

Corporate Governance and Financial Performance: Evidence from Financial Firms Listed on Pakistan Stock Exchange

Adeel Akhtar,¹ Raemah Abdullah Hashim,² Muhammad Junaid,³ and Asma Nawaz⁴

Article Information	Abstract
Received: December 27, 2024	This study investigates the connection between corporate governance (CG) and the financial performance of financial firms using three performance metrics: return on assets (ROA), return on equity (ROE), and Tobin's Q (TQ). The analysis employs the pooled ordinary least squares panel econometric technique, using data from 70 financial firms listed on the Pakistan Stock Exchange (PSX) between 2007 and 2017. The results show that board composition, board ownership, institutional ownership, foreign ownership, CEO duality, CEO compensation, auditor remuneration, and executive compensation positively and significantly influence financial performance. In contrast, board independence and audit type are negatively associated with financial performance. The control variables, firm size and leverage, are also negatively related to all financial performance measures. Among the performance metrics, ROE has the strongest association with most CG indicators, while ROA and TQ show weaker relationships. Additionally, the findings confirm that firms adhering to corporate governance codes outperform those that do not.
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1. Introduction

Due to major corporate collapses, attention on issues relating to corporate governance (CG) has grown. High-profile scandals like “Enron, Harris Scarfe, WorldCom, One. Tel, and HIH” highlighted the need for stronger global standards and reforms (Jackling, 2009). These incidents occurred because corporate governance systems were weak, leading to a push for better governance structures to regain investors' trust in the markets (Berkman et al., 2009). Corporate governance refers to the processes, tools, and systems used to guide and manage a company effectively. These mechanisms help shareholders, investors, and financial backers monitor the returns on their investments (Shleifer and Vishny, 1997). However, the failure to reduce scandals relating to accounting frauds and governance issues attracted researchers to CG which can reduce governance deficiencies and improve financial performance.

Firms possessing weak implementation of governance structure are prone to poor performance due to agency problems and executives of these firms work for their own profits (Core *et al.*, 1999). While, agency theory suggests that agents of the firm are not interested in caring principles money but in their own interests (Letza *et al.*, 2004). Alternatively, agency theory states that agents of the firms do their best to increase shareholder wealth (Shleifer and Vishny, 1997). Accordingly, stewardship theory,

¹Assistant Professor, Department of Commerce, Bahauddin Zakariya University, Multan, Pakistan
Putra Business School, Universiti Putra Malaysia, email: adeel.akhtar@bzu.edu.pk

²Associate Professor, City University Malaysia, Selangor, Malaysia, email: raemah.hashim@city.edu.my

³Assistant Professor, College of Business Management, Institute of Business Management, Karachi, Pakistan
email: junaidmahay@hotmail.com

⁴Putra Business School, Universiti Putra Malaysia, email: aa.asmanawaz@gmail.com

suggests a positive relationship between a firm's financial performance (FP) and the role of the steward. A larger board can boost a firm's performance (FP) because of the members' experience, and diverse knowledge (Bhat et al., 2018). However, having a bigger board can also increase costs and reduce efficiency (Rashid and Islam, 2013). On the other hand, smaller boards lower expenses and can improve performance (Yermack, 1996). According to "resource dependence theory", directors who serve on multiple boards can act as valuable resources by sharing information about competitors through their business networks. This supports having enough non-executive and independent directors on a board, as they are linked to better performance (Arora and Sharma, 2016). However, Vafeas (1999) argues that "independent directors" may not benefit the firm as much because they spend less time collaborating with other directors. However, board meetings frequently held during an accounting period lead to higher FP because of board members' role in working for the best interest of the shareholders (Conger et al., 1998).

The way a company's ownership is structured, whether concentrated or spread out, can influence issues related to the "agency problem". Wiwattanakantang (2001) explains that "ownership concentration" (OC), where a few shareholders hold large portions of shares, can improve performance as these shareholders work towards common goals, resulting in higher returns. However, concentrated ownership can also harm performance due to conflicts among "major shareholders" and "poor governance", which create "agency problems (Lehmann & Weigand, 2000; Tam & Tan, 2007)". Moreover, separating board members from ownership may lead to the principal-agent problem (Sheleifer and Vishny, 1997). Hence, cost reduction theory suggests that an increase in cost due to conflict of interest among agents and principals can be condensed by board ownership. Whereas, higher board ownership can lead to low FP due to less monitoring and non-diversifying risk (Kapopoulos and Lazaretou, 2007). Foreign ownership (FO) also results in lower FP as monitoring becomes an issue and there are huge transaction costs associated with FO (Tam, 2007). Moreover, institutional ownership (IO) has observed a positive impact on FP as it increases the firm's market valuation (Kyereboach-Coleman, 2007).

The CEO is considered the most valuable asset of a company, and there is significant debate about corporate governance issues related to this role. To ensure the CEO's goals align with the company's, they should be offered competitive compensation packages. Studies show that higher CEO pay is positively linked to better company performance (Erick et al., 2014). Recently, there is a hot debate regarding CEO duality and its links with corporate performance, but the results in the literature are equivocal. CEO duality is supposed to enhance FP (Boyd, 1995). On the other hand, heavily relying on CEO duality can reduce FP (Daily and Dalton, 1997). Researchers agree that audits performed by the big four and their remunerations are positively associated with financial performance.

The relationship between "corporate governance" (CG) and "firm performance" (FP) has been a widely debated topic, particularly in developed economies (Barnhart et al., 1994; Kang and Shivdasani, 1995; Bhagat and Bolton, 2002; Judge et al., 2003; Christopher, 2004; Guest, 2008). While CG is a key research focus in these economies, and its frameworks are shaped by institutional similarities, the findings remain mixed (Sharma and Bhat, 2016). In contrast, research on CG in developing countries, such as Pakistan, is still in its early stages. This is likely due to limited data availability and weaker CG systems in these regions (Jackling and Johl, 2009; Nadeem and Zongjun, 2012; Sheikh and Karim, 2015; Arora and Sharma, 2016). The lack of empirical studies on CG and FP in developing economies, particularly in financial firms, and the inconsistent findings in existing research, form the foundation for this study to explore the impact of CG on FP.

