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The Impact of Corporate Governance on Financial Distress likelihood: An Empirical Evidence

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ABSTRACT

The present study examines corporate governance's role in the likelihood of financial distress for a sample of 1810 firm-year observations of Pakistan Stock Exchange (PSX) non-financial listed companies over the period 2010-2018. The panel Logistic Regression technique is used to conduit the relationship between corporate governance and financial distress after confounding effects of leverage, return on assets and management efficiency. Altman Z-score is used to measure the financial distress of sample firms as it measures financial distress inversely. The higher the value of the Z-score lower will be the probability of financial distress. Result reveals that audit committee size and audit committee independence show significant positive while external auditor's quality shows significant negative association towards financial distress. Among board governance variables, board size and CEO dominance have a significant negative relationship, while duality is negatively associated with financial distress. Ownership structure variables show a significant negative association with financial distress except for ownership concentration that shows a positive relationship with financial distress. Evidence of a significant negative relationship is found between the governance index and the likelihood of financial distress; the higher the governance index, the lower the probability of financial distress. This study's findings provide more insight to corporate managers and investors about the association between corporate governance and the degree of financial distress to Pakistani firms. Furthermore, this study is helpful to regulatory bodies and policymakers in the formulation of long-term corporate governance strategies to manage financial distress.

INTRODUCTION

The separation of ownership and control in large companies leads to the exigency of corporate governance (Shleifer & Vishny, 1997). Corporate governance comprises policies and regulations framed to command and oversee the company (Cadbury Report, 1992). The Paramount responsibility of corporate governance is to efficiently safeguard equity owners' interests (Wajid and Shah, 2017).

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Academicians and policymakers agree that effective governance mechanisms improve firms' financial performance and attract local and foreign investors. It ensures the accomplishment of corporate objectives, shareholder protection, and fulfils legal compliance. Effective corporate governance helps companies in strategic decision-making and saves firms from financial distress (Jamal & Shah, 2017). Corporate governance mechanism is diversified across different states because of divergence in their micro and macro environment. International disseminating codes of good corporate governance are issued to comprehend this issue (Aguilera & Cuervo-Cazurra, 2004). These codes assist firms to upgrade their governance structure and efficiently take part in innovating practices.

Whitaker (1999) expresses financial distress when a firm's cash flow is insufficient to meet the current debt obligations. Hence it is not restricted to the situation when the firm cannot pay its arrears, but several other events before default may come under this umbrella. Many firm-related factors increase the firm's probability of prone to financial distress like an increase in fixed costs, illiquid assets, non-compliance of governance codes and principles, and continuous operating loss, which may lead to bankruptcy liquidation (Khalid et al., 2020). Since 1980, there is an extensive study exists that not only put emphasis on the eminence of the corporate governance but also highlight the role of the same on the probability of financial distress (Daily & Dalton, 1994a: Deng & Wang, 2006; Fich & Slezak, 2008; Chang, 2009; Shahwan, 2015; Udin et al., 2017; Jamal and Shah, 2017; Miglani et al., 2012; Manzaneque et al., 2016). Good corporate governance prevents firms from this unwanted financial distress state. Abdullah (2006) and Black et al. (2011) claim good corporate governance strengthens the firm performance and saves it from financial distress.

Governance gained prime importance to combat the international business challenges of the 21st century in Pakistan. The debacle of Taj Company, Sarah Textile's, the Crescent bank, ENGRO Group raised corporate governance's importance in Pakistan. Pakistan also witnesses this issue, but it was at the top in 1972 and 2012 as 58 and 68 firms got to lay-off from Pakistan Stock Exchange (PSX) during these periods due to financial distress simultaneously (Khurshid et al., 2018). The Securities and Exchange Commission of Pakistan (SECP) took this ownership in 1999 and focused on Pakistan's governance practices. In 2002, a governance code was issued but not mandatory to be followed the same in the organization. In 2012, revised governance codes issued by SECP were based on the international principles of openness, clarity, and accountability, which are mandatory to be followed by the corporations. In Pakistan, the corporate governance structure is weak because of cross-shareholdings, interlocking directorship, frail disclosure practices, and low auditing standards (Tariq and Abass, 2013; Udin et al., 2017).

Furthermore, the majority of the organizations have characteristics of cross-shareholdings and interlocking directorship to control businesses. Therefore, the quality of corporate governance is relatively low in Pakistan. Hence, it is essential to reveal corporate governance's role in the likelihood of financial distress in the local context. Earlier studies in this context cover only a single aspect of corporate governance (Jamal & Shah, 2017; Taj et al., 2017; Udin et al., 2017, Khurshid et al., 2019; Khalid et al., 2020); there is not any study available in a local context that empirically examines the audit structure, board structure, ownership structure, as well as composite governance index simultaneously in connection with financial distress. Hence, it is pertinent to analyze the entire aspect of corporate governance on the likelihood of financial distress in Pakistan's context.

