging markets.

Keywords: *Corporate Governance Mechanisms, Firm Performance, Leverage*

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INTRODUCTION

Corporate governance (CG) is a way of governing the activities of an agency for the well-being of all stakeholders that, in the long run, results in better financial performance. It is the set of methods, norms, guidelines, legal guidelines, and institutions affecting the way an organization is directed, governed, and managed. CG is the structure that comprises both inside and outside agreements among workers as well as stakeholders and manages the circulation of duties, circumstances, and remuneration to prevent contradictory interests. The selection of the study period commencing from 2013 is strategically aligned with significant regulatory developments in Pakistan's corporate governance landscape. The Securities and Exchange Commission of Pakistan (SECP) introduced a revised Code of CG in 2012, aimed at enhancing transparency, accountability, and board effectiveness in listed companies. Beginning the analysis in 2013 allows a reasonable transition period for firms to adopt and internalize the new governance provisions, ensuring that the data reflect the practical implementation of the Code rather than the initial adjustment irregularities. This approach provides a more accurate representation of how leverage interacts with mature governance structures in influencing firm performance (SECP, 2012). In 2001 the Organization for Economic Co-operation and Development (OECD) encouraged the incorporating representation, such as "corporate governance directs the attention to private and public organizations, comprising rules, guidelines as well as acknowledged corporate implementations, that collectively manage the affiliation, in an economic system, concerning business executives as well as financiers corporate insiders on one hand, also the one who finance capitals in organizations, on the other" (OECD, 2004). Therefore, CG needs to regulate standards as well as directions that streamline the process of decision-making for stakeholders. In recent decades, considerations regarding corporate governance have been nourished throughout current periods because of the more frequent prominent corporate failures that occur through financial accounting errors or scams, made worse due to the lack of better practices of corporate governance.

Enron, WorldCom Com and Tyco are the biggest scandals of the corporate world in 2000 and 2001 in the US, and these corporate collapses severely damaged the corporate world. Research attempts to discover the cause underlying the collapse of particular large companies such as Enron, WorldCom, and Tyco (Vinten & Mardjono, 2005), then discovers that these companies failed not for the reason that their activities to do business, however they violated the primary and important code of good corporate governance. Governing officials assured to set up corporate rules in contradiction of the acquiescence of scams, dishonesty, distortion, and illegal practice of trading, similar to the Sarbanes-Oxley Act (2000). The scandal of fraudulent conduct clearly gives the word that to average the long-established structure of corporate governance can moderate the mistakes and exclusions. Because of the wrongdoings, shareholders do not want to capitalize their capital (Makki & Lodhi, 2013). Recent Pakistani studies show that governance and leverage materially affect firm performance, but sector-specific analyses (cement and chemicals) remain limited.

Cement and chemicals are twin pillars of Pakistan's industrial base—cement integrates closely with construction and infrastructure investment, while the chemical sector underpins key value chains in textiles, fertilizers, and pharmaceuticals. Given their capital intensity and macroeconomic influence, analyzing these sectors reveals how governance and leverage jointly shape firm performance and resilience (Shakri et al., 2024).

Later, the fundamental corporate failures within the United States, to strengthen the environment of the corporate governance controllers have brought together to the 2002 Sarbanes-Oxley Act. In the unstable global monetary and financial situation advent of the latest regulation and laws to refine the mechanism of corporate governance, the Corporate Governance Code in 2002 was conferred through the Securities and Exchange Commission of Pakistan (SECP), and a revised model was issued in 2012. Independent directors and non-executive directors' membership on the board is encouraged by the codes of CG.

CG put together the business environment and the institutional surroundings of the country, such as the regulatory authorities, legal institutions, economic and capital markets, and the mechanisms of implementation of those establishments. Commonly, most of the businesses in Pakistan are managed through commercial organizations, the government, and associates of international organizations. Business groups commonly consist of seemingly independent firms that can be controlled with the aid of a family that keeps most of the shares. In management composition, key positions are occupied by the controlling family members, and typically, they hire close or distant family members (Gani & Ashraf, 2005).

The impact of mechanisms of CG has also come to be an area of attention in the business and corporate research field. Significant growth performance of CG in organizations can play a vital part in attracting the attention of FDI and keeping more savings in the direction of the capital market.

Importance of the Study

Thepurposeofthisresearchstudyistocontributeanefforttotheliteratureaswellasfindthe the impact of the CG mechanism on the firm performance, furthermore assessing the moderating impact of leverage on the CG mechanisms with the performance of listed cement and chemical firms on the Pakistan stock exchange. A wide study relating to corporate governance and firms' performance have been carried out, on the other hand fewer study has been carried associated with leverage as a moderator in developing countries like Pakistan. Corporate performance is a vital idea that pertains to the way and way in which financial resources are able to be used thoughtfully by the firm to attain the firm's overall corporate goal, it retains the firm in business and creates a better view for the upcoming opportunities. The focus on Pakistan's cement and chemical sectors is particularly significant, as both play essential roles in GDP growth and export competitiveness. These sectors are highly leveraged, making them ideal for examining how debt structures interact with governance mechanisms to affect firm performance. A focused study on these sectors fills a clear academic and

policy gap by linking firm-level governance practices with industrial outcomes that have national economic implications (Abid et al., 2024). The study focuses on the links between corporate governance, firm performance, and leverage strategies in an emerging economy like Pakistan.

Research Gap

The novelty of this research is the moderating influence of leverage on the relationship between corporate governance mechanisms and firm performance. As per Bashir and Asad (2018) suggested that the relative research furthermore be further engaged by including several sectors and other variables corporate governance as independence of the board, audit committee independence, composition of the board, duality of the CEO, etc. Sari and Agustina (2021) suggested that to expand the object of research by adding sectors so that the sample is larger. Saeed et al. (2013) more a study that might be accompanied by other variables like the structure of the board, focusing on director remuneration, audit committee, board independence, and qualification of directors.

THEORY AND HYPOTHESES

Corporate governance and firm performance

The theoretical underpinning of this study draws primarily from Agency Theory (Jensen & Meckling, 1976), which posits that leverage can mitigate agency costs by aligning managers' interests with debt holders, and Resource Dependency Theory (Pfeffer & Salancik, 1978), which suggests that diverse and independent boards enhance access to external resources. In the context of Pakistan, recent studies such as Shakri et al. (2025) demonstrate that capital structure serves as a channel through which governance influences performance. Corporate governance and firm performance numerous studies have been present for developed economies on the impact of the mechanism of corporate governance and firm performance. Most of the experimental studies emphasize various policies of corporate governance in a cross-section of countries. Research conducted by Ammann et al. (2011) with a large sample of twenty-two advanced nations for the years 2003 to 2007 found that there is a positive and significant effect on the value of the firm, as well as a connection between them as well remains the same even when they used other mechanisms of corporate governance to take into account the significance of CG characteristics. A study on two distinguished nation state of Asia specifically India and South Korea by taking top five firms of each country as a sample for the year 2006 to 2013 furthermore determined that companies' corporate governance merely describes a small percentage of the performance of firm, as result additional corporate governance aspects have to be taken into consideration too while undertaking study performance of firm (Gupta & Sharma, 2014). Balasubramanian et al. (2010) research on Indian public companies via survey method using a sample of 318 companies found that a significant and positive effect of CG and performance of the firm. In a study,

researchers found that relationship strength is reliant on profitability and opportunity for growth provided through the firm. Firm value and corporate governance relation would be strong when there is extra profitability and opportunities for growth. CG is an essential element to improve the procedure of policy making, such as a good CG level, the flow of information, preparing financial statements more clearly, also refining the excellence of the decisions of investment, which eventually increases firms' value.