This paper investigates the relationship between "corporate governance" (CG) and "financial performance" (FP) in "financial firms" listed on the "Pakistan Stock Exchange" (PSX), contributing to the CG literature. The study analyzes a large dataset of 770 firm-years, covering 70 financial firms over 11 years (2007–2017). Unlike previous research that often used a single framework, this study examines various aspects of CG, including "board size" (BS), board composition (BC), "board independence" (BI), ownership concentration (OC), board ownership (BO), institutional ownership (IO), foreign ownership (FO), CEO duality (CEOD), audit type (AT), board meetings (BM), CEO compensation (CEOC), auditor remuneration (AR), and executive compensation (EC). These factors are evaluated against two "accounting-based performance measures—return on assets (ROA) and return on equity

(ROE)—and one market-based measure, Tobin's Q (TQ)". The results show that CG practices significantly impact a firm's financial performance. This study offers valuable insights for corporate managers and policymakers to better understand governance mechanisms in Pakistan. Additionally, it highlights the importance of adopting the CG code issued by the SECP to improve financial performance.

The paper is structured as follows: Section 2 reviews the literature on "corporate governance" (CG) and "financial performance" (FP). Section 3 describes the data sources, variable selection, methodology, and research model. Section 4 presents the study's empirical results along with a detailed discussion. Finally, Section 5 provides the conclusion and discusses future implications.

2. Literature Review

"Corporate governance" (CG) mechanisms such as "board size" (BS), "board composition" (BC), board independence (BI), ownership concentration (OC), board ownership (BO), institutional ownership (IO), foreign ownership (FO), CEO duality (CEOD), audit type (AT), board meetings (BM), CEO compensation (CEOC), auditor remuneration (AR), and executive compensation (EC) have been extensively studied in relation to firm performance (FP), but primarily in developed countries (Dalton et al., 1999; Jensen, 1994; Coles and Hesterly, 2000; Elsayed, 2007; Yermack, 2007; Ilina et al., 2015). In contrast, research in developing countries remains limited, often producing inconsistent findings on the CG-FP relationship (e.g., Nadeem and Zongjun, 2012; Sheikh and Karim, 2015; Arora and Sharma, 2016; Bhat et al., 2018).

This section reviews relevant literature to develop research hypotheses. One debated topic in CG studies is determining the optimal size of a "company's board (Dalton et al., 1999; Hermalin and Weisbach, 2001; Jensen, 1994; Lipton and Lorsch, 1992; Neville, 2011; Yermack, 1996)". Some researchers argue that a larger board benefits firms by enabling better decision-making and closer monitoring (Adams and Mehran, 2003; Anderson and Reeb, 2003; Coles et al., 2001; Klein, 1998; Pfeffer, 1972). Others suggest that "smaller boards" are more effective, as "larger boards" can face issues such as poor communication, free-riding, and inefficiency (Jensen, 1994; Lipton and Lorsch, 1992). Mashayekhi and Bazaz (2008) found that board size negatively impacts FP due to challenges in managing larger boards. Conversely, other studies align with Resource Dependence Theory (RDT), stating that larger boards enhance FP by pooling more financial resources and diverse skills (Ehikioya, 2009; Jackling and Johl, 2009). Firms with complex and diversified operations may struggle with smaller boards, requiring larger ones for broader discussions and innovative ideas (Yermack, 1996). According to RDT, a board with more members and external connections can secure valuable resources, improving FP. Considering industry characteristics, CG codes, and RDT, the following hypothesis is proposed:

H1: "Board size positively impacts a firm's financial performance".

After major corporate collapses caused by scams, fake audits, and weak corporate governance (CG) practices, the composition of a "firm's board"—specifically the number of "non-executive directors" (NEDs)—has become a critical and widely discussed issue. Sheikh et al. (2011) highlight that NEDs bring valuable knowledge about the external environment, while inside directors have in-depth insight into the firm's internal operations. A balanced inclusion of NEDs on the board helps monitor the firm's "financial performance" (FP). Brickley and James (1987) found that having enough NEDs on the board can reduce managerial expenses. Additionally, outside directors and executive directors positively influence FP, as executive directors closely oversee operations and take corrective actions when necessary. For example, if a firm's performance declines, CEOs are often replaced over time (Weisbach, 1988). However, Agrawal and Knoeber (1996) argue that adding more outside directors may reflect political motives rather than improving FP. Moreover, Anderson et al. (2004) suggest that too many NEDs might negatively affect FP, as they are not involved in daily operations, which could lead to firm managers prioritizing personal interests over the company's interests. From an agency perspective, having a sufficient number of "independent directors" on the board helps address principal-agent conflicts effectively, thus improving FP (Nicholson and Kiel, 2007). The "Securities and Exchange Commission of Pakistan (SECP)" distinguishes between NEDs and independent directors in its 2012

CG code, recommending that firms include an adequate number of both in their boards. Therefore, following hypotheses are proposed:

H2: *“Board composition positively impacts a firm’s financial performance”*.

H3: *“Board independence positively impacts a firm’s financial performance”*.

Ownership concentration (OC) is considered one of the most effective “corporate governance” (CG) mechanisms for improving financial performance (FP). However, ownership structures in developing countries differ significantly from those in developed nations like the UK, USA, and Europe. In developed countries, ownership is typically dispersed among many shareholders, while in developing countries, ownership is concentrated among a small group of 5 to 10 major shareholders. This concentration often reflects weaker legal systems that fail to protect the “rights of small investors (Sheikh et al., 2013)”. Wiwattanakantang (2001) suggests that “OC positively impacts FP” because a few “large shareholders” tend to work towards shared goals, leading to “better performance and higher returns”. On the other hand, “OC can negatively affect FP due to conflicts among major shareholders and poor governance, which can create agency problems (Lehmann & Weigand, 2000; Tam & Tan, 2007)”. Therefore, the following hypothesis is derived from the above discussion:

H4: *“Ownership concentration positively impacts a firm’s financial performance”*.