Against this backdrop, the present study investigates the impact of corporate governance on the likelihood of financial distress on PSX listed firms for 2010-2018. The audit committee structure measures thorough audit committee size, audit committee independence, audit committee activity, and external auditor quality; board structure measures through board size, board independence, board activity, CEO duality, CEO dominance, and board participation; ownership structure uses managerial ownership, family ownership, institutional ownership, foreign ownership, associated ownership, ownership concentration, and presence of block holders in ownership structure as a corporate governance measure. Further, we followed (Nazir, 2016) and compute governance index based on 29 governance provisions ranging from the audit committee, board committee, and ownership structure to executive compensation in the local context. Earlier studies cover individual components of governance measures; this study first uses governance index in connection with financial distress, and financial distress is obtained using the Atman Z-score model (Shahwan, 2015).

This structure of this study is as follow: section 2 demonstrates the literature review and the development of the hypothesis; section 3 presents research designs including data, sample selection and the sample criteria; section 4 develops the operationalizastion of variables; section 5 provides the results, and section 6 concludes the findings of this survey.

LITERATURE REVIEW

An extensive empirical literature exists that explores the effects of governance mechanism on the possibility of a firm's financial distress since the 1980s. Literature is broadly categorized into two groups. One stream of research emphasizes how governance practices differ between healthy and distressed firms and the repercussions of corporate governance on the probability of default (e.g., Lee and Yeh, 2004; Al-Tamimi, 2012). Another research pool focuses on the repercussions of governance on

distressed firms (Parker et al., 2002; Muranda, 2006).

The audit committee (AC) is an essential component of corporate governance as it oversight management (Ruzaidah and Takiah, 2004), minimize agency cost (Foker, 1992), pressurize management to perform its statutory and fiduciary responsibilities (Collier, 1992), and enhance the effectiveness of board structure (Spira, 2003). Further, firms with an effective AC perform better than counterparts (Chen et al., 2005). In the context of audit AC characteristics, researchers like Weisbach (1958), Vacnair et al. (1993) and Venten and Lee (1993) argue that an AC is having a majority of non-executive member's present more independent opinion about top management. Porter and Gendall (1993) suggest that an AC must have a minimum of three members, and the majority should be non-executive directors. Contrarily, Miglani et al. (2010) fail to find a significant association between AC composition and financial distress. Moreover, researchers (Wright, 1996; Klein, 2002) study AC size to connect with financial reporting quality and confirm a significant negative association between AC size and financial reporting quality. Secondly, an AC must have enough members to perform its responsibilities more efficiently and effectively (Vinten and Lee, 1993). The resource dependency theory favours a larger AC size and suggests its positive association towards firm performance. Miglani et al. (2010) compare AC size among distressed and healthy firms and fail to find any AC size association with financial distress.

A board mechanism has a significant determinant of financial distress. Poor corporate governance empowered management to adopt self-serving behaviour or majority shareholders to look upon the interest of themselves at the expense of minority shareholders (La Porta et al., 2000) that lead the firm toward financial distress. Hence, the part of the board mechanism should be examined in this perspective. Empirical results show mixed findings of the board's size and its repercussions on the firm future financial behaviour. At one end, the resource dependency theory favours larger board size by arguing that it enhances the firm's capacity to access needed resources and the information and thus helps meet business objectives efficiently (Pearce & Zehra, 1992; Pfeffer, 1972). Contrary to the above findings, researchers Goodstein et al. (1994), Yermack (1996), and Fich & Slezak (2008) favour smaller board size as larger board size has a balance of power problem, less involvement towards business issues, lack of effectiveness in the time of need strategic direction. Thus smaller boards become more useful for implementing effective governance structure and decreasing the chances of the firm being in a distressed state in the future (Fich & Slezak, 2008).

The prevalence of independent directors in the board mechanism is advocated by agency theory to ensure effective management control. Independent directors' prime responsibility is to monitor and put effective

control over management, thus saving firms from adopting opportunistic behaviour (Fama & Jensen, 1983; Jensen, 1993; Jensen & Meckling, 1976). Further, they help minimize the information asymmetry and the agency issue between stockholders and management (Fich & Slezak, 2008). Some author's portrait dark side of the picture and claiming that independent directors have not adequate knowledge and expertise to practice their job (Baysinger & Hoskisson, 1990), so they could not save firm from financial distress. Thus literature has mixed findings of the presence and role of independent directors towards business failure or success.

Board independence is also proxy by the separation of the role of CEO and chairman of the board. Some researchers favour duality as it leads to strong leadership and control in an organization, easing transmitting information, minimizing coordination cost, and eliminating the possible chances of conflict between these two powerful positions in organizations (Donaldson & Davis, 1991). Researchers like (Jensen, 1993; Baysinger & Hoskisson, 1990) against the duality by claiming that the board must work independently and practice its monitoring function more convincingly (monitoring hypotheses).

Agency issue become widens in financial distress state between management and other equity holders as management give preference to gain short term benefits because of job insecurity rather than to make a decision that lessens distress situation in the future (Donker et al., 2009). The remedy in this circumstance holds in the hands of large shareholders or directors of the company. Large shareholders have an incentive to closely monitor the management and check on management's opportunistic attitude because of the firm's heavy financial stakes. So large shareholders raise the firm's value by minimizing information asymmetry and handling agency issues (Claessens et al., 2002). On the contrary, some investigations propound that large shareholdings may create an issue of information asymmetry between predominance and minority shareholders (Jensen, 1983), so large shareholders look after the interest of themselves rather than minority shareholders (La Porta et al., 2000). This situation leads to financial distress as minority shareholders suffer by way of appropriation from majority shareholders. So the effect of large (concentrated) shareholders on financial distress is mixed and yet inconclusive.