The most important matter that is being faced by corporate governance is that individual interests and rights have to align, companies as well as the general society, by employing a significant moral basis. In addition, goals that are planned for the long term have to be achieved, as well as the owner's objective. Though this practice is not appropriate for all businesses, all significant stakeholders' concerns are taken into account (Imam & Malik, 2007). Consequently, by adopting attributes of the corporate governance firm, make sure that all attributes and contracts are official. Recent empirical findings from emerging markets, particularly Pakistan, confirm that leverage significantly moderates the corporate governance–performance nexus. For instance, Abid et al. (2024) report sector-specific variations in how leverage impacts profitability, while Akhtar et al. (2024) highlight those macroeconomic shocks alter firms' capital structures and governance effectiveness. These insights strengthen the rationale for explicitly modeling leverage as a moderator in governance–performance relationships. Retained through that firms lawfully formulate and controls its activities of doing business. Strong corporate governance compliance in Pakistan is found to mitigate the agency problems associated with high leverage by providing alternative control mechanisms, thereby lowering debt levels and enhancing firm performance (Shakri, 2025). These highlights leverage not only as a financial tool but also as a governance signal.

Corporate Governance Mechanisms

The mechanisms of corporate governance incorporated in the current study are board composition, ownership structure, and management oversight.

Board Composition

It deliberates a combination of skills of the director, board independence, and board diversity, all of them has their own problems. In this study, board composition is the combination of the number of members on the board, independent board members, executive board members, and female directors on the board.

Number of Board of Directors

Previous studies show diversified results about the NBOD and the value of the firm according to Lipton and Lorsch (1992) and Jensen (1993). Numerous research studies exhibit that board with a small size increases firm performance because boards with

large member there occurs problem concerning decisionmaking procedures as well as gap of communication also arises. Brown and Caylor (2004) and Ilhan Nas and Kalaycioglu (2016) found that corporations that have board members in the middle of six and fifteen make sure a greater return on equity and profit margin. As stated by the theory of resource dependence, bigger boards that have relations with the outside environment enhance the capability of the business to approach additional resources, which consequences in apprehending additional opportunities for growth, also eventually improves the performance of the organization. Additionally, the study claimed that a smaller number of board members, expanding the governing board members, brings in additional diversity, thinking, intelligence, and experiences in the process of making corporate decisions (Van et al., 2004). For that reason, an effective board is to a great extent essential for the existence and organizational success. From the above discussion first hypothesis is generated.

Hypothesis 1: There is a significant impact of the number of the board of directors on firm performance.

Independent Board Members

The characteristics of Board members, the foremost part of outside directors, are there to take part empirically in the firm's process of decision making and autonomously estimate the performance of the firm. Board independence and cost of debt show a negative relationship in the study by Anderson et al. (2004). Research based on Tobin's Q and statements of financial show no relationship between performance of the firms and board independence; alternatively, most of study find a significant connection via employing data of stock returns. Research studies remained unable to discover Tobin's Q to enlarge the independence board (Brown & Caylor, 2004; Bhagat & Black, 2001; Prabowo & Simpson, 2011). On the other hand, their study exhibits that organizations using independent directors have greater profit margins, greater ROA, greater purchases of stock, and greater dividend yield, proposing that board independence influences the performance of the firm. From the above discussion second hypothesis is generated.

Hypothesis 2: There is a significant impact of an independent board member on firm performance.

Executive Board Members

Executivedirectorsperformtheirpartascorporategovernanceagentamongthesharehold ers' interests and the firm, and at the same time protecting the pledged association between the board and the company (Williamson, 2008). Boumosleh and Reeb (2005) in their study, executive directors provide first-hand or inside information of the operations of the company to other members of the board because of their monitoring role. Consequently, executive directors are vigorous members of the company's general process of decision-making; they have access to all relevant information that

helps in the decision-making of the company's actions. According to Anderson and Campbell (2004) and Shakir (2008), when non-executive directors want to know about the company's operation in board meetings, executive directors are likely to convey adequate details. Especially, when executive directors perform an effective role of monitoring as well as improving asymmetries of information, this might upsurge the structure company's corporate governance that ultimately leads to improved performance of the firm. From the above discussion third hypothesis is generated.

Hypothesis 3: There is a significant impact of executive board members on firm performance.

Female Directors on the Board

Research recommends that diversity is increasing, particularly by gender. Study suggested that although the quantity of female board members is rising to some extent, a small number of firms vigorously employ females, also there is still gender favoritism, stereotyping, and tokenism on boards where women work, according to Bilimoria (2000). Mattis (2000) determines that female board members are increasing in numbers; on the other hand, the variations are small and incremental. Additionally, Smith et al. (2006) and Lukason and Vissak (2019) elaborate that female directors might well comprehend specific market situations better than males, which can attract more creativity and excellence to the decision-making of the board. Researcher furthermore claims that more diversity in board gender might create a good public appearance of the corporation, also, with this, it enhances the performance of the firm. From the above discussion fourth hypothesis is generated.

Hypothesis 4: There is a significant impact of female directors on board and firm performance.

Ownership Structure

Ownership structure deals with the internal organization of a corporate body and the duties and rights of the individuals holding a legal interest in that firm. For the effective execution of corporate governance, a firm's ownership structure plays an important role.

Ownership Concentration

Ownership concentration is supposed to have particular information that leads to asymmetry of information, and, for instance, an outcome raises the unfortunate costs of selection. For that reason, ownership concentration appears to be the most essential concern in the corporate governance arena. A study conducted by Shleifer and Vishny (1986) discovered an optimistic connection between the two variables, also discussing that more concentrated ownership solves agency problems by means of extra successful control and management of the activities of the firm. In Pakistan, ownership is extremely concentrated as well and is categorized through effective ownership of the family, and numerous important positions of the management are

correspondingly occupied by the members of the family. Family-owned firms also have an ownership structure in the shape of business clusters. Like other markets in Asia, there are agency problems in the middle of minority and majority stakeholders. According to Wiwattanakantang (2001) studied 270 non-financial registered companies' data of Thailand. The study discovered that there is a significant association between ownership concentration and accounting-based performance methods. From the above discussion fifth hypothesis is generated.

Hypothesis 5: There is a significant impact of ownership concentration on firm performance.

Management Oversight

Management oversight includes the number of meetings of the board of directors, audit committee members, independent audit members, and the number of meetings of the audit committee.

Number of Meetings of the Board of Directors

On the way to show the activeness and board's participation, yearly meetings of the board are purposely used as an important measure to show that meetings of the board are important for the monitoring and control of the firm. (Bathula. 2008) Boards that are more active have more than seven board meetings shows that board members will be acting in the interest of shareholders. In addition, additional time disbursed in meetings of the board sanctions the relevant members to proficiently articulate contentious policies and improve decision-making (Conger et al., 1998). The earlier works discovered diverse outcomes about the meeting of board and firm performance association. Such as the study showed optimistic outcomes concerning the effect of the number of meetings of the board on the performance of the firm (Francis et al., 2012). On the other hand, the study stated a negative association among meeting of board meetings and firm performance (Jackling & Johl, 2009). Firm performance has a negative relationship when the number of meetings of the board increases because the reason is that a greater number of meetings reduces attendance of the board of directors (Fich & Shivdasani, 2006). From the above discussion sixth hypothesis is generated.