Higher board ownership (BO) leads to low FP due to low monitoring and non-diversification of risks (Al Mehdi, 2007). Whereas, separating board members from ownership may lead to the principal-agent problem (Sheleifer and Vishny, 1997). Hence, cost reduction theory suggests that an increase in cost due to conflict of interest between agents and principals can be mitigated by board ownership. Therefore, a positive association between BO and FP is experienced. IO is positively related to FP as it increases the firm’s market valuation (Kyereboach-Coleman, 2007). Foreign investors create a positive impact on FP due to their diverse and vast business knowledge. FO also results in lower financial performance as monitoring becomes an issue and huge transaction costs are also associated with FO (Tam, 2007). Therefore, following hypotheses are suggested:

H5: *“Higher board ownership positively impacts a firm’s financial performance”*.

H6: *“Institutional ownership positively impacts a firm’s financial performance”*.

H7: *“Foreign ownership positively impacts a firm’s financial performance”*.

The “CEO” is seen as the “most valuable asset” of a company, and there is a lot of debate about corporate governance issues concerning the “CEO”. To ensure the CEO's goals align with the company's, they should receive competitive compensation packages. Research shows that higher CEO compensation is positively linked to better financial performance (FP) (Erick et al., 2014). Recently, there is a hot debate regarding the relationship between CEO and FP but the results are equivocal. With CEO firm’s financial performance is increased (Boyd, 1995) but heavily relying on CEO reduces FP (Daily and Dalton, 1997). Researchers are agreed that audits performed by big 4 financial and their remunerations are positively associated with FP. Therefore, the following hypotheses are formed:

H8: *“CEO duality positively impacts a firm’s financial performance”*.

H9: *“Audit type positively impacts a firm’s financial performance”*.

Frequent board meetings cost the firm in various ways such as traveling costs, director's meeting fees, and miscellaneous expenses. Moreover, directors spend little time in the firm which has a “negative impact on the financial performance of a firm” (Vafeas, 1999; Jensen, 1994). Alternatively, meetings held by the board during a financial year are considered an effective tool for tracking a firm’s “financial performance” and reflecting on board effectiveness (Zahra and Pearce, 1989). Board meetings frequently held during an accounting period led to higher financial performance because of board members' role in working for the better interest of shareholders (Conger et al., 1998). Therefore, following hypothesis is proposed:

H10: *“Frequent board meetings positively impact a firm’s financial performance”*.

Companies that do not offer competitive compensation plans to their CEOs tend to face more agency problems, as CEOs may prioritize their own interests over those of the company. To align the goals of

the “principal” (owners) and the “agent” (CEO), the CEO should be given a generous compensation package (Erick et al., 2014). But how should CEOs be paid? Their compensation should reflect their skills, intellect, and the effort they put into the company (Murphy and Zbojnik, 2004). Sun et al. (2013) studied “CEO compensation” (CEOC) and financial performance (FP) in US property insurance companies. Using panel data, they “found a significant positive relationship between CEOC and FP”. On the other hand, “Erick et al. (2014) examined CEO compensation and the financial performance of insurance firms in Kenya” and found that CEOC had little impact on performance. To align the goals of the principal and agent, CEOs should be compensated with appropriate plans, which could ultimately improve FP. Therefore, following hypothesis is formed:

H11: *“CEO compensation positively impacts a firm’s financial performance”*.

Separating ownership from the management arouses issues relating to principal-agent goals. Hence, the code of CG suggests governance mechanisms in the shape of audits to align the “goals of the principal and agent”. Auditor services and fee paid to them results in the higher financial performance of a firm (Anderson et al., 2004). Alternatively, researchers suggest that there is no linkage between auditor remuneration and FP (Agrawal and Chadha, 2005; Kinney et al., 2004; Larcker and Richrdson, 2004). Moreover, “fees paid to the auditor” for chairing the “audit committee” are higher than the audit itself, which results in a negative impact on FP (Brown and Caylor, 2004). Inconsistent results on auditor remuneration in previous studies lead to the formulation of the following hypothesis:

H12: *“Auditor remuneration positively impacts a firm’s financial performance”*.

Executive compensation (EC) refers to the pay, bonuses, and other incentives given to executives in a company. These incentives are designed to minimize conflicts between “management and company goals (Jensen and Murphy, 2010)”. Ozkan (2011) examined the relationship between total EC and “financial performance” (FP), and found that EC has a significant positive impact on FP. However, Erick et al. (2014) conducted a similar study and found no significant link between EC and FP. In the context of Pakistan, where a few large shareholders control firms through a high number of executive directors, a positive relationship between EC and FP is expected. Therefore, following hypothesis is proposed:

H13: *“Executive compensation positively impacts a firm’s financial performance”*.

Previous research on “corporate governance and financial performance” has highlighted various “control variables, such as firm size and leverage (Shiu, 2004; Sheikh et al., 2011; Afza and Asghar, 2012; Akotey et al., 2013; Sheikh and Karim, 2015; Arora and Sharma, 2016)”. These variables are used because they consistently have a significant impact on a “company's financial performance”. As a result, “firm size and leverage” are included as “control variables” in this study. Based on this, the following hypotheses are proposed:

H14: *“Firm size positively impacts a firm’s financial performance”*.

H15: *“Leverage negatively impacts a firm’s financial performance”*.