Institutional ownership and their relationship towards financial distress are also a point of discussion by researchers for a long. Empirical evidence regarding institutional ownership and its possible linkage with financial distress both are mixed and inconclusive. Chung and Kim (2006), Daily and Dalton (1994b), and Mangena and Chamisa (2008) found an active role of institutional ownership towards management and prove negative association with financial distress. Contrarily, Donker et al. (2009) prove an optimistic connection by claiming that they play a passive role in monitoring management because of a lack of expertise.

Convergence theory corroborated the positive link between firm performance and the director's ownership. Shleifer & Vishny (1997) declared it a powerful incentive to integrate the managing bodies' interest towards shareholders' interest. Jensen (1993) claims that firms, where directors do not hold large equity cannot put adequate checks on management, resulting in managers having no incentive to make decisions that maximize firm value. Fich and Slezak (2008) show an inverse association between board ownership and the possibility of business failure. On Chinese sample data, Wang and Deng (2006) argue that firms having directors comprise the majority shareholdings decide in the perspective of long-term value creation and a greater probability of survival in these organizations' future.

Another group of studies, Aydin et al. (1987), Ongore (2011), Kim and Yeh (2004), Rohani et al. (2013) and Yoo and Koh (2014), studies foreign ownership with firm performance and the likelihood of financial distress. Researchers considered foreign investment a symbol of stock market development and a positive signal of investors' confidence in the capital market. Rohani et al. (2013) show a negative association between foreign ownership and the likelihood of financial distress. This negative association is also endorsed by Yoo and Koh (2014), Ongore (2011), and Aydin et al. (2007) and further adding that foreign ownership enhances monitoring function over management that leads to increasing firm financial performance as well.

Literature witnesses a limited number of studies in the connection between the corporate governance index and financial distress. In this perspective, a notable study is conducted by Shahwan (2015) on Egyptian listed firms. For the year 2008, the sample of the study comprises of 86 non-financial listed firms. The governance index is computed by covering four dimensions of corporate governance, i.e., disclosure and transparency, board composition, shareholder's rights and investor relations and ownership structure, while financial distress captures through Altman Z-score. The descriptive result shows overall low governance quality in Egyptian listed firms. Further, after regression analysis, it was found that there exists an insignificant relationship between overall governance quality and financial distress likelihood and between corporate governance and firm performance.

There are minimal numbers of studies carried out in the local context to explore the influence of governance mechanism on financial distress. Jamal and Shah (2017) investigated the possible link between governance characteristics and financial distress. They measure governance mechanisms through audit and board committee characteristics and distress measures through KZ Index. The study concludes that board size, duality, and board composition are positively associated with the firms' financial distress state.

Udin et al. (2017) took ownership structure as a governance measure and examined the impact of the

same on financial distress. For the period from 2003 to 2012, the study sample comprises 146 PSX listed firms. The financial health of sample firms measures through Altman's Z score, which collects five firm-specific variables. They applied GMM and Panel Logistic Regression to conclude the findings. As per their findings, ownership structure proves an insignificant association with financial distress.

Taj et al. (2017) made a study in the textile sector to cover 2010 to 2015. Sample firms are categorized into default and healthy firms. They employed two models, namely "Multivariate Discriminate Analysis" and "Logit Regression Analysis," to diagnose their distress prediction accuracy. The study results show that both models are adequate to forecast financial distress; however, in comparing them, LRA proves to be superior to MDA to predict financial distress.

Khurshid et al. (2018) choose to board and ownership configuration as a governance apparatus to explore the impact of the same on non-financial PSX listed firms' financial distress. The study sample comprises 164 firms, and the study covers the period from 2009 to 2016. Financial distress is captured through the "Earning Market Score" measure, an updated version of Altman's Z score to conclude the study. Results show that board expanse, managerial proprietorship, institutional ownership, audit quality, insider directors ownership and profitability has significantly negatively associated with financial distress while the rest of board governance and ownership structure variables prove significant positive association with financial distress.

More recently, Khalid et al. (2020) studied the impact of an audit committee on financially distressed and healthy firms over 2006-2010. Financial firms skip from the sample because of their different reporting style as compare to non-financial firms. Through applying the logit regression model, results reveal that audit committee independence and audit committee opinion has a significant relationship, while audit committee size shows an insignificant association with financial distress.

Theoretical framework and Hypothesis development

The conceptual framework is drawn based on the literature review and presented in figure 1. Arrows show the direction of the relationship between variables.

Based on the literature review and conceptual framework presented in figure 1 above, the following research hypothesis is formulated:

H1: There is a negative association between Audit committee structure and financial distress in PSX listed firms.

H2: Board structure mechanism is inversely associated with financial distress in PSX listed firms

H3: Ownership structure has a significant relationship with financial distress in PSX listed firms.