Hypothesis 6: There is a significant impact of the number of meetings of the board of directors on firm performance.

Audit Committee Members

Pucheta-Martínez and De Fuentes (2007) illustrate that the audit committee size affects the risk of companies attaining reports of audit by means of errors or non-compliant experiences. The proper proportions of the audit committee members have the tendency to accurately apply their knowledge in the best interest of the shareholders. A study showed proof of the existence of an optimistic, however

insignificant, association among the audit committee members with return on assets of Jordanian firms (Zraiq & Fadzil, 2018). However, studied the effect of the size of audit committees on the performance of firms over the financial crisis; he found that committees with a smaller number and have additional knowledge, as well as financial understanding, are optimistically and considerably related to the firm performance (Aldamen et al., 2012). Furthermore, a similar association discovered that the audit committee size has a positive association with the firm's performance (AL-Matari, 2013). Literature shows the adverse and significant correlation between the size of the audit committee and the performance of the firm (Afza & Nazir, 2014; Al-Jalahma, 2022). Kipkoech (2016) studied companies registered in the Nairobi Securities Exchange from 2006 to 2011; the consequences presented significant and adverse results on the performance of the firm and the size of the audit committee. From the above discussion seventh hypothesis is generated.

Hypothesis 7: There is a significant impact of audit committee members on firm performance.

Independence Audit Members

Audit committee is reflected as an inside controlling structure of every corporation, which controls the management actions with the intention that management perform according to shareholders' interests as well as accomplish the aim to maximize the value of the shareholders. Mixed results are found in the association between the audit committee and the performance of the corporation. Audit committee independence has a direct connection with dividend yield; however, it does not have a significant effect on operational performance and valuation of the firm (Brown & Ceylor, 2004; Özcan, 2021). A negative association was found between the independence of the audit committee and earnings management (Klein,2002). An adverse association is found between the independence of the audit committee and earnings management, established on audit remuneration (Frankeletal, 2002). From the above discussion, the 8th hypothesis is generated.

Hypothesis 8: There is a significant impact of an independent audit member on firm performance.

Number of Audit Committee Meetings

Systematic audit committee meetings can benefit moderate agency problems as well as irregularity of information of a corporation by coming up with unbiased and well-timed information to stakeholders (Al-Mamun, 2014). An organization where the meetings of the audit committee are more regular was to be expected toward the protection of the shareholder interest (DeZoort et al. 2002). Studied the recommendations of the Blue-Ribbon Committee (1999) with concern toward enhancement in the competence of company audit committees, also claimed that audit committees would reinforce economic reporting methods, while there were increased independent and economically knowledgeable associates who dedicated

sufficient time to the board and gathered regularly (Bryan, 2004). Examine two traits of the audit committee, i.e., frequency of meeting and board independence to determine if the board straightforwardly depends on the audit committee by means of an instrument to manage managers, in addition to establishing that these two traits enhance and keep track of the corporation, then thus performance is better (Menon & Williams, 1994). Numerous studies show that the affiliation between the frequency of the meeting of the audit committee and the performance of the firm has specified diversified consequences. From the above discussion, the ninth hypothesis is generated as follows:

Hypothesis 9: There is a significant impact of the Number of meetings of audit committee members and firm performance.

Moderator

A moderator affects the level, direction, or presence of are relationship among variables. It is beneficial as they help to explain the relationship between the independent and dependent variables.

Leverage as a moderator

Government debt impacts corporate leverage decisions, with evidence showing a significant negative association between rising public debt and firms' leverage ratios at the sectoral level in Pakistan (Government Debt Study, 2021). This illustrates how macroeconomic policies can indirectly steer firm financing behavior. Leverage is an evaluation that illustrates by what means the assets of the firm are financed through debts and is measured as the proportion of total debts and total assets. Firms that use more debt than equity it is said to be highly leveraged. Highly leveraged indicates that interest payments are high, and this means earnings per share decrease (Mahmood et al., 2019). Akhtar (2024) shows that shocks like power shortfalls and macro volatility materially alter firms' leverage dynamics and performance in Pakistan. Understanding how debt interacts with board monitoring, ownership structure and external finance under such shocks is essential for managers, creditors and regulators. Recent Pakistan and emerging-market empirical work operationalize governance constructs and the leverage and performance nexus within an agency framework using agency theory (Jensen & Meckling, 1976), gives ground testable predictions (e.g., higher leverage reduces agency costs and improves ROA when ownership is dispersed), and compares with local studies. Numerous studies have been carried out mixed results have been found among leverage and firm financial performance.

According to Bashir & Asad (2018), study results shows that size of the board and frequency of the meetings of the board have a significant effect on the performance of the firms of textile sector, furthermore the interaction variables result of leverage was found to be significant on the association among meetings of the board and textile

firm performance, however insignificant on the association of size of the board and firm performance. According to Saeed et al. (2013), results show that the moderating variable has no significant relationship. Hatleverage does not moderate the association between CGI and ROA. Empirical analysis shows that profitability positively relates to financial leverage due to tax shield benefits, whereas liquidity negatively impacts leverage to avoid financial distress risks. These dynamics emphasize the balancing act firms perform in debt usage for maximizing value in emerging markets like Pakistan (Nazeer et al., 2025). According to the results, it is concluded that the practices of corporate governance do possess a relationship with the performance of the firm, and the size of the firm moderates this association. Khan et al. (2019) the moderating effect of leverage has a significant association among the size of the board, non-executive directors, and Tobin's Q. Leverage in Pakistan is a multifaceted construct affecting governance and firm performance through complex interdependencies with governance structures, macroeconomic conditions, profitability, liquidity, and industry characteristics. Understanding these relationships is crucial for effective capital structure decisions and policy formulation in Pakistan's evolving market environment. Leverage serves as a critical moderating variable influencing how corporate governance practices affect firm performance, with empirical evidence from Pakistan's stock exchange firms indicating that optimal leverage enhances governance benefits on performance (Ajmal et al., 2025). Recent Pakistan-focused studies report nuanced results (positive, negative, or non-linear effects of leverage) and point to strong moderating roles for board structure, ownership, and firm size. This indicates a need for studies that explicitly model leverage as a moderator/mediator of governance performance links rather than treating leverage as a control.

Hypothesis 10: There is a significant impact of the moderating effect of leverage on corporate governance mechanisms and firm performance.

Theoretical Framework

Figure 1 presents the theoretical framework, which integrates insights from Agency Theory and Resource Dependency Theory. Corporate governance mechanisms, such as board composition, ownership concentration, and management oversight, are hypothesized to influence firm performance. Leverage acts as a moderating variable, strengthening or weakening these relationships depending on financial discipline and control structures.