3. Research Methodology

3.1 Data Source and Sample

This study explores the relationship between “corporate governance (CG) and financial performance” (FP) of financial firms listed on the “Pakistan Stock Exchange” (PSX). The data used in the study was collected from the published annual reports of these firms for the period 2007–2017. Since PSX requires all listed companies to submit “audited annual reports” each year, “international accounting standards” were followed to ensure accuracy. “Market price data” for the shares was also gathered from PSX's published reports. After excluding firms with incomplete data, the final sample includes 70 firms with 770 observations over 11 years (2007–2017). These firms represent five different financial sectors: investment banks, insurance companies, commercial banks, leasing companies, and securities firms. **3.2**

3.2 Selection of variables

The definitions of the variables used in this research are based on existing literature. “Return on Assets (ROA), Return on Equity (ROE), and Tobin’s Q (TQ) are used as dependent variables”. The independent variables include Board Size (BS), Board Composition (BC), Board Independence (BI), Ownership Concentration (OC), Board Ownership (BO), Institutional Ownership (IO), Foreign Ownership (FO), CEO Duality (CEOD), Audit Type (AT), Board Meetings (BM), CEO Compensation (CEOC), Auditor Remuneration (AR), and Executive Compensation (EC). Additionally, “firm size and leverage” are included as “control variables”. The definition of each variable is provided in “Table 1”.

Table 1: Definition of Variables

Variable Type	Variable	Proxy	Definition
<i>Dependent variables</i>	Return on assets	ROA_{it}	“Profit before taxes / Total assets”
	Return on equity	ROE_{it}	“Profit before taxes / Total Shareholders equity”
	Tobin’s Q	TQ_{it}	“(Total assets + market value – shareholder equity book value) / total assets”
<i>“Corporate governance variables”</i>	Board size	BS_{it}	“Log of members in a firms board”
	Board composition	BC_{it}	“Non-executive directors / Total number of directors on the firm's board”
	Board Independence	BI_{it}	“Log of independent directors / Total number of directors on the firm's board”
	Ownership concentration	OC_{it}	“Shares owned by 10 largest shareholders / total number of common shares outstanding”
	Board ownership	Bo_{it}	“Shares owned by board members / total number of common shares outstanding”
	Institutional ownership	IO_{it}	“Shares owned by institution (FIs + banks + insurance + modaraba) / total number of common shares outstanding”
	Foreign ownership	FO_{it}	“Shares owned by foreign investors / total number of common shares outstanding”
	Ceo duality	$CEOD_{it}$	“1 if CEO is the board chairman, 0 otherwise”
	Audit type	AT_{it}	“1 if the auditor is among the big 4 financial firms, 0 otherwise”
	Board meetings	BM_{it}	“Log of board meetings in a financial period”
	CEO compensation	$CEOC_{it}$	“Log of Compensation received by CEO”
	Auditor remuneration	AR_{it}	“Log of Remuneration received by the auditor”
	Executive Compensation	EC_{it}	“Log of total executive compensation”
<i>Control variables</i>	Size	SIZ_{it}	“log of total assets”
	Leverage	LEV_{it}	“The ratio of total debt to total assets”

3.3 Model Specifications

The data used in this study spans over time and across different firms. To accurately analyze this data, we used the panel data technique, which is effective for studying data that is not purely cross-sectional or time-based. To obtain the results and analyze the relationship between corporate governance mechanisms and a firm's financial performance, we applied the pooled ordinary least squares (OLS) method.

$$Y_{jit} = \beta_{0j} + \beta_{1j}BS_{it} + \beta_{2j}BC_{it} + \beta_{3j}BI_{it} + \beta_{4j}OC_{it} + \beta_{5j}BO_{it} + \beta_{6j}IO_{it} + \beta_{7j}FO_{it} + \beta_{8j}CEOD_{it} + \beta_{9j}AT_{it} + \beta_{10j}BM_{it} + \beta_{11j}CEOC_{it} + \beta_{12j}AR_{it} + \beta_{13j}EC_{it} + \sum_{j=1}^2 \beta_{14j}Control_{jit} + \mu_{jit}$$

Where, $j = 1, 2, 3$, $i = 1, 2, \dots, 70$, $t = 1, 2, \dots, 11$

Y_{1it} represents “ROA for the firm i at time t ”, Y_{2it} represents “ROE for the firm i at time t ”, Y_{3it} represents “TQ for the firm i at time t ”, BS_{it} represents “board size for the firm i at time t ”, BC_{it} represents “board composition for the firm i at time t ”, BI_{it} represents “board independence for the firm i at time t ”, OC_{it} represents “ownership concentration for the firm i at time t ”, BO_{it} represents “board ownership for the firm i at time t ”, IO_{it} represents “institutional ownership for the firm i at time t ”, FO_{it} represents “foreign ownership for the firm i at time t ”, $CEOD_{it}$ represents “CEO duality for the firm i at time t ”, AD_{it} represents “audit type for the firm i at time t ”, BM_{it} represents “board meetings for the firm i at time t ”, $CEOC_{it}$ represents “CEO compensation for the firm i at time t ”, AR_{it} represents “auditor remuneration for the firm i at time t ”, EC_{it} represents “executive compensation for the firm i at time t ”, $Control_{jit}$ represents the J^{th} “control variables for the firm i at time t ”, $\beta_{0j} - \beta_{13j}$ represents “coefficients of the concerned explanatory variable”, μ_{jit} represents the “random error term for the firm i at time t ”.

4. Analysis of Empirical Results

4.1 Descriptive Statistics and Correlation of Variables

Table 2 shows the “descriptive statistics for the dependent, independent, and control variables”. The average values for “ROA, ROE, and TQ” are 0.019, 0.695, and 0.964, respectively. These values represent the average return on assets, equity, and market value for financial firms in Pakistan.