H4: There is a significant negative impact of the Corporate Governance Index on financial distress in the context of PSX listed firms.

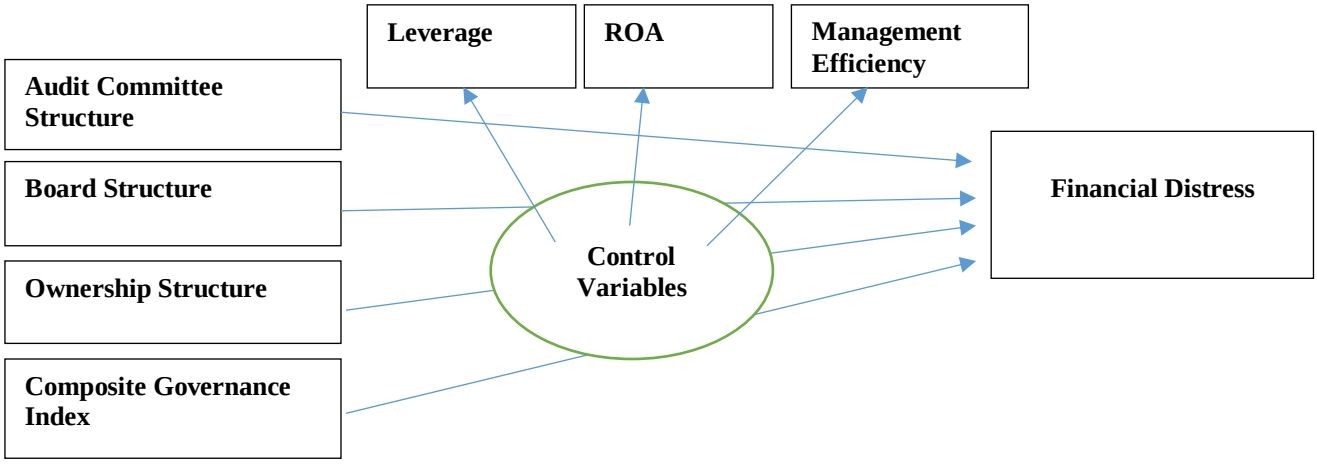

Figure 1: Conceptual Framework

METHODOLOGY

Research Design

The present study opted quantitative research pattern. This is appropriate where both cross-sectional and longitudinal attributes of the studied units are required (Gujarati, 1995).

Study population

This analysis covers all non-financial PSX registered firms during the period 2010 to 2018. Financial firms skip from the sample because of the more significant financial reporting variation, accounting rules and regulations, and corporate governance requirements. Such differences may impact on the accuracy of accounting measures (Shahwan, 2015). This drives down the sample to 473 non-financial firms. Moreover, 272 non-financial firms skip from the sample due to the non-availability of the financial reports and governance data, merger, discontinuity in operation, and continued operating losses. Our ultimate test consists of 201 non-financial firms (1810 firm-year observations), representing 34% of PSX registered firms' entire population during the investigation period.

Data Collection

This analysis used secondary data of the sample firms for the period from 2010 to 2018. Data has been gathered from yearly reports of respected firms, State Bank of Pakistan (SBP) balance sheet data analysis, business recorder website, open doors websites and PSX historical data. The study employed annual data, as Xiaoqi (2013) favours annual data as variables are explained, and data are more in detail

available in yearly reports. The collected data organized in the panel for analysis. According to Baltagi et al. (2005), panel data is appropriate for data analysis, as it provides both time-series and cross-section dimensions. After collecting data on corporate governance, Financial Distress and control variables, the initial data screening process was done to identify the presence of outliers in the initial sample, which could be harmful in the generalization of the empirical results. All continuous variables are winsorized at the 1% and 99% levels to deal with these outliers and bring generalizability in results.

Data Analysis

The relevant variables of data were collected and arranged in a panel for analysis. To summarize and pattern of data, descriptive statistics used such as the measures of central tendency measure dispersion. Further, STATA version 11, used to conclude the findings of the study.

Measurement of Analyzed Variables

The measurement and operationalizastion of the studied variables are shown in Appendix I.

Empirical Model Specification

The given regression model is opted to assay the impact of corporate governance on firm performance.

$$FD_{it} = \alpha_0 + \alpha_1 AC\_Size_{it} + \alpha_2 AC\_Ind_{it} + \alpha_3 AC\_Acty_{it} + \alpha_4 EAQ_{it} + \alpha_5 Lev_{it} + \alpha_6 ROA_{it} + \alpha_7 Mgt\ Efcy_{it} + \varepsilon_{it}. \quad \textbf{(1)}$$

$$FD_{it} = \alpha_0 + \alpha_1 B\_Size_{it} + \alpha_2 B\_Ind_{it} + \alpha_3 B\_Acty_{it} + \alpha_4 CEO\_Duality_{it} + \alpha_5 CEO\_Domm_{it} + \alpha_6 B\_Part_{it} + \alpha_7 Lev_{it} + \alpha_8 ROA_{it} + \alpha_9 Mgt\ Efcy_{it} + \varepsilon_{it} \quad \textbf{(2)}$$

