

# Risk Management in Pakistani Commercial Banks: A Corporate Governance Perspective

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**Abstract:** Corporate governance is a vital element for Risk Management. One of the important aspects of the corporate governance is to control and minimize the risk of the companies through the adoption of best practices in disclosures, use of firm fundamental information, regulations, and financial reporting. This adoption of best practices minimizes the information asymmetry (IA) between the insiders and outsiders and thus information is available not only to outsiders but those stakeholders who may consider this IA as one of the hurdles in the risk aversion of a company. This study approaches the risk management with respect to corporate governance and empirically examines the effects of corporate governance on the capital structure risk and liquidity risk of the Pakistani commercial banks for the period 2012-2020. Using secondary data of 30 commercial banks and applying panel data techniques, the study finds that corporate governance has a significant impact on the control of risk management system of commercial banks. The study adds to the exiting body of knowledge that risk minimization through corporate governance systems could be an important aspect of a good financial reporting system. Moreover, the regulators need to implement the corporate governance system in an efficient manner to control the risk and facilitate the investors community from losing their hard-earned money. Moreover, banking sector can easily control the risk by efficiently implementing its stringent governance systems to minimize the IA and thus the overall risk of the banks.

**Keywords:** Corporate Governance, Risk Management, Commercial banks, information asymmetry, liquidity

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## 1. INTRODUCTION

Corporate governance (CG) controls the overall activities such as internal system, management and all the processes for the company. Williamson (1988) reports that strong CG practices increases firm performance (FP) and weak CG system decreases investors' interests and thus discourages all investments. Good CG practices in a company increases the chances of availability of funding to corporations, reduces cost of capital and enhances working performance (Agrawal & Knoeber 1996; Agu, 1998). Similarly, others report that CG practices in financial institutions play a vital role in achieving their economic and market goals.

On the other hand, a weak CG system may result in losses for not only companies but also for financial institutions and may even result in crises. The CG literature report that the global financial crisis (GFC) of 2007-08 affected the capital markets of the world. The burst of housing bubble hit the sub-prime mortgage market in the US and brought liquidity crunch. This liquidity crunch negatively affected the US capital market. Some big financial institutions (FI) such as Bear Stearns and Lehman Brothers faced bankruptcy and others faced huge losses. The crisis extended to other countries by 2008 affecting most of the capital markets. More specifically, the approximate losses of the financial institutions rose up to the tune of \$ 4.05 Trillion till 2009 (IMF, 2009). It was the worst crisis ever in the financial history after the great depression of 1930 (Akbar, Rehman & Ormrod 2013; Blundell-Wagnall, Atkinson & Lee, 2008; Cheffins, 2009; Kirkpatrick, 2009).

Later on the effect of GFC on the Risk Management (RM) and the role of CG systems received the attention of many researchers. For example, Jansen (1993) and Greuning and Bratanovic (2004) report the significant effect of CG on RM. These studies report that how these CG practices are used to minimize the risks in various firms including financial institutions. These and other similar studies report that CG systems is an important aspect of controlling the risks of these companies through better allocation of resources to different projects not only in developed countries but also developing nations.

An example of developing country, Banking in Pakistan has become increasingly competitive. The financial institutions and banks are giving attention and spending on IT infrastructure, product development and innovation to compete in the market. Especially banks are diversifying investment portfolio from more short-term investments to long term less risky investments. There is a growing concern that banks may not have the financial stability and as such strong risk management systems. This is important to manage the adverse effects of any type of shock to the economy that may adversely affect the performance of these investment portfolios. The management of the banks is responsible for such risks, the regulators are only to provide the rules and regulations under which the bank shall perform. As the complexity of financial markets increases, the problems of RM may also increase. The recent research shows that organizations are facing different problems such as lack of board independence, lack of operational expertise, inadequate supervision, and inadequate time (Sinkey 1992). A strong CG system may be a value addition to the existing capital budgeting techniques, and liquidity control systems in minimizing the risks of such companies which lake in the above-mentioned systems as well as operational systems (be that regulatory environment and/or the operations of human resources in running the firm successfully).

The CG & RM practices are very important for overall economic growth of the country. As stated above, the CG system not only facilitate the functioning of firms but also safeguards the interests of both insiders and outsiders. This improves the use of firm information, reducing information asymmetry, facilitate the flow of information and thus minimize the risks. Thus, the aim of this study it to the effects of CG system on the RM of banking sector in Pakistan. Using a panel data approach and secondary data in nature, the study has a total of 270 firm-year observations. The sample period is taken from 2012–2020 for 30 commercial banks.