Table 2: Descriptive Statistics

Variable	N	Mean	Std. Deviation	Minimum	Maximum
ROA_{it}	770	0.01940	0.12922	-1.43541	0.72456
ROE_{it}	770	0.69506	18.0694	-18.8084	500.908
TQ_{it}	770	0.96482	3.43263	0.01176	40.3339
BS_{it}	770	2.53893	0.31568	1.73205	3.60555
BC_{it}	770	0.56855	0.15144	0.12500	0.90000
BI_{it}	770	0.17088	0.06115	0.00000	0.35355
OC_{it}	770	0.78814	0.43767	0.12987	7.02382
BO_{it}	770	0.10641	0.20263	0.00000	0.96624
IO_{it}	770	0.24512	0.44683	0.00000	6.87613
FO_{it}	770	0.03248	0.07543	0.00000	0.56014
$CEOD_{it}$	770	0.08	0.274	0	1
AT_{it}	770	0.58	0.493	0	1
BM_{it}	770	2.28183	0.32810	1.41421	4.00000
$CEOC_{it}$	770	6.98303	0.61653	4.84282	8.57626
AR_{it}	770	6.19596	0.59676	4.87506	8.40615
EC_{it}	770	6.71984	0.61546	2.81467	9.33235
SIZ_{it}	770	22.4783	2.64755	17.3238	28.6183
LEV_{it}	770	0.61977	0.45877	0.01516	5.79928

The average value of “Board Size” (BS) is 2.538, and “Board Composition” (BC) is 0.568, meaning that 56% of the board consists of “non-executive directors”. The average “Board Independence” (BI) is 0.170, indicating that 17% of the board members are “independent directors”. The mean Ownership Concentration (OC) is 0.78, which means 78% of the shares in financial firms are owned by the 10 largest shareholders. The average values for Board Ownership (BO), Institutional Ownership (IO), and Foreign Ownership (FO) are 0.106, 0.245, and 0.032, respectively. This shows that 10.6% of the shares are owned by board members, 24.5% by institutions, and 3.2% by foreign companies. The average values for CEO Duality (CEOD), Audit Type (AT), and “Board Meetings” (BM) are 0.08, 0.58, and 2.28, respectively. The average values for CEO compensation, auditor remuneration, and executive compensation are 6.98, 6.19, and 6.71, respectively. The mean values for firm size and leverage are 22.47 and 0.619, indicating that 61.9% of the assets in financial firms are financed by debt. This may be due to limited trading within the country and the lack of large-scale equity markets.

Table 3: Pearson Correlation Matrix

Table 3: Pearson Correlation Matrix

	<i>R</i>	<i>R</i>	<i>TQ</i>	<i>BS_{it}</i>	<i>BC</i>	<i>BI_{it}</i>	<i>O</i>	<i>BO_{it}</i>	<i>IO_{it}</i>	<i>FO_{it}</i>	<i>CE</i>	<i>AT_{it}</i>	<i>BM_{it}</i>	<i>CE</i>	<i>AR_{it}</i>	<i>EC</i>	<i>SIZ_{it}</i>	<i>LE</i>
<i>RO</i>	1	.20	-	.033	.06	-	-	.028	.129	.033	.035	.038	-	.047	.026	.16	.052	-
<i>RO</i>	.20	1	.00	-	-	-	-	.044	-.018	-	-	-	-	.008	-	.13	-	.03
<i>TQ</i>	-	.00	1	.039	.07	-	-	.167	-.070	-	-	-	-	-	-	-	-	.12
<i>BS_{it}</i>	.03	-	.03	1	.27	-	.13	.001	.051	.280	-	.198	.209	.422	.173	.09	.125	.29
<i>BC</i>	.06	-	.07	.270	1	-	-	-	.187	.092	-	.094	-	-	.003	-	-	-
<i>BI_{it}</i>	-	-	-	-	-	1	-	-	-	-	.059	-	.002	.042	.059	-	.028	-
<i>OC</i>	-	-	-	.134	-	-	1	.002	-.003	-	-	.064	.067	.083	.082	-	.087	-
<i>BO</i>	.02	.04	.16	.001	-	-	.00	1	-	.120	-	-	-	-	-	.01	-	-
<i>IO_{it}</i>	.12	-	-	.051	.18	-	-	-	1	.079	-	.057	-	-	-	-	-	-
<i>FO</i>	.03	-	-	.280	.09	-	-	.079	.079	1	-	.258	-	.284	.330	.02	.331	.13
<i>CE</i>	.03	-	-	-	-	.059	-	.120	-.011	-	1	-	-	-	-	-	-	-
<i>AT</i>	.03	-	-	.398	.09	-	.06	-	.057	.258	-	1	.251	.195	.148	.07	.166	.17
<i>B</i>	-	-	-	.209	-	.002	.06	-	-	-	-	.251	1	.264	.378	.06	.184	.16
<i>CE</i>	.04	.00	-	.224	-	.042	.08	-	-.061	.284	-	.195	.264	1	.163	.13	.184	.17
<i>AR</i>	.02	-	-	.173	.00	.059	.08	-	-	.330	-	.148	.378	.163	1	.14	.167	.30
<i>EC</i>	.16	.13	-	.090	-	-	-	.016	-.049	.024	-	.078	.067	.139	.143	1	.160	.12
<i>SI</i>	.05	-	-	.125	-	.028	.08	-	-	.331	-	.166	.418	.184	.167	.16	1	.36
<i>LE</i>	-	.03	.12	.292	-	-	-	-	.136	-	-	.171	.163	.171	.305	.12	.369	1

Note: *, **, *** are the significance levels at 10%, 5% and 1%.

To check the “multicollinearity”, the “Pearson correlation method” was applied and the results are presented in table 3. ***, **, * “shows the significance level of 1%, 5%, and 10%” respectively. The results indicate no problem of “multicollinearity among the variables” of this study.

4.2 Regression Results

To obtain the results, three performance measures “ROA, ROE, and TQ” are used in this study to regress against “independent variables” to check the impact of CG on FP. “Regression results” are provided below in Table 4, 5, and 6.