$$FD_{it} = \alpha_0 + \alpha_1 MNG\_Own_{it} + \alpha_2 Family\_Own_{it} + \alpha_3 Inst\_Own_{it} + \alpha_4 Frgn\_Own_{it} + \alpha_5 Block_{it} + \alpha_6 Con\_Own_{it} + \alpha_7 Con\_Own_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \alpha_{10} Mgt\ Efcy_{it} + \varepsilon_{it} \quad \textbf{(3)}$$

$$FD_{it} = \alpha_0 + \alpha_1 CG\ Index_{it} + \alpha_2 Lev_{it} + \alpha_3 ROA_{it} + \alpha_4 Mgt\ Efcy_{it} + \varepsilon_{it} \quad \textbf{(4)}$$

Where:

FD_{it}	*= Financial distress status for firm i for time t*
AC_Size_{it}	*= No. of members in internal AC for firm i for time t;*
AC_Ind_{it}	*= No of independent internal AC members for firm i for time t;*
$AC\_Activity_{it}$	*= Total number of the internal committee meeting in a financial year for firm i for time t;*
EAQ_{it}	*= External auditor quality for firm i for time t;*
B_Size_{it}	*= No. of Members in a board of directors for firm i for time t;*
B_Ind_{it}	*= Independent members in a board of directors for firm i for time t;*
$B\_Activity_{it}$	*= Total number of the board meeting held in a financial year for firm i for time t;*
$CEO\_Duality_{it}$	*= CEO duality for firm i for time t;*
CEO_Domm	*= CEO dominance for firm i for time t;*
B_Part_{it}	*= Participation rate of directors in board meetings for firm i for time t;*
MNG_Own_{it}	*= Fraction of shares held by insiders for firm i for time t;*
$Family\_Own_{it}$	*= Fraction of shares held by family members for firm i for time t;*
$Inst\_Own_{it}$	*= % of shares held by the financial institution for firm i for time t;*
$Block\_Own_{it}$	*= Dummy for the presence of external block holder for firm i for time t;*
$Frgn\_Own_{it}$	*= Fraction of shares held by foreigners for firm i for time t;*
Ass_Own	*= % of shares held by associated and related parties for firm i for time t;*

Con_Own_{it} = *Fraction of shares held by 5 big shareholders for firm i for time t;*
$CG\ Index_{it}$ = *Corporate Governance Index for firm i for time t;*
Lev_{it} = *Leverage ratio of sample firm for firm i for time t*
ROA_{it} = *Profitability for firm i for time t*
$Mgt\ Efcy_{it}$ = *Management efficiency for firm i for time t*
B_0 = *Intercept for firm i for time t*
ε_{it} = *residual*

Methodology

We applied Panel logistic Regression (PLR) to examine the impact of corporate governance on financial distress. It has an advantage over ordinary least squares (OLS) as it overcomes the limitation of OLS, especially when the dependent variable is binary. Researchers like Wang and Deng (2006), Al-Tamimi (2012), Shahwan (2015), Manzaneque et al. (2016) and Udin et al. (2017) used PLR to investigate the association between corporate governance and financial distress in their respective studies.

RESULTS AND DISCUSSION

Descriptive statistics and correlation analysis

Table 1 presents descriptive statistics of studied variables. Financial distress is measured through the Altman Z-score. It bestows a threshold level to forecast the financial distress of the firm. Based on the Z-score sample, companies divided into two groups: Firms with Z-score more than 1.81 are in a "grey zone" and treated as a financially healthy firm, whereas firms having scores less than 1.81 is to be treated as distressed firms. We construct a dummy variable that takes value 1 in the distressed firm and 0 otherwise based on the information.

Descriptive statistics show that governance characteristics between healthy and distressed firms are almost the same in Pakistan, suggesting ineffective governance of the firm's financial health. Further, the result shows that distressed firms are more leveraged than healthy firms as distressed firms, on average, 36% leverage level and 19% in the case of a healthy firm. Furthermore, healthy firms have a higher return on assets (0.103 vs. -0.012) and management efficiency (1.425 vs. 0.718). Financially distress firms have less likelihood of duality (0.194 vs. 0.323), lower external auditor quality (0.421 vs. 0.629), less CEO Dominance (0.384 vs. 0.498), higher manager ownership (21% vs. 24%), less institutional ownership (0.081 vs. 0.109), less foreign ownership (0.028 vs 0.063), and less associated ownership (0.276 vs. 0.345). and the presence of block holders almost the same for healthy and distressed firms. AC and board structure variables mostly the same in distress and healthy firms.

To test the multicollinearity problem among explanatory variables, the Pearson correlation matrix formed. Following Andersen et al. (1990), any correlation coefficient value above 0.7 shows a multicollinearity issue in data. There is no collinearity issue in data as there is no value that reaches the

threshold level, i.e., 0.7. The result of correlation matrix is not presented here due to space limitations.