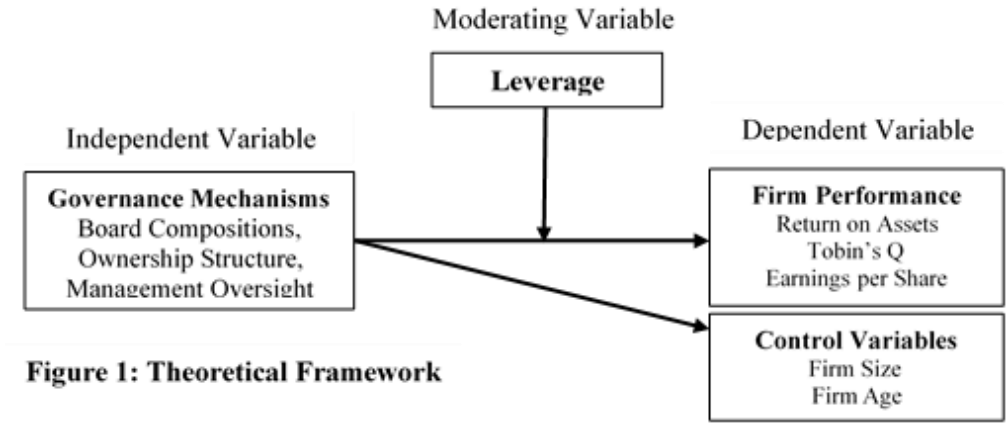

Figure 1: Theoretical Framework

METHODS

Sample of the Study

Pakistan has divided its listed firms into 37 sectors. This study targeted listed firms at the Pakistan stock exchange in the cement and chemical sectors. There are 49 listed firms in the cement and chemical sector. On the basis of the data, 44 firms were taken as a sample. Eight years of financial data will be collected from 2013-2020. For the study, secondary data will be used from the published financial reports.

Variables

To ensure clarity, proper quantification of all constructs, and replicability, this study provides both conceptual and operational definitions for each study variable. Conceptual definitions explain the theoretical meaning of the construct, whereas operational definitions specify the exact numerical measurement used in the empirical analysis. All variables follow standard practices in corporate governance and corporate finance literature.

Dependent Variable (Firm Performance)

Firm performance in this study is measured using three widely accepted indicators. Return on Assets (ROA), calculated as net income divided by average total assets, captures a firm's ability to generate profitability from its asset base and remains a standard measure in governance–performance research (Yermack, 1996; Bhagat & Bolton, 2019). Tobin's Q (TBQ), defined as the ratio of the market value of the firm to its total assets, reflects investors' expectations of future value and investment opportunities (Chung & Pruitt, 1994; Morck, Shleifer & Vishny, 1988). Earnings per Share (EPS), computed as net income divided by the number of outstanding shares, measures per-share profitability from the perspective of equity investors (Fama & French, 1992). Recent studies continue to employ these three measures in governance–performance models; for instance, Lee et al. (2023) and Alodat (2023) both use ROA and Tobin's Q to evaluate governance effectiveness in different institutional settings.

Independent Variable (Governance Mechanisms)

Ownership concentration (OWNC) is measured as the percentage of shares held by the largest or top five shareholders. Concentrated ownership plays a dual role—large shareholders may provide more effective monitoring, but they may also pursue private benefits at the expense of minority shareholders (Shleifer & Vishny, 1997; La Porta et al., 1999). Recent literature continues to emphasize this dual nature. For example, Goswami (2023) synthesizes empirical studies from 2000–2022 and concludes that the impact of ownership concentration varies significantly across institutional environments and ownership identities. Similarly, the OECD (2022) highlights increasing ownership concentration worldwide and notes its implications for corporate accountability and minority investor protection.

Board-level governance is captured through several variables. Board size (NBOD) represents the total number of directors serving on the board. Prior literature suggests that excessively large boards may suffer from coordination inefficiencies (Jensen, 1993), while too-small boards may lack diversity of expertise. Recent evidence remains mixed: Le (2022), examining director effectiveness, finds that board size effects depend heavily on director experience, reputation, and engagement patterns. Independent board members (INDBM) are measured as the proportion of independent directors to total directors. Classical agency theory supports that more independent boards provide stronger monitoring (Fama & Jensen, 1983). Recent work continues to explore this relationship: Le (2022) reports that independent directors' effectiveness depends not only on independence but also on reputational incentives and experience. Executive directors (EXBM), the proportion of insider directors, capture managerial influence on the board—higher representation may improve access to firm-specific knowledge but can weaken monitoring (Weisbach, 1988).

Board activity and gender diversity are also included. Number of board meetings (NOMBOD) reflects the extent of board diligence; Vafeas (1999) provides foundational evidence linking meeting frequency to more active monitoring. Recent studies, such as Adams, Akyol, and Verwijmeren (2021), reaffirm that meeting frequency signals stronger board engagement, especially in periods of uncertainty. Female directors on board (FDOB) are captured using a dummy variable equal to one if the board includes at least one woman. Gender diversity remains a major contemporary research area: Adams and Ferreira (2009) provide foundational insights, while newer studies such as Bernile, Bhagwat, and Yonker (2020) and Alfaadhel (2022) document that female representation improves oversight quality and can positively influence firm value, particularly in emerging economies.

Audit-related governance is measured through audit committee size (ACM), proportion of independent audit committee members (INDAM), and number of audit committee meetings (NOAM). Audit committee independence and activity are central to financial reporting quality. Foundational research (Klein, 2002; Abbott, Parker & Peters, 2004) links stronger audit committees to lower earnings

management. Recent studies provide renewed evidence: Alodat (2023) finds that audit committee independence significantly enhances firm performance in emerging markets, while Altın (2024), in a cross-country meta-analysis, concludes that audit committee meetings and member independence remain strong predictors of improved reporting quality.

Moderating Variable (Leverage)

Leverage (LEVG) is included as a moderating variable, measured using the debt-to-equity ratio. The moderating role of leverage is theoretically supported by Jensen's (1986) free cash flow hypothesis. Recent empirical evidence explicitly examines governance–leverage interactions. Tulcanaza-Prieto, Lee, and Anzules-Falcones (2024) find that corporate governance moderates the relationship between leverage and firm value in the Korean market, supporting its inclusion as a moderating construct.

Finally, firm-specific factors are included as controls. Firm size (FSZE) is measured as the natural logarithm of total assets and controls for scale-related performance differences (Beiner et al., 2006). Firm age (FAGE) is measured as the number of years since incorporation and accounts for differences in organizational maturity. Coad (2007) explains that firm age influences growth, innovation capacity, and financial behavior. Recent governance studies (Lee et al., 2023; Alodat, 2023) continue to use both firm size and age as standard controls to mitigate omitted-variable bias.

Tools and Techniques

Data is collected from the annual reports of the firm that are registered on Pakistan stock exchange. Market data for Tobin's q is also collected from the Pakistan stock exchange web site. Panel data is used from 2013 to 2020 for 44 firms in the cement and chemical sectors. For the analysis of data, regression analysis, descriptive analysis, and correlation analysis shall be conducted. STATA software is used for analysis. To check the moderator effect on the mechanisms of corporate governance and firm performance, fixed-effect regression analysis shall be conducted.