4.2.1 Analysis of the Influencing Factors of ROA

Table 4: Effects of explanatory variables on ROA

Variable	Coefficients	Std. Error	t-statistics	Sig.
<i>Cons.</i>	-0.642	0.070	-9.209	0.000
<i>BS_{it}</i>	0.016	0.016	1.051	0.293
<i>BC_{it}</i>	0.773	0.044	17.673	0.000
<i>BI_{it}</i>	0.027	0.069	0.396	0.692
<i>OC_{it}</i>	0.004	0.008	0.444	0.657
<i>BO_{it}</i>	0.044	0.019	2.345	0.019
<i>IO_{it}</i>	0.027	0.008	3.242	0.001
<i>FO_{it}</i>	-0.039	0.053	-0.735	0.463
<i>CEOD_{it}</i>	0.014	0.014	1.049	0.294
<i>AT_{it}</i>	-0.009	0.010	-0.853	0.394
<i>BM_{it}</i>	-0.010	0.012	-0.783	0.434
<i>CEOC_{it}</i>	0.019	0.010	1.899	0.058
<i>AR_{it}</i>	0.004	0.012	0.285	0.776
<i>EOM_{it}</i>	0.001	0.002	5.912	0.000
<i>SIZ_{it}</i>	-0.002	0.004	0.704	0.482
<i>LEV_{it}</i>	-0.077	0.009	-8.639	0.000
<i>R²</i>	0.420		\overline{R}^2	0.408
<i>N</i>	770		Prob.	0.000

Table 4 shows the t-statistic probabilities for the variables BS, BI, OC, FO, CEOD, AT, BM, AR, and SIZ, which are 0.293, 0.692, 0.657, 0.463, 0.294, 0.394, 0.434, 0.776, and 0.482, respectively. These values are all greater than 0.1, indicating that these variables do not have a significant impact on ROA. On the other hand, the t-statistic probabilities for the variables BC, BO, IO, CEOC, EC, and LEV are 0.000, 0.019, 0.001, 0.058, 0.000, and 0.000, respectively, all of which are less than 0.1, suggesting that these variables have a significant impact on ROA. Additionally, the model is “highly significant”, with a “Prob. (F-Statistics)” of 0.0000 and an “R-squared value” of 0.42, meaning the model explains 42% of the total variability. The regression model is represented by the following equation:

$$\hat{Y}_{jit} = -0.642 + 0.773BC_{it} + 0.04BO_{it} + 0.027IO_{it} + 0.019CEOC_{it} + 0.001EC_{it} - 0.077LEV_{it}$$

$$\begin{matrix} (-0.642) & (0.044) & (0.019) & (0.008) & (0.010) & (0.002) & (0.009) \\ t = (-9.29) & (17.67) & (2.34) & (3.24) & (1.89) & (5.912) & (-8.639) \\ R^2 = 0.42 & F = 36.393 & & & n = 770 & & \end{matrix}$$

BS, BC, BI, OC, BO, IO, CEOD, CEOC, AR, and EC are positively related to ROA but only BC, BO, IO, CEOC, and EC are statistically significant. $\beta_{21} = 0.773$ means that if the firm adds more NEDs to the board increases ROA by 0.77 percent. $\beta_{51} = 0.044$ suggests that an increase in one percent ownership of board directors increases the ROA by 0.04 percent. $\beta_{61} = 0.027$ indicates that an increase in one percent

institutional ownership increases a firm’s financial performance by 0.027 percent. $\beta_{111} = 0.019$ is indicating a 0.019 percent increase in *ROA* when CEO compensation increases by 1 percent. $\beta_{131} = 0.001$ percent indicates that a one percent increase in spending on firms' executives increases the *ROA* by 1 percent. Size has a positive impact on *ROA* but its relationship is insignificant, alternatively, leverage negatively impacts *ROA* and is statistically significant. $\beta_{1412} = -0.07$ suggests a one percent increase in leverage decreases the *ROA* by 0.07 percent.

4.2.2 Analysis of the Influencing Factors of Return on Equity

Table 5: Effects of explanatory variables on return on equity

Variable	Coefficients	Std. Error	t-statistics	Sig.
<i>Cons.</i>	10.806	3.751	2.881	0.004
<i>BS_{it}</i>	-0.437	0.835	-0.524	0.600
<i>BC_{it}</i>	0.587	2.353	4.499	0.000
<i>BI_{it}</i>	-3.325	3.690	-0.901	0.368
<i>OC_{it}</i>	0.466	0.452	1.031	0.303
<i>BO_{it}</i>	-0.209	1.001	-0.209	0.834
<i>IO_{it}</i>	-0.009	0.455	-0.019	0.985
<i>FO_{it}</i>	0.027	2.845	2.273	0.023
<i>CEOD_{it}</i>	0.023	0.072	2.049	0.041
<i>AT_{it}</i>	-0.025	0.053	-1.702	0.089
<i>BM_{it}</i>	-0.973	0.667	-1.459	0.145
<i>CEOC_{it}</i>	0.058	0.057	3.162	0.002
<i>AR_{it}</i>	0.427	0.069	2.126	0.034
<i>EC_{it}</i>	0.096	0.008	8.738	0.000
<i>SIZ_{it}</i>	-0.241	0.019	-8.643	0.000
<i>LEV_{it}</i>	-0.026	0.048	-2.124	0.034
<i>R²</i>	0.914		\overline{R}^2	0.913
<i>N</i>	770		Prob.	0.000

Table 5 shows the regression results for the explanatory variables on ROE. The t-statistic probabilities for the variables BS, BI, OC, BO, IO, and BM are 0.600, 0.368, 0.303, 0.834, 0.985, and 0.145, respectively. Since these values are all greater than 0.1, it indicates that these variables do not significantly impact ROE. On the other hand, the t-statistic probabilities for the variables BC, FO, CEOD, AT, CEOC, AR, EC, SIZ, and LEV are 0.000, 0.023, 0.041, 0.089, 0.002, 0.034, 0.000, 0.000, and 0.034, respectively, all of which are less than 0.1, suggesting that these variables significantly influence ROE. Additionally, the model shows high significance with a Prob. (F-Statistics) of 0.0000 and an R-squared value of 0.914, meaning the model explains 91.4% of the total variability. The regression model is represented by the following equation:

$$\hat{Y}_{jit} = 10.806 + 0.587BC_{it} + 0.027FO_{it} + 0.023 CEOD_{it} - 0.025 AT_{it} + 0.058 CEOC_{it} + 0.427AR_{it} + 0.096 EC_{it} - 0.241SIZ_{it} - 0.026LEV_{it}$$