Table No 1: Descriptive Statistics

	Distressed Firms		Healthy Firms		All firms	
	Mean	SD	Mean	SD	Mean	SD
Dependent Variables						
FD					5.209	22.006
Independent Variables						
AC_Size	0.438	0.075	0.427	0.087	0.43	0.085
AC_Ind	0.879	0.179	0.87	0.181	0.873	0.181
AC_Activity	4.22	0.824	4.183	0.695	4.193	0.734
EAQ	0.421	0.494	0.629	0.483	0.571	0.495
B_Size	2.057	0.172	2.104	0.196	2.09	0.191
B_Ind	0.429	0.281	0.429	0.287	0.429	0.285
CEO_Duality	0.194	0.395	0.118	0.323	0.139	0.346
CEO _Domm	0.384	0.522	0.498	0.509	0.467	0.515
B_Activity	5.59	2.775	5.529	2.397	5.547	2.509
B_Part	0.805	2.775	0.819	0.124	0.823	0.123
MNG_Own	0.219	0.244	0.188	0.238	0.196	0.239
Family_Own	0.201	0.238	0.186	0.246	0.191	0.244
Inst_Own	0.081	0.103	0.109	0.106	0.101	0.106
Frgn_Own	0.028	0.094	0.063	0.158	0.053	0.144
Ass_Own	0.276	0.293	0.345	0.309	0.326	0.306
Block	0.622	0.485	0.743	0.437	0.708	0.454
Con_Own	0.643	0.193	0.658	0.199	0.654	0.197
CG Index	0.545	0.097	0.575	0.095	0.567	0.097
Control Variables						
Lev	0.356	0.239	0.189	0.168	0.236	0.205
ROA	-0.012	0.081	0.103	0.174	0.07	0.162
Mgt Efcy	0.718	0.378	1.425	0.991	1.226	0.921

Logistic Regression

As the dependent variable's nature is binary, panel logistic regression is applied to examine the relationship between governance variable and financial distress. Table 3 shows the regression results of an AC and board committee on financial distress. Model 1 comprises of governance variables, whereas model 2 includes control variables as well.

The result of Model 1, which analyzed the impact of AC structure on financial distress, shows that AC size and AC independence have a significant positive association, while external auditor quality (EAQ) has a significant negative association towards the financial distress of sample firms. By way of fear of reputational loss, external audit firms conduct audit job with more thoroughly and professionally that resultantly enhances the utilization of the resources and saves the firm from financial distress. Nazir

(2016) further added that good quality external auditor not only minimizes the chances of errors and misrepresentation in financial statement but also give confidence to stakeholders that all accounting information are transparent and without any bias. The positive association between AC Size and financial distress not supported the resource dependency theory as this theory posit that more AC members empower AC and increase the effectiveness of AC as more resources are available to perform its fiduciary role (Wright, 1996; Abbott et al., 2000; Klein, 2002).

Table 2: Logistic Regression result

Variables	Audit		Board	
	Model 1	**Model 2**	**Model 1**	**Model 2**
$(Constant)_{it}$	-2.779	-0.746	1.103	2.293
	(-5.62)***	(-1.07)	(1.30)	(1.94)*
$(AC\_Size)_{it}$	2.54	2.173		
	(3.93)***	(2.26)**		
$(AC\_Ind)_{it}$	0.799	0.511		
	(2.52)**	(1.24)		
$(AC\_Acty)_{it}$	0.133	0.150		
	(1.84)*	(1.73)*		
$(EAQ)_{it}$	-0.979	-0.435		
	(-8.75)***	(-2.77)***		
$(B\_Size)_{it}$			-1.201	-1.060
			(-3.77)***	(-2.42)**
$(B\_Ind)_{it}$			0.237	0.338
			(1.25)	(1.25)
$(CEO\_Duality)_{it}$			0.477	0.345
			(3.25)***	(1.67)*
$(CEO\_Domm)_{it}$			-0.395	-0.155
			(-3.72)***	(-1.09)
$(B\_Acty)_{it}$			0.020	0.009
			(0.9700)	(0.35)
$(B\_Part)_{it}$			0.421	1.048
			(0.9100)	(1.70)*
$(Lev)_{it}$		4.658		4.376
		(10.38)***		(9.73)***
$(ROA)_{it}$		-20.767		-21.131
		(-13.28)***		(-13.57)***
$(Mgt\ Efcy)_{it}$		-2.747		2.293
		(-13.59)***		(1.94)*
Number of Observations	1796	1973	1808	1906
Mc Fadden R-squared	0.0418	0.4694	0.0239	0.4678
Log likelihood	-1024.0708	-564.8989	-1049.891	-570.5683
LR statistic	89.48	1002.22	51.4001	1003.1
Prob (LR statistic)	0.0000	0.0000	0.0000	0.0000

Table 3 presents the regression results of model 1 & 2. Model 1a and 2a present results without control variables, while 1b & 2b present results along with control variables. Z statistics are presented in parentheses.