We find that CG has a significant positive effect in controlling the risks of the banks. Specifically, we find that independent boards are more effective in curbing and reducing the risks of banks. Additionally, we report that Board Size, Audit Committee, and block holding have also a negative association with RM of commercial banks in Pakistan. The study adds to the existing body of

knowledge in the sense that it covers various areas of the risk management and corporate governance in the banking sector of Pakistan. Specifically, the study findings are related to profitability risk, block holder, audit committee, board independence, and board size of the commercial banks. It concludes that banks need to lower its risks, improves the risk management, should improve its CG system both inside and outside systems. The study indicates to the regulators that strong CG system is one of important solutions in not only reducing the risks but also improving the operational capacity and performance of the firms in general.

## **1. Literature Review**

### **2.1 Corporate Governance**

Shleifer and Vishny (1997) define CG as a system through which suppliers of finance assure themselves of obtaining a return on their investment in a company. The main purpose of CG is to maximize the organization's value. Mitton (2002) has a wider definition of CG where he argues that CG has a positive effect on firm performance in crises. Mine and Hudge (2004) conclude that the CG system proxied by the number of Directors, Audit committee members and the presence of more independent directors have a positive impact on firm performance (FP). They also report that managing the bank's risks would enhance the chances of a bank's profitability and operational performance as well as becoming a market leader. This will enhance savings of the banks and would increase their investments while if they do not manage their risk properly, they may end up losing everything.

Studies report that larger boards may increase the outweighed process regarding various decision-making activities (Lipton & Lorsch 1992; Jensen 1993). They argue that for large organizations the larger board will face various problems that may not control economic activities through management. These studies report statistically no association between larger boards and firm performance. Similarly, Yermack (1996) also reports similar findings of no relation of larger boards size with the profit of a firm. Senbet and John (1998) find no relation of the external directors with performance indicators such as sales, ROA and the numbers of employees in the firm. Brown and Caylor (2004) report that independent board has high return on equity ratio, higher profit margin and high dividend yields. Nam and Nam (2002) report when firms are controlled by one person (or have a highly concentrated ownership or has a high block holdings), then there is high probability of the firm enhancing its performance through efficient CG systems. Countries that have a better judicial and legal system tend to show a strong and regulated CG system in their capital markets.

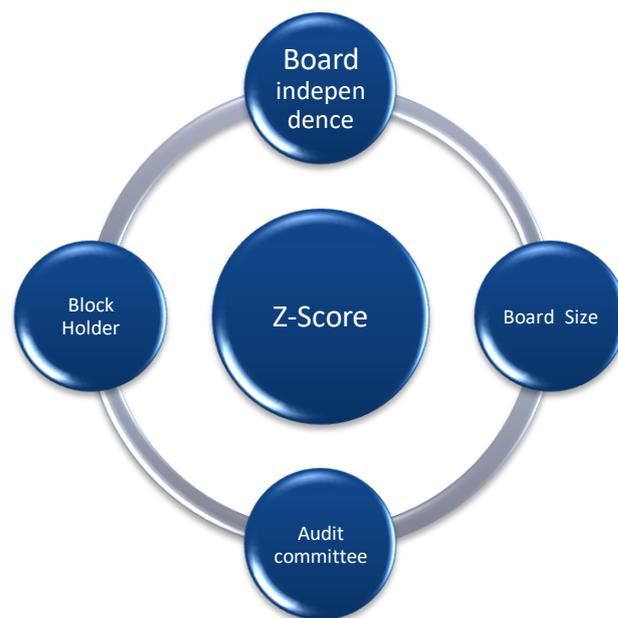
Most of the developing countries have a concentrated ownership structure, specifically family-based ownership system. As such these organizations presents an inward board structure such as being controlled by internal directors(who are in many cases owners of the firm) may not protect the rights of the minority shareholders (Shleifer & Vishney, 1999) and thus would expropriate their funds for the benefits of the majority ownership. On the other hand, Bubbs (2003) argues that external directors on the board may not be helpful for organizations due to lake of honesty as he puts it, "We believe independence means that a director and his family have no present or former employment with the company, nor any substantial connection of a personal or financial nature with management that could affect the director's objectivity and loyalty to the management as well as shareholders".

To be independent, the director must not provide, or be affiliated with any organization that provides goods and services for the company if a reasonable, disinterested observer could consider the relationship substantial. True independence depends upon these and other factors that may not be readily discerned by shareholders. In view of the importance of independence, non-executive directors should evaluate the independence of each of their fellow directors based on all information available to them and should disclose to shareholders how they determine that directors are capable of acting independently (Bagahat & Black, 2002). They also argue that organization with large boards do not perform well in comparison to those with smaller boards. One of the reasons of such a performance could be the decision-making process which takes less time and easily concluded upon. This confirmed their findings in an earlier study, that board composition was an unreliable predictor of company performance.