Model of the Study:

The following are the study models applied in this research:

$$ROA_{it} = a + B_1NBOD_{it} + B_2INDBM_{it} + B_3EXBM_{it} + B_4FDOB_{it} + B_5LEVG_{it} + e_{it} \ldots \quad (1)$$

$$ROA_{it} = a + B_1OWNC_{it} + B_2LEVG_{it} + e_{it} \ldots \quad (2)$$

$$ROA_{it} = a + B_1NOMBOD_{it} + B_2ACM_{it} + B_3INDAM_{it} + B_4NOAM_{it} + B_5LEVG_{it} + e_{it} \ldots \quad (3)$$

$$TBQ_{it} = a + B_1NBOD_{it} + B_2INDBM_{it} + B_3EXBM_{it} + B_4FDOB_{it} + B_5LEVG_{it} + e_{it} \ldots \quad (4)$$

$$TBQ_{it} = a + B_1OWNC_{it} + B_2LEVG_{it} + e_{it} \ldots \quad (5)$$

$$TBQ_{it} = a + B_1NOMBOD_{it} + B_2ACM_{it} + B_3INDAM_{it} + B_4NOAM_{it} + B_5LEVG_{it} + e_{it} \ldots \quad (6)$$

$$EPS_{it} = a + B_1NBOD_{it} + B_2INDBM_{it} + B_3EXBM_{it} + B_4FDOB_{it} + B_5LEVG_{it} + e_{it} \ldots \quad (7)$$

$$EPS_{it} = a + B_1OWNC_{it} + B_2LEVG_{it} + e_{it} \dots \dots \dots \dots (8)$$

$$EPS_{it} = a + B_1NOMBOD_{it} + B_2ACM_{it} + B_3INDAM_{it} + B_4NOAM_{it} + B_5LEVG_{it} + e_{it} \dots \dots (9)$$

Leverage as Moderator:

$$ROA_{it} = a + B_1NBOD_{it} + B_2INDBM_{it} + B_3EXBM_{it} + B_4FDOB_{it} + B_5LEVG_{it} + B_6(NBOD_{it}xLEV) + B_7(INDBM_{it}xLEV) + B_8(EXBM_{it}xLEV) + e_{it} \dots \dots (10)$$

$$ROA_{it} = a + B_1OWNC_{it} + B_2LEVG_{it} + B_3(OWN_iC_ixLEV) + e_{it} \dots \dots (11)$$

$$ROA_{it} = a + B_1NOMBOD_{it} + B_2ACM_{it} + B_3INDAM_{it} + B_4NOAM_{it} + B_5LEVG_{it} + B_6(NOMBOD_{it}xLEV) + B_7(ACM_{it}xLEV) + B_8(INDAM_{it}xLEV) + B_9(NOAM_{it}xLEV) + e_{it} \dots \dots (12)$$

$$TBQ_{it} = a + B_1NBOD_{it} + B_2INDBM_{it} + B_3EXBM_{it} + B_4FDOB_{it} + B_5LEVG_{it} + B_6(NBOD_{it}xLEV) + B_7(INDBM_{it}xLEV) + B_8(EXBM_{it}xLEV) + e_{it} \dots \dots (13)$$

$$TBQ_{it} = a + B_1OWNC_{it} + B_2LEVG_{it} + B_3(OWN_iC_ixLEV) + e_{it} \dots \dots (14)$$

$$TBQ_{it} = a + B_1NOMBOD_{it} + B_2ACM_{it} + B_3INDAM_{it} + B_4NOAM_{it} + B_5LEVG_{it} + B_6(NOMBOD_{it}xLEV) + B_7(ACM_{it}xLEV) + B_8(INDAM_{it}xLEV) + B_9(NOAM_{it}xLEV) + e_{it} \dots \dots (15)$$

$$EPS_{it} = a + B_1NBOD_{it} + B_2INDBM_{it} + B_3EXBM_{it} + B_4FDOB_{it} + B_5LEVG_{it} + B_6(NBOD_{it}xLEV) + B_7(INDBM_{it}xLEV) + B_8(EXBM_{it}xLEV) + e_{it} \dots \dots (16)$$

$$EPS_{it} = a + B_1OWNC_{it} + B_2LEVG_{it} + B_3(OWN_iC_ixLEV) + e_{it} \dots \dots (17)$$

$$EPS_{it} = a + B_1NOMBOD_{it} + B_2ACM_{it} + B_3INDAM_{it} + B_4NOAM_{it} + B_5LEVG_{it} + B_6(NOMBOD_{it}xLEV) + B_7(ACM_{it}xLEV) + B_8(INDAM_{it}xLEV) + B_9(NOAM_{it}xLEV) + e_{it} \dots \dots (18)$$

DATA ANALYSIS AND RESULTS

This section presents and deliberates the results drawn from the collected data in order to make interpretations about the association of CG and performance of the firm while considering the moderating role of leverage on the relation between the mechanism of CG and firm performance. The chapter narrates descriptive statistics, correlation analysis, multicollinearity (VIF), and fixed-effect regression analysis.

Descriptive Statistics

Table 1: Descriptive Statistics

Variables	Observations	Mean	Min	Max	SD
ROA	352	5.887	-6.08	18.68	7.77

Tobin's Q	352	.804	.131	2.519	.665
EPS	352	6.156	-3.93	35.03	9.877
OWNC	352	.614	.16	.96	.186
NBOD	352	7.403	4	11	1.288
INDBM	352	.223	.1	.43	.107
EXBM	352	.231	.11	.43	.095
NOMBOD	352	5.278	2	11	1.468
FDOB	352	.534	0	1	.5
ACM	352	3.449	3	6	.794
INDAM	351	.284	0	1	.181
NOAM	352	4.224	3	6	.568
LEVG	352	1.802	-27.7	12.77	2.7
FAGE	352	22.068	1	66	12.427
FSZE	352	8.531	2.693	11.819	1.937

TABLE 3 shows that OWNC, NBOD, and ACM have positive and significant correlations of 0.114, 0.253, and 0.277 with ROA. Results show that FDOB has a positive and insignificant correlation of 0.028 with ROA. Independent board members, EXBM, and NOAM have negative and insignificant correlations of 0.041, 0.005, and 0.016 with ROA, but there is a weak or negligible correlation between them. NOMBOD and INDAM have a negative and insignificant correlation of 0.096 and 0.068 with ROA (Abor & Biekpe, 2007; Ehikioya, 2009; Jackling & Johl, 2009).

Results show that ownership concentration and NBOD have a positive and significant correlation of 0.101 and 0.286 with Tobin's Q. ACM has a positive and significant correlation of 0.411with Tobin's Q, and the correlation between them is moderate. EXBM, FDOB and NOAM have a positive and insignificant correlation of 0.032, 0.059, and 0.018 (Rebeiz & Salameh, 2006; Chan & Li, 2008).