The impact of board structure mechanism on the likelihood of financial distress presented in table 2. The

result finds that board size and CEO Dominance have a significant negative association with financial distress. This negative sign shows that the large board size will result in a smaller probability of financial distress. Results support the resource dependency theory that large board has diverse skills and greater external linkages that not only effectively monitoring the management but also provide valuable needed resources to the organization. These findings are matched with existing studies (Ahmad & Adhariani, 2017; Jamal & Shah, 2017; Manzaneque et al., 2016). Further, CEO duality has a significant positive association with financial distress. Results counter the stewardship theory as duality provides good leadership to the firm, enhancing firm performance and saving the firm from financial sufferings. Duality empowers the top management, which looks after his benefits rather than the benefits of shareholders. Resultantly there will be a higher probability of a firm being in a distressed state. Manzaneque et al. (2016), Ciampi (2015), Jamal & Shah (2017), too, concludes a significant positive association of duality with financial distress.

Besides, board independence shows an insignificant association with financial distress. This shows that external directors cannot impart their vigorous monitoring role to improve firm outcomes and save from financial distress. Nazir and Afza (2018) argues that, in the Pakistani context, owners choose friends and relatives as an independent director who cannot play their active role, hence provide an open play to make the decision independently. This passive role of independent directors shows an insignificant association towards the financial distress state of the firm. Miglani et al. (2014) conducted his study on Australian firms and witnessed this passive role of outside directors.

Table 3 shows the impact of ownership structure and governance index on the possibility of financial distress among sample firms. The result shows that managerial ownership has a negative link to financial distress. As the ownership stake of insider's increases, it will align the managers' interest with shareholders. Hence the manager works but for the best interest of the owners. This will not only enhance firm performance but save the firm from financial distress as well. These findings support the existing studies (Li et al., 2008; Donker et al., 2009; Miglani et al., 2015).

Institutional ownership shows a significant negative association with financial distress. Institutional owners have significant investment in the firm by way of equity, and further, they have significant resources and motives to put a useful check on management. Udin et al. (2017) argue that institutional investors perform an active monitoring role in managerial activities, hence save the firm from financial distress. Lee & Yeh (2004); and Manzaneque et al. (2016), too, conclude a negative association between institutional ownership and financial distress.

A significant negative relationship has been found between foreign ownership and financial distress.

One possible reason for this significant negative relation is that foreign owners brings the latest technology and good governance practices in a local country that brings efficiency in the firm's operation and save it from costly financial distress. Secondly, foreign owners are equipped with more professional skills and high monitoring capacity, motivating management to increase firm performance and save the firm from financial distress. These results endorse the findings of Rohani et al., (2013) and Udin et al., (2017).

Associated ownership, too, witnesses a significant negative relationship towards the financial distress state of the firm. Associated owners have significant financial resources to meet the liquidity need of the firm. Further, in the presence of associated ownership, managers cannot adopt self-serving behavior as the associated owner puts a useful check on management. Nazir (2016) claims that firm's affiliation with some recognized group build investor's confidence and also display positive image in the capital market. Resultantly firm performance will improve (Abdullah et al., 2011), and the firm cannot move into financial distress state.

The presence of block holders is negatively linked with financial distress. This supports the notion that block holder having large stakes in an organization puts an effective check on management, reduces the management's opportunistic behaviour, and escapes firms from being distressed state. This negative association supports the findings of Donker et al. (2009) and Miglani et al. (2015), who argue that large shareholders' presence is negatively associated with financial distress.

Along with individual components of corporate governance, the present study also computes the composite governance index (Nazir, 2016), based on 29 governance provision covering the audit, board, compensation and ownership structure of respective firms and examines its impact on financial distress. A higher the governance index shows better governance mechanisms in the respective firm and vice versa. It was found that the corporate governance index has a significant negative relationship with financial distress. The higher the overall governance index, the lower will be the probability of financial distress.

As for control variables are concerned, leverage has a significant positive association with financial sufferings. Highly leveraged firms spend significant amount by way of interest payment, hence inclined towards a distressed state. Management efficiency and net profit margin both significantly negatively interlinked with financial distress in all models.

Table 3: Logistic Regression result

Variables	Ownership		CG Index	
	Model 1	**Model 2**	**Model 1**	**Model 2**
(Constant)*it*	0.248	1.236	0.855	2.461
	(1.220)	(3.64)***	(2.76)***	(5.04)***
(MNG Own)*it*	-0.150	-0.869		
	(-0.28)	(-1.25)		
(Family Own)*it*	-1.551	-1.502		
	(-3.24)***	(-2.38)**		
(Inst Own)*it*	-3.645	-2.311		
	(-5.78)***	(-3.03)***		
(Foreign Own)*it*	-2.995	-2.062		
	(-5.24)***	(-2.73)***		
(Ass Own)*it*	-1.543	-1.386		
	(-5.22)***	(-3.27)***		
(Block)*it*	-0.324	-0.039		
	(-2.09)**	(-0.18)		
(Con Own)*it*	0.444	1.240		
	(1.290)	(2.74)***		
(CG Index)*it*			-3.193	-2.447
			(-5.81)***	(-3.23)***
(Lev)*it*		5.154		4.548
		(10.86)***		(10.34)***
(ROA)*it*		-20.472		-20.546
		(-13.11)***		(-13.30)***
(Mgt Efcy)*it*		-2.589		-2.725
		(-13.05)***		(-13.82)***
Number of Observations	1809	1806	1808	1806
Mc Fadden R-squared	0.0508	0.4765	0.0159	0.4641
Log likelihood	-1021.516	-561.1047	-1058.408	-574.5872
LR statistic	109.34	1022.03	34.3664	995.06
Prob (LR statistic)	0.0000	0.0000	0.0000	0.0000

Table 4 presents the regression results of model 1 & 2. Model 1a and 2a present results without control variables, while 1b & 2b present results and control variables. Z statistics are presented in parentheses.