## 1.2 Risk Management

Risk is the process through which an organization assess and control any threat to a firm's capital and earnings. Fraser et al., (1995) argue that the management of bank is the management of risk. They report that bank collect and disburse money to earn profit by taking a risk since the banks further invest the same into profitable project. Thus a bank needs to take necessary steps to understands its risks and also establish a system to minimize the risk to bearable level. Sinkey (1992) argues that risk management is at the heart of bank financial management. Bank activities will have risk inherent in those operations. As a bank collects deposit and invests these further into various projects which have an inherent risk involved. Studies conclude that the risk structured is very important to identify whether it is qualitative or quantitative and what method should be used for overcoming these risks. Thus the aim of the study is to investigate the association of CG systems with that of controlling the risks taken by banks. Specifically, this study empirically examines the effects of CG structures such as number of the board of director, independent director, audit committee as well as block holding on the capital structure and liquidity risks of the commercial banks in Pakistan.

## 2.3 Theoretical Framework



The above-mentioned model shows the effects of Corporate Governance on risk Management. It reflects only the variables of interest of our study (BS, AC, BI and BH). The above model specifies the risk as z-score and the relevant CG variables as represented by Board Size, Board Independence, Block Holder and Audit Committee while control variables are firm size and leverage. The premise of the above diagram presents that corporate governance is one of the important factors in controlling the overall self-centered behavior of the managers but also in helping minimize the information asymmetry of the capital market. Thus, one of the functions of a good CG system is the disclosure of the firm fundamental information to reach to stakeholder for efficient and informed decision making. A good system of CG thus controls the risk by minimizing the information asymmetry among the stakeholders and the overall market.

## 2. METHODOLOGY

This paper is an empirical study to investigate the effects of CG on the capital structure and risk management of the commercial banks in Pakistan. This study has both univariate and multivariate analyses techniques used. Specifically, we report descriptive statistics, correlation analysis and finally panel data techniques.

To investigate the effects of CG on risk management of Pakistani commercial banks, the study proposes the following model;

$$LZS = \beta_0 + \beta_1 BI + \beta_2 AC + \beta_3 BH - \beta_4 BS + \beta_5 FS + \beta_6 LG + \epsilon_i \quad (1)$$

Whereas LZS is log of Z-Score and dependent variable, representing risk management; BI is board independence; AC stands for audit committee; BH is for block holding and BS is size of the board. We also control for firm size (FS) and Leverage (LG). Detailed measurement and definitions of the variables are given in the following.

### 3.1 Dependent Variable

Our dependent variable in this study is Z-Score taken from Boyd and Graham (1986) which shows the Z as a failure risk. They concluded that lower Z-Score shows higher probability of risk while higher score of z represent low risk for a firm. Mathematically Z-Score is as under;

$$Z\text{-score} = \left[ \frac{ROA + E/A}{SDROA} \right] \quad (2)$$

In the above model, ROA is Return on Assets and obtained by net income over total assets; E/A(Equity/total asset)while SDROA is standard deviation of the return on assets is measured on the rolling basis of previous 4 years ROA. We use log of the z-score to normalize the outliers, if any.

### 3.2 Independent Variables

As stated above, this study uses corporate governance as an independent variable that is proxied by different variables. However, this study is limited to the use of Board Size, Board Independence, Block Holder and Audit Committee. The following sub-sections explains these variables in detail.

### 3.2.1 Board Independence

Beasley (1996) & Rosenstein and Wyatt (1997) indicates the directors of external are straightly concerned with health and with the board independence. Core et al. (1999) has also reported the bad effect of outside directors on the board. We calculate the percentage of external board for the board independence.

### 3.2.2 Board Size

Yermack (1996) reported negative effect of board size in CG, similarly in 2008 Spencer Stuart has also reported negative effect of board size in CG. In our study for calculating board size the numbers of Directors will be measured.

### 3.2.3 Audit Committee

It is the most important key point for calculating the risks of any organization. The Audit committee plays vital role in any firms; it will must independent without any interference of the management and boards. In a firm the committee will perform their duty by external representatives of the board. In our study we will measure the number of persons in the committee.

### 3.2.4 Block Holder

Ownership Concentration has positivity relationship with firm risk. Individual ownership reduces the performance of the firm. Claessens and Djankov (1999) find positive association of profitability and labor productivity in those Czech firms which have a concentrated ownership. McConnell and Servaes (1990) and Nguyen (2011) also find a positive and statistically significant relations of ownership concentration and RM. Javid and Iqbal (2008) find similar results for the same variables. This study uses Block Holding as the total percentage of shareholdings of top-5 and top-10 shareholders in each bank.