Table 2: Correlation Analysis

Variables	ROA	Tobin's	EPS	OWNC	NBOD	INDBM	EXBM	NOMBOD	FDOB	ACM	INDAM	NOAM	LEVG	FAGE	F_Size
ROA	1.000														
Tobin's Q	0.554***	1.000													
EPS	0.574***	0.626***	1.000												
OWNC	0.114**	0.101*	0.153***	1.000											
NBOD	0.25***	0.286***	0.019	0.069	1.000										
INDBM	-0.041	-0.121**	-0.091*	0.109**	0.111**	1.000									
EXBM	0.005	0.032	0.015	-0.031	-0.176**	-0.401	1.000								
NOMBOD	-0.096*	-0.121**	-0.116*	-0.039	-0.016	-0.118	0.008	1.000							
FDOB	0.028	0.059	0.097*	-0.19***	0.032	-0.048	0.163***	0.016	1.000						
ACM	0.277***	0.411***	0.195***	-0.15***	0.580***	0.060	-0.16***	-0.028	0.046	1.000					
INDAM	-0.068	-0.15***	-0.095*	-0.081	0.066	0.483***	-0.17***	-0.016	0.120**	0.150***	1.000				
NOAM	-0.016	0.018	0.113**	0.088*	-0.052	0.056	0.003	0.043	0.015	0.084	-0.086	1.000			
LEVG	-0.035	-0.060	-0.108**	-0.029	0.041	-0.100*	-0.15***	0.25***	0.048	0.003	0.047	-0.063	1.000		
F_Age	-0.003	-0.015	0.147***	0.085	0.201***	-0.25***	-0.086	-0.029	-0.19***	0.017	0.202***	-0.040	0.103**	1.000	
F_Size	0.269**	0.152***	0.352***	0.119**	0.154***	-0.031	-0.077	0.029	0.166***	0.048	0.235***	0.052	0.044	0.133*	1.000

****p<0.01,**p<0.05,*p<0.1*

Independent board members, NOMBOD and INDAM have a negative and significant correlation of 0.121, 0.121, and 0.145 with Tobin's Q.

Results show that ownership concentration, FDOB, and ACM have a positive and insignificant correlation of 0.153, 0.097, and 0.195 with EPS. NBOD and EXBM have a positive and insignificant correlation of 0.019 and 0.015 with EPS. Independent board members, INDAM and NOAM, have a negative and significant correlation of 0.091, 0.095, and 0.047 with EPS. NOMBOD has a negative and significant relationship of 0.116 with EPS (Rebeiz & Salameh, 2006; Chan & Li, 2008).

Multicollinearity

Variance inflation factor (VIF)is a way to evaluate the response of the independent variable by means of its interface using the other independent variables. VIF evaluates in what way a variable is come up with the standard error in the regression. In most of the research articles VIF is reflected as a multicollinearity indicator, i.e,>10 (Gujarati, 2003).VIF range from 1.04 to 1.82, which indicates that there is no multicollinearity among the independent variables, and the mean of VIF is 1.31 (Gujurati, 2003; Marcoulides & Raykov, 2018).

Regression Analysis

Table `3: Fixed Effect Regression Analysis For ROA

Var	Model(1)	Variables	Model(2)	Variables	Model(3)
	ROA		**ROA**		**ROA**
NBOD	.565*	OWNC	-8.221*	NOMBOD	**.869*** **
	(.313)		(4.458)		**(.271)**
INDBM	-11.668**			ACM	**.188**
	(4.682)				**(.459)**
EXBM	5.233			INDAM	**4.102***
	(5.774)				**(2.29)**
FDOB	.603			NOAM	**.972***
	(.891)				**(.527)**
LEVG	-.138		-.058		**-.093,**
	(.116)		(.113)		**(.115)**
FAGE	-.127		-.39***		**-.454*** **
	(.176)		(.137)		**(.15)**
FSZE	-1.972***		-1.674**		**-1.878*** **
	(.73)		(.725)		**(.711)**
_CONS	23.909***		37.815***		**26.117*** **
	(7.053)		(6.134)		**(6.426)**
OBS	352		352		**352**
R^2	**.11**		**.10**		**.131**

In Table 3, Model 1 result shows that the NBOD shows a positive and significant association with ROA, having a P-value of 0.072 and a coefficient of 0.565. The theory of resource dependency indicates that a board that has associations with the outside surroundings would increase a company's access to numerous resources. Furthermore, the outcomes of the study might reflect the environment in which Pakistani companies operate, whereby larger boards serve as a means to obtain various resources at reduced costs, which in turn have a positive effect on corporate performance. The study is consistent with previous studies of Ehikioya (2009), Jackling & Johl (2009), Van et al. (2004), Abor & Biekpe (2007), Pfeffer (1973), and Anderson et al. (2004). Results from tables show that INDBM has a negative and significant effect on ROA, having a P-value of 0.013, which shows the deviation of 1.3% in the dependent variable. According to Foo & Zain (2010), with independent board information would be more transparent and distributed evenly, that in future consequences to enhance the liquidity of the company. So the earlier research of Fogel et al. (2021), Fauzi & Locke (2012), Dunn & Sainty (2009), Wang and Oliver (2009) also shows the same results.

Results from model 2 show that OWNC has a significant relationship with ROA, having P- P-value of 0.066 and a coefficient of -8.221. OWNC and firm performance significant relationship, showing that block holders effectively monitor the management and take those values. Previous research of Carney & Gedajlovic (2001),

and Ehikioya (2009) also shows a significant association between OWNC and the performance of the firm.

Results from model 3 visibly show that NOMBOD having P-value is 0.001 has a significant and positive effect on ROA, it can be concluded that firms with additional regular board meetings will improve the profitability, the outcomes of the analysis recommends that additional meetings allows members of board to correct and discuss operational problems also acts as a measure of the board efficiency, therefore, improves quality of making decisions as well as profitability, so the earlier researches of Altawalbeh, (2020), Ghosh, (2007), Vafeas, (1999), Al-Daoud et.al, (2016) also show same results.

The result shows that INDAM has a positive and significant relationship with ROA, having P- P-value of 0.067, which shows that INDAM has sufficient assurance to increase the performance of the firm. This shows that the greater the independence of the audit committee member, the higher the performance of the firm. Hamdan et al. (2013), Chan & Li, (2008), Tornyeva, & Wereko. (2012) and Kallamu & Saat (2015), and Naimah (2017) also find a significant relationship between independent audit members and firm performance.

NOAM has a positive and significant relationship with ROA, having a P-value of 0.092 and a coefficient of 0.859. Rebeiz & Salameh (2006) and Hsu & Petchsakulwong (2010) claim that more NOAM does assure to improve the performance of a firm, for instance, the excellence of the meetings is also guaranteed. According to Sharma et al. (2009); Salloum & Gebreyal (2014), the number of meetings of the audit committee shows a positive effect on the usefulness of audit committees, which mostly influence the performance of the firm.

Table 4: Fixed Effect Regression Analysis for Tobin's Q

Var	Model (1) Tobin's Q	Var	Model (2) Tobin's Q	Var	Model (3) Tobin's Q
NBOD	-.012	OWNC	-.974***	NOMBOD	**-.022*** **
	(.023)		(.332)		**(.006)**
INDBM	-.6*			ACM	**-.028**
	(.349)				**(.035)**
EXBM	.812*			INDAM	**-.095**
	(.43)				**(.177)**
FDOB	-.156**			NOAM	**.03**
	(.066)				**(.041)**
LEVG	.001		.004		**.001**
	(.009)		(.008)		**(.009)**
FAGE	.017		-.016		**-.012**
	(.013)		(.01)		**(.012)**
FSZE	-.199***		-.171***		**-.179*** **
	(.054)		(.054)		**(.055)**
_cons	2.082***		3.374***		**2.809*** **

Observations	352	352	**352**
R-squared	**.14**	**.103**	**.098**

Table 4 model 1 result shows that independent board members have a negative and significant effect on Tobin's Q, having a P-value of 0.086, which shows the deviation of negative 6% in the dependent variable.