(10.806) (2.350) (2.845) (0.0729) (0.053) (0.0573) (0.069) (0.008) (0.0191) (0.048)
t = (2.881) (4.49) (2.273) (2.049) (-1.702) (3.162) (2.126) (8.738) (-8.643) (-2.124)
 $R^2 = 0.914$ $F = 535.68$ $n = 770$

BC, FO, CEOD, CEOC, AR, and EC are positively significantly related to ROE, $\beta_{22} = 0.587$ suggests adding more “non-executive directors” to the firm’s board increases “ROE” by 0.587 percent. FO is positively significantly related to ROE and $\beta_{72} = 0.027$ means that a one percent increase in foreign ownership increases ROE by 0.027 percent. $\beta_{82} = 0.023$ indicates that CEO duality increases the ROE by 0.023 percent. $\beta_{112} = 0.058$ indicates that a one percent increase in CEO compensation increases ROE by 0.058 percent. $\beta_{122} = 0.42$ indicates a one percent increase in auditor remuneration increases ROE by 0.42 percent. $\beta_{132} = 0.046$ indicates a one percent increase in executive compensation increases ROE by 0.046 percent. Alternatively, audit type puts negative effects on ROE and the relationship is significant. $\beta_{92} = -0.025$ indicates that an increase in usage of big 4 financial firms for audit decreases the ROE by 0.025 percent. “Size and leverage” have a negative linkage with “ROE” and are statistically significant. $\beta_{1421} = -0.024$ indicates an increase in one percent assets of firms decreases the ROE by 0.024 percent. $\beta_{1422} = -0.026$ indicates that a one percent increase in debt financing of the company decreases the ROE by 0.026 percent.

4.2.3 Analysis of the Influencing Factors on Tobin’s Q

Table 6: Effects of explanatory variables on “Tobin’s Q”

Variable	Coefficients	Std. Error	t-statistics	Sig.
Cons.	-0.387	2.192	-0.177	0.860
BS _{it}	0.260	0.488	0.533	0.594
BC _{it}	-0.890	1.375	-0.647	0.518
BI _{it}	-0.071	2.156	-1.874	0.061
OC _{it}	-0.271	0.264	-1.027	0.305
BO _{it}	0.341	0.585	9.963	0.000
IO _{it}	-0.259	0.266	-0.974	0.330
FO _{it}	-1.297	1.662	-0.780	0.435
CEOD _{it}	-0.557	0.426	-1.306	0.192
AT _{it}	-0.250	0.314	-0.799	0.425
BM _{it}	-0.589	0.390	-1.511	0.131
CEOC _{it}	0.114	0.314	2.039	0.042
AR _{it}	0.167	0.391	4.271	0.000
EC _{it}	-0.004	0.004	-0.967	0.334
SIZ _{it}	-0.525	0.111	-4.716	0.000
LEV _{it}	-0.158	0.281	4.250	0.000
R ²	0.200		\bar{R}^2	0.185
N	770		Prob.	0.000

Table 6 shows that the t-statistic probabilities for the variables BS, BC, OC, IO, FO, CEOD, AT, BM, and EC are 0.594, 0.518, 0.305, 0.330, 0.435, 0.192, 0.425, 0.131, and 0.334, respectively. Since these values are all greater than 0.1, it indicates that these variables do not have a “significant impact” on TQ. In contrast, the t-statistic probabilities for the variables BI, BO, CEOC, AR, SIZ, and LEV are 0.061, 0.000, 0.042, 0.000, 0.000, and 0.000, respectively, all of which are less than 0.1, suggesting that these variables significantly affect TQ. The model is also “highly significant”, with a “Prob. (F-Statistics)” of 0.0000 and an R-squared value of 0.20, meaning the model explains 20% of the total variability. The regression model is shown in the following equation:

$$\hat{Y}_{jit} = -0.387 - 0.071BI_{it} + 0.341BO_{it} + 0.114CEOC_{it} + 0.167AR_{it} - 0.525SIZ_{it} - 0.158LEV_{it}$$

(-0.387)	(2.156)	(0.585)	(0.314)	(0.391)	(0.111)	(0.281)
t = (-0.177)	(-1.87)	(9.96)	(2.039)	(4.27)	(-4.716)	(4.250)
$R^2 = 0.20$		$F = 12.665$		$n = 770$		

$\beta_{33} = -0.071$ means that increasing one more “independent director” to the firm’s board decreases the firm value by 0.071 per cent. $\beta_{53} = 0.341$ means that increase in one percent share proportionate of board shareholding increases the firm value by 0.341 per cent. $\beta_{113} = 0.114$ indicates that one per cent increase in CEO compensation decreases the firm value by 0.114 per cent. $\beta_{123} = 0.167$ indicates that one per cent increase in auditor remuneration increases the firm value by 0.167 per cent. Size and leverage are negatively related to firm value. $\beta_{1431} = -0.525$ indicates increase in one per cent assets of firms decreases the firm market value by 0.525 per cent. $\beta_{1432} = -0.158$ indicates that one per cent increase in debt financing of the company decreases the firm market value by 0.158 per cent.

4.3 Discussion on Regression Results

Hypotheses developed in section 2 are tested through the regression results of three measures: ROA, ROE, and TQ. Therefore, due to the possibility of variations in the results from one measure to another measure; we have opted for the standard procedure. If an independent variable is significant with two out of three measures then it is accepted. If that is significant with only one measure then it is partially accepted, and if that is insignificant with all measures then that is rejected. On the other hand, if a hypothesis is developed positive and the results are negative or vice versa then the hypothesis is rejected.

The “regression results” show that “Board size” (BS) is positively linked to “ROA” and TQ but negatively linked to ROE, though none of these relationships are statistically significant, meaning H1 is rejected. This could be because larger boards raise company costs and reduce efficiency due to disagreements. This finding aligns with Agrawal and Knoeber (1996).