CONCLUSION AND RECOMMENDATIONS

This study attempts to cver the impact of the governance structure measures through an audit committee structure, board structure, ownership structure, and a composite governance index on the financial distress state of 201 non-financial PSX listed firms for the period 2010-2018. Panel logistic regression was applied to conclude the findings.

Results show that AC Size and AC Independence have significant positive, while EAQ shows a negative

relationship with financial distress. By way of fear of reputational loss, external audit firms conduct audit jobs more thoroughly and professionally that resultantly enhances the resources' utilization and save the firm from financial distress. Among board governance variables, the board size and CEO dominance show a significant negative connection with financial distress, while duality shows a significant positive linkage towards financial distress among sample firms. The positive association of duality shows the entrenchment effect if both the same person's position and firm move towards financial distress. As ownership variables are concerned, ownership variables prove a significant negative link with financial distress except for concentrated ownership, proving the legitimacy of positive linkage with financial sufferings, whereas managerial ownership fails to prove any association with financial distress.

The governance index shows a significant negative association with financial distress. A higher governance index shows better governance equality that not only accelerates firm performance but also alleviates the risk of distress as well. Predominantly the findings of the present analysis support the existing literature. There is a need to further strengthen the audit committee's role and a board committee to play a more significant role in firms' progress and save it from financial distress. The study's findings provide more insight to managers and investors about the role of governance practices on Pakistani firms' financial distress. Hence, the present study helps regulatory authorities strengthen the firms' governance structure to avoid a distressed state. It is well established that firms can save from financial distress by strengthening the corporate governance mechanism as it improves financial performance and enhances the capital market's efficiency.

Present study extending the existing literature of corporate governance by studying individual and composite governance index and then tested its interaction on the likelihood of financial distress. However, the study has some limitations which need further attention from researchers. In the present study, financial distress is measured through Altman Z-score. In the future, there is a need to measure financial distress with other proxies like O-score, M-distance to default, and Shumway model to conclude the findings. Secondly, we employed logistic regression; in the future, it is suggested to apply the panel logistics model to further strengthen the findings. This study takes the post crises period. Further study can be conducted to take the data of both before and after the crisis period and then institutionalize the impact of corporate governance to further strengthen the governance structure's role.

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Appendix I: Variable Measurement

Variable	Measurement
Panel A: Financial Distress Measure	
KZ Index	Z-Score= 1.2X1+1.4X2+3.3X3+0.6X4+1.0X5 Where X1= net working capital/total assets, X2= retained earnings/total assets, X3= EBIT/total assets, X4= market value of equity/book value of debt, X5= sales revue/total assets (Altman, 1968)
Panel B: Audit Committee Structure Measures	
AC_Size	Audit committee size measured by total member in an audit committee/ total members in a board of directors
AC _Ind	Audit committee independence calculated by non-executive directors in an audit committee/total members in an audit committee
AC_Activity	Audit committee activity measured by number of audit committee meeting held in a financial year
EAQ	External audit quality is a dummy variable equal to "1" if firm audited by 5 big audit firms "0" otherwise
Panel C: Board Committee Structure Measures	
B_Size	Board Size calculated by natural log of number of directors in board committee
B _Ind	Board independence is measured by 1/B size* outside Directors/Inside Directors
B_Activity	Board activity measured by numbers if board committee meetings held in a financial year
CEO_Duality	Dummy Variable equal to "1" if one person hold CEO and Chairman of the board position at the same time or "0" otherwise
CEO_Domm	Dummy Variable equal to "1" if CEO is nominated in other board committee as well or "0" otherwise

B_Part	Board participation calculated by total number of board members attendance/required board members attendance
Panel D: Ownership Structure Measures	
MNG Own	Insiders ownership calculated by number of shares owned by all insiders/total outstanding shares
Family Own	Family ownership measured by number of shares owned by entire family members/total outstanding shares
Inst Own	Institutional ownership is equal to total number of shares held by institutions/total outstanding shares
Block Own	Dummy variable equal to "1" if any external hold 10% of the shares outstanding or "0" otherwise
Foreign Own	Foreign ownership measured by total number of shares held by foreigners/total outstanding shares
Ass Own	Associated ownership is equal to number of shares held by associates or rated party firms/total outstanding shares
Con Own	Concentrated ownership calculated by number of shares own by 5 big shareholders/total outstanding shares
CORPORATE GOVERNANCE I	Corporate Governance Index is a measure of 29 governance provisions based on audit committee, board committee, compensation structure and ownership structure of the firm. The higher index score shows better governance quality of a firm.
Panel G: Control Variables	
Lev	Total debt/total assets
ROA	Net profit/total assets
Mgt Efficiency	Management efficiency measured by Sales/Total Assets