Results of the EXBM show a positive and significant relationship with Tobin's Q, having p- p-value of 0.06 and a coefficient of 0.812. The EXBM comprises insiders selected by stockholders and employees, is supervised by the chief executive officer, and is also responsible for the everyday operations of the business. The members of the executive board are accountable for the operational activities of the Group, strategy formulation as well as policy proposals for consideration by the Board, and implementing the Board's directives.

Results visibly show that FDOB has a significant relationship with Tobin's Q, having a P-value- valueof0.02. This shows that the number of FDOB increases the performance of the firm, also increases. The study is consistent with previous findings of Rose (2007), Marinova et al. (2016), Randøy et al. (2006). Results of the Model 2 show that OWNC has a negative and significant relationship with Tobin's Q, having a P-value of 0.004 and a coefficient of -0.974. This shows that a one percent increase in OWNC would decrease firm value by 0.974 times.

Model 3 results visibly show that NOMBOD having a P-value is 0.006 has a significant effect on Tobin's Q. Earlier research of Altawalbeh (2020), Ghosh (2007), Vafeas (1999), and Al-Daoud et.al (2016) also show the same results.

Table 5: Fixed Effect Regression Analysis for EPS

VARIABLES	MODEL(1)	VAR	MODEL(2)	VAR	MODEL(3)
	EPS		**EPS**		**EPS**
NBOD	.718**	OWNC	-7.73*	NOMBOD	**.197**
	(.301)		(4.289)		**(.266)**
INDBM	-9.538**			ACM	**-.213**
	(4.505)				**(.449)**
EXBM	.187			INDAM	**0.334****
	(5.556)				**(.105)**
FDOB	.255			NOAM	**1.161****
	(.857)				**(.516)**
LEVG	-.07	LEVG	-.02	LEVG	**-.083**
	(.112)		(.108)		**(.113)**
FAGE	.057	FAGE	-.126	FAGE	**-.139**
	(.169)		(.132)		**(.147)**
FSZE	-.809	FSZE	-.671	FSZE	**-.786**

	(.703)		(.697)		**(.696)**
_CONS	9.999	_cons	22.709***	_cons	**13.887****
OBS	352	Obs.	352	Obs.	**352**
R^2	**.084**	**R^2**	**.052**	**R^2**	**.073**

Model 1 results show that NBOD shows a positive and significant association with EPS, having a P-value of 0.018 and a coefficient of 0.718. The study is consistent with previous findings of Ehikioya (2009), Jackling & Johl (2009), Van & Levrau (2004), Abor & Biekpe (2007), and Anderson et al. (2004).

Results from the table show that INDBM has a negative and significant effect on EPS, having a P-value of 0.035, which shows the deviation of 9.53% in the dependent variable. So, the earlier research of Fogel et al. (2014), Fauzi & Locke (2012), Dunn & Sainty (2009), and Wang & Oliver (2009) also shows the same results.

Results from Model 2 show that OWNC has a negative and significant relationship with EPS, havingP-valueof 0.072 andcoefficientof-7.73. This shows that a one percent increase in ownership concentration would decrease firm value by 0.974 times. Previous research of Wiwattanakantang (2001), Carney & Gedajlovic (2001), and Ehikioya (2009) also shows a significant association between ownership concentration and the performance of the firm.

Model 3 results show that INDAM has a significant relationship with EPS, having a P-value of 0.016. Al-Okaily& Naueihed (2019), Leung, S., Richardson & Jaggi (2014), and Mohammed (2018) also find a significant relationship between independent audit members and firm performance. NOAM has a significant relationship with EPS, having P-value of 0.025 and coefficient of 1.161. Rebeiz & Salameh (2006) and Hsu & Petchsakulwong (2010) claim that a greater number of audit meetings does assure to improve the performance of the firm; for instance, the excellence of the meetings is also to be guaranteed.

Moderating Effect of Leverage

Moderation takes place when the association between dependent and independent variables is influenced by another variable. The influence of a third variable that is a moderator is considered statistically as an interaction; i.e., a quantitative or categorical variable that interrupts the relationship and the direction between independent and dependent variables.

Table 6: Moderating Effect of Leverage on ROA Fixed Effect Regression Analysis

Variables	**Model(1)**	**Variables**	**Model (2)**	**Variables**	**Model(3)**
	ROA		**ROA**		**ROA**

NBOD	1.615***	OWNC	-14.725***	NOMBOD	**.809****
	(.501)		(5.423)		**(.318)**
LEVG	2.894	LEVG	-2.191**	LEVG	**5.08*****
	(1.823)		(.988)		**(1.355)**
C.NBOD*C.LEVG	-.493**	c.OWNC*c.LEVG	2.883**	c.NOMBOD*c.LEVG	**-.01**
	(.2)		(1.288)		**(.077)**
INDBM	-15.887***			ACM	**3.287*****
	(5.865)				**(.824)**
LEVG				LEVG	
C.INDBM*C.LEV G	1.154			c.ACM*c.LEVG	**-1.285*****
	(1.807)				**(.289)**
EXBM	.341			INDAM	**-3.155**
	(7.077)				**(2.98)**
LEVG				LEVG	
C.EXBM*C.LEVG	1.988			c.INDAM*c.LEVG	**1.469**
	(2.934)				**(1.322)**
FDOB	-.236			NOAM	**1.471*****
	(.993)				**(.56)**
LEVG				LEVG	
C.FDOB*C.LEVG	-.275			c.NOAM*c.LEVG	**-.307*****
	(.298)				**(.087)**
_CONS	-1.983	_cons	15.758***	_cons	**-14.29*****
	(4.489)		(3.555)		**(4.231)**
OBSERVATIONS	352	Observations	352	Observations	**352**
R-SQUARED	**.15**	**R-SQUARED**	**.101**	**R-SQUARED**	**.221**

Results of the Model 1 show that the NBOD has a negative and significant relationship with ROA, which means leverage has changed the relationship between them, because straight forward relationship of NBOD is positive with ROA. Leverage as a moderator has negatively changed the direction of the relationship between NBOD and ROA. Results show that larger boards will have more agency costs, and as the board becomes larger, issues such as coordination and communication costs will increase. By the introduction of leverage, external members are introduced to the board, which might cause conflict of interest between them, which in turn declines the profitability of the company.

Results of model 2 show that the interaction variable leverage has changed the relationship between OWNC and ROA, because straight forward relationship of

OWNC is negative and the moderated relationship is positive. This means that leverage has changed the direction of the relationship between OWNC and ROA. A study shows that the agency theory is applicable in the context of Pakistan. The decision-making power is in the hands of the top stakeholders in the structure of OWNC. The stakeholders made decisions that are favorable for them but not for the firm. Creditors who provide debt to the company are interested in accounting information because it provides information about the firm's worthiness. By the introduction of the leverage with OWNC decisions are made not only for the benefit of the shareholders but also for the firm.

Results of the model 3 show that the ACM has a negative and significant relationship with ROA, which means leverage has changed the relationship between them, because the direct relationship of ACM is positive with ROA. This means that leverage as a moderator has negatively changed the direction of the relationship between ACM with ROA.