BC (board composition) is positively associated with “ROA and ROE”, and these relationships are statistically significant. However, BC is negatively related to TQ, but this relationship is not significant. As a result, H2 is accepted. This could be because non-executive directors bring more knowledge and market insight, which helps in monitoring financial performance. These findings align with Arora and Sharma (2016).

BI (board independence) shows a positive relationship with “ROA” and a negative relationship with “ROE and TQ”. Only the link with TQ is statistically significant, so H3 is rejected. This may be because 17% of independent directors in financial firms may lead managers to misuse financial resources for personal gain due to weak governance. Our results are consistent with Agrawal and Knoeber (1996), Ehikioya (2009), and Sheikh et al. (2011).

OC has a positive relationship with “ROA and ROE”, but it is negatively related to TQ, however, the relationship is statistically insignificant. According to the empirical results, H4 is rejected.

BO is positively related to ROA and TQ but its relationship with ROE is negative, possibly because BO reduces the principal-agent conflicts, and the cost associated with those conflicts could also be reduced. Therefore, H5 is accepted and the study results are consistent with the findings of Sheleifer and Vishny (1997).

IO has a positive association with “ROA” and a negative association with “ROE and TQ” but the relationship is only significant with ROA suggesting that collaboration with other institutions leads to higher performance due to increased potential of skills, information, tools, and techniques. Therefore, H6 is partially accepted.

FO has negative relations with “ROA” and TQ but positive with “ROE”, however, the relationship is only significant with ROE, which suggests that foreign investors create a positive impact on FP due to their diverse and vast business knowledge and ability to tackle the situations. Hence, H7 is partially accepted and the study results are consistent with the findings of Kyereboach-Coleman (2007).

CEO duality is positively linked to “ROA and ROE”, and negatively linked to TQ. However, the relationship is only significant with ROE. This suggests that if the CEO also serves as the chairman, they can more closely monitor the company’s performance through regular oversight of key activities, which may improve financial performance. Therefore, H8 is partially accepted, and the results are consistent with Xu et al. (2016).

Audit type has negative relations with all FP measures but it is only significant with ROE. The findings indicate that auditor from the big four financial firms can track problems timely due to their expertise and experience but due to their high fees and extra charges they put an extra burden on firms’ resources and decreases the firm’s “financial performance”. Therefore, H9 is rejected and the findings are consistent with the study of Xu *et al.*, (2016).

Board meetings also have a negative relationship with all FP measures and were also found to be statistically insignificant. Therefore, H10 is rejected suggesting that too many board meetings are not productive and could waste the resources of the firm.

CEOC has a positive relationship with all FP measures and is “statistically significant”, hence, H11 is accepted. Therefore, it could be inferred that CEOs with healthy compensation and sufficient funds could align principal-agent goals and work for principal interest rather than their own which helps to increase the FP. The study results are consistent with (Murphy and Zabojsnik, 2004; Erick *et al.*, 2014; Sun et al., 2013).

Auditor remuneration has positive connections with all FP measures but the relationship is statistically significant with ROE and TQ only. Issues like principal-agent goals arise due to separating ownership from the management which is resolved by performing audits to trace the scams. Therefore, H12 is accepted and it suggests that auditor services and fees paid to them result in higher FP. The study results are congruent with the findings of (Anderson et al., 2004; Larcker and Rishrdson, 2004; Kinney *et al.*, 2004; Agarwal and Chadha, 2005).

Executive Compensation is positively related to “ROA and ROE” and the relationship is statistically significant, however, it is negatively related to TQ and the relationship is statistically insignificant. Therefore, H13 is accepted and the findings indicate that incentives paid to executives reduce the conflicts between a firm and their interests which lead to higher FP. The study results are consistent with (Jensen and Murphy, 2010).

Firm Size is negatively related to all performance measures but the relationship is only significant with ROE and TQ. Therefore, H14 is rejected. Larger firms may have a negative impact on a firm’s financial performance due to their bureaucratic styles and insider politics. The findings are consistent with the findings of (Arora and Sharma, 2016).

Leverage is negatively and significantly related to all measures of performance. Hence, H15 is accepted. Agency issues force firms to take debt more than the appropriate level, resulting in the influence of lenders on the firm and reducing the control of managers on the firm’s activities, which in turn could result in negative FP. The study results are consistent with the findings of (Abor, 2007; Ebid 2009, Sheikh *et al.*, 2011; Gleason et al., 2000).

5. Conclusion

This study aims to examine the relationship between “corporate governance” (CG) indicators—such as board size, board composition, board independence, ownership concentration, board ownership, institutional ownership, foreign ownership, CEO duality, audit type, board meetings, CEO compensation, auditor remuneration, executive compensation, and financial performance (FP) measured by return on assets (ROA), return on equity (ROE), and Tobin’s Q (TQ). Data from 70 “financial firms” listed on the “Pakistan Stock Exchange (PSX)” from 2007 to 2017 were analyzed.

The findings reveal that board composition, board ownership, institutional ownership, foreign ownership, CEO duality, CEO compensation, auditor remuneration, and executive compensation positively and significantly impact financial performance. Conversely, board independence and audit

type show a negative relationship with firm performance. Control variables, including firm size and leverage, negatively affect all performance measures. Among the performance indicators, ROE shows the strongest relationship with CG indicators, whereas ROA and TQ are less influenced by them.

The results support “corporate governance theories” like “agency theory”, “stewardship theory”, and “resource dependence theory”. Furthermore, the study highlights the importance of adhering to corporate governance codes, as firms following these practices tend to perform better financially. These findings provide valuable insights for regulatory authorities to improve corporate governance mechanisms and for managers to understand how governance impacts financial performance.

The study is limited to 70 financial firms listed on the PSX, excluding Islamic Banks, Takaful, and Modaraba firms due to their unique business models. Future research could focus on these excluded firms to investigate the impact of corporate governance on their performance. Additionally, comparing financial and non-financial firms could offer a broader perspective on governance practices and their influence on financial outcomes.

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