Results show that the NOAM has a negative and significant relationship with ROA, indicating that leverage has altered the relationship between them, as the direct relationship between NOAM and ROA is positive.

Table 7: Moderating Effect of Leverage on Tobin's Q Fixed Effect Regression Analysis

VARIABLES	MODEL(1)	VAR	MODEL(2)	VAR	MODEL(3)
	Tobin'sQ		**Tobin'sQ**		**TOBIN'S Q**
NBOD	.007	OWNC	-1.418***	NOMBOD	**.002**
	(.037)		(.403)		**(.025)**
LEVG	-.141	LEVG	-.132*	LEVG	**-.026**
	(.136)		(.073)		**(.106)**
C.NBOD*C.LEVG	-.005	c.OWNC*c.LE VG	.184*	c.NOMBOD*c.LE VG	**-.008**
	(.015)		(.096)		**(.006)**
INDBM	-1.625***			ACM	**-.077**
	(.436)				**(.065)**
LEVG				LEVG	
C.INDBM*C.LEVG	.413***			c.ACM*c.LEVG	**.021**
	(.134)				**(.023)**
EXBM	.427			INDAM	**-.499****
	(.526)				**(.234)**
LEVG				LEVG	
C.EXBM*C.LEVG	.031			c.INDAM*c.LEV G	**.094**
	(.218)				**(.104)**
FDOB	-.299***			NOAM	**.033**
	(.074)				**(.044)**
LEVG				LEVG	
C.FDOB*C.LEVG	.071***			c.NOAM*c.LEVG	**-.005**
	(.022)				**(.007)**
_CONS	1.264***	_cons	1.713***	_cons	**1.048*****
	(.334)		(.264)		**(.332)**
OBSERVATIONS	352	Observations	352	Observations	**352**
R-SQUARED	**.123**	**R-SQUARED**	**.041**	**R-SQUARED**	**.033**

Model 1 results show that the INDBM has a positive and significant relationship with Tobin's Q, which means that leverage has changed the relationship between them, because in straight forward relationship of INDBM has a negative relationship with Tobin's Q. This means that leverage as moderator has positively changed the direction of the relationship between INDBM and Tobin's Q. The study shows that independent members of board guarantee the performance of the firm; therefore, firms would employ those INDBM who properly control the operations of the firm to increase the performance. According to Zain (2010), with an independent board, information would be more transparent and distributed evenly, which in the future would have consequences to enhance the liquidity of the company.

Results show that the FDOB has a positive and significant relationship with Tobin's Q, which means that leverage has changed the relationship between them because direct relationship of FDOB is negative with Tobin's Q. This means that leverage as a moderator has positively changed the direction of the relationship. According to Rose (2007), female directors' greater representation improves the performance of a firm by means of communicating effectively with prospective customers. Model 2 results show that the interaction variable leverage has changed the relationship between OWNC and ROA, because the straight, straightforward relationship of OWNC is negative, and the moderated relationship is positive. This means that leverage has changed the direction of the relationship between OWNC and ROA.

Table 8: Moderating Effect of Leverage on EPS Fixed Effect Regression Analysis

VARIABLES	MODEL(1)	VAR	MODEL(2)	VAR	MODEL(3)
	EPS		EPS		EPS
NBOD	1.168**	OWNC	-13.746***	NOMBOD	.33
	(.479)		(5.034)		(.309)
LEVG	2.007	LEVG	-2.025**	LEVG	2.756**
	(1.745)		(.917)		(1.316)
C.NBOD*C.LEVG	-.248	c.OWNC*c.LE VG	2.662**	c.NOMBOD*c.LE VG	-.082
	(.192)		(1.195)		(.075)
INDBM	-10.262*			ACM	.998
	(5.615)				(.8)
LEVG				LEVG	
C.INDBM*C.LEVG	.434			c.ACM*c.LEVG	-.506*
	(1.73)				(.28)
EXBM	.156			INDAM	-.243
	(6.775)				(2.893)
LEVG				LEVG	
C.EXBM*C.LEVG	-1.939			c.INDAM*c.LEVG	.048
	(2.809)				(1.284)
FDOB	.336			NOAM	1.458***
	(.95)				(.543)
LEVG				LEVG	

C.FDOB*C.LEVG	-.263		c.NOAM*c.LEVG	**-.161***
	(.286)			**(.085)**
_CONS	2.199	17.367***		**-2.858**
	(4.297)	(3.3)		**(4.107)**
OBSERVATIONS	352	352		**352**
R-SQUARED	**.053**	**.027**		**.038**

Model 2 results show that the OWNC has a positive and significant relationship with EPS, which means that leverage has changed the relationship between them. The relationship of OWNC is negative with EPS. This means that leverage as a moderator has positively changed the direction of the relationship between OWNC with EPS.

Model 3 results show that the ACM has a negative and significant relationship with EPS, which means that leverage has changed the relationship between them, because the direct relationship of ACM is positive with EPS. This means that leverage as a moderator has negatively changed the direction of the relationship between ACM with EPS. Results show that larger committees will have more agency cost, and as the committee becomes larger, issues such as coordination and communication costs will increase. By the introduction of leverage, external members are introduced to the committee, which might cause conflict of interest between them, which in turn decreases the profitability of the company.

Results show that the NOAM has a negative and significant relationship with EPS, which means that leverage has changed the relationship between them, because the direct relationship of NOAM is positive with EPS. This means that leverage as a moderator has negatively changed the direction of the relationship. Results show that audit committees that meet more actively will monitor the management and records effectively. Audit committees that infrequently come across may not effectively monitor the management, and also do not ensure the effectiveness of the financial reports of the firm.

CONCLUSION AND RECOMMENDATIONS

The present study aims to examine the moderating role of leverage on the relationship between the CG mechanism and firm performance, evidence from Pakistan. Non-financial firms of the cement and chemical sectors registered on the Pakistan stock exchange (PSX) are the sample for the study, for the period 2013 to 2020. Results of the study have shown that NBOD, INDBM, OWNC, NOMBOD, INDAM, and NOAM have a significant relationship with ROA. Performance parameter Tobin's Q results have a significant association with INDBM, EXBM, FDOB, OWNC, and NOMBOD. And the results of the EPS show a significant relationship with NBOD, INDBM, OWNC, INDAM, and NOAM.

By adding leverage as a moderator, it moderates the effect, and the results show that NBOD, OWNC, ACM, and NOAM have a significant relationship with ROA. While Tobin's Q results show that leverage as a moderator positively changes the relationship between INDBM, FDOB, and OWNC have a significant relationship. And the results of the EPS show that leverage as a moderator changed the direction of OWNC has positively changed the relationship, while ACM and NOAM have negatively changed the relationship and have a significant relationship. The current study results have shown that an effective mechanism of corporate governance enhances the value of the firm for the short term but also for the long term.

Limitations and Recommendations

The current study also has limitations as the study focuses only on two sectors of Pakistan listed on the Pakistan stock exchange, and the data is only for eight years. Therefore, future research can be accompanied by involving more sectors and time period for the analysis can belonge. Also, other corporate governance mechanisms can be studied, like qualification and experience of the directors, director remuneration, directorship positions held, age, and also quality of the board meetings.

Implication of the Study: The research conveys the significance and effectiveness of the mechanisms of corporate governance for the firm's success, particularly in Pakistan.

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