### 3.2.5 Firm Size

Studies report that firm size has a direct association with risk management (Christopher et al., 2014). The major sources of capital for long term projects are equity and debt. However, studies report that debt has inherited portion of risk since it is to be paid back with its cost (i.e., interest). Yazid et al., (2012). It is also reported that, consistent with other research on risk management, risk management of an organization is influenced by firm size but it is also associate with ownership structure in democratic process where block holders influences policy decisions (Tahir and Razali, 2011).

### 3.2.6 Leverage

Soku, Jaemin, & Sean (2013) argue that the general prophecy of the trade-off theory postulates that companies opt for high leverage when risk is high, but alternately, they opt for less leverage when it comes to risk-reducing features including off take agreements.

### 3.3 Sample and data collection

The sample size includes all commercial banks of Pakistan for the period of 2012 to 2020. We use all the banks as our sample for the study, however, data availability restricts us to the use of only 30banks. Our basic criteria for a bank to be included in the sample is the availability of at least 8 years of data. In case an observation for a particular year is not available, we use the median of the rest of the available observations. The sample almost covers 84% of the market shares of the banking industry. We use secondary data for the study. The data is downloaded from the firms’ websites, State Bank of Pakistan, Pakistan Stock Exchange (Karachi Stock Exchange), open door website and Securities and Exchange Commission of Pakistan. As reported earlier, we use Z-score for risk management and is our dependent variable while we use board size, independent directors on the board, block holding, and audit committee of the board of directors as our independent variables. We also control for leverage and firm size in our proposed model.

## 4. Results

This section of the study reports the results of both univariate and multivariate analyses. We first report the descriptive statistics, followed by correlation analysis. We also, as stated earlier, have proposed an econometric model. Since the data is panel in nature, we use diagnostic tests to establish which is the best panel model estimation method.

### 4.1 Descriptive Statistics

**Table1** Descriptive Statistics of Risk Management and Corporate Governance and Control variables

Variables	Mean	Median	Std. Dev	Min	Max	Skew	Kurt
LZS	1.47	1.49	0.45	-0.10	2.22	1.09	1.31
BI	3.24	5.22	3.14	2.00	12.00	2.03	2.04
AC	3.69	3.48	0.74	3.00	6.00	1.67	1.61
BH	0.64	0.69	0.18	0.21	0.91	3.10	3.05
BS	9.08	8.39	2.05	4.00	13.00	2.33	2.49
FS	4.52	4.25	1.05	2.23	10.00	3.32	3.01
LG	5.08	6.39	1.09	2.00	15.24	2.10	2.90

LGS is log of z score and is used as proxy for risk management, BI is board independence, AC is audit committee, BH is block holding, BS is board size, FS is firm size, and LG is leverage.

Table 1 reports descriptive statistics of risk management corporate governance as well as control variables. We see that on average, risk of the companies is low with almost similar median and a low value of dispersion. The skewness and kurtosis also reflect that the variable risk is normally distributed. The mean of Board Independence in this study shows 3.24 with a median in the same range. We infer that on average, banks have roughly 3 members in their board as intendent directors. The same can be concluded for board audit committees shows on average membership of around 4. It is worth mentioning here that the Pakistani code of corporate governance requires the convenor of the audit committee to be an independent director to avoid any of the conflict of interest. It is interesting to note

that block holding in the bank has a low percentage and seems that almost all the sample banks have a dispersed ownership. The skewness and kurtosis of all the variables show that the data tend to be normally distributed.

## 4.2 Correlation Analysis

We report correlation analysis of dependent variable risk, independent variables of board size, board independence, audit committee, block holding in the companies, firm size and leverage as control variables.

**Table 2** Correlation of Risk Management and Corporate Governance and Control variables

Variables	LGS	BI	AC	BH	BS	FS	LG
LGS	1.0						
BI	-0.22	1.0					
AC	-0.27	0.14	1.0				
BH	0.16	-0.29	-0.15	1.0			
BS	-0.03	0.57	0.17	-0.24	1.0		
FS	0.14	0.31	0.11	0.20	0.24	1.0	
LG	0.10	0.18	0.43	0.29	0.47	0.25	1.0

LGS is log of z score and is used as proxy for risk management, BI is board independence, AC is audit committee, BH is block holding, BS is board size, FS is firm size and LG is leverage.

Table 2 shows correlation of independent and dependent variables. We see that besides board size, all the independent variables have a negative association with risk management as per the expected theory. The corporate governance theory postulates that stakeholder and investors need to be protected from both external and internal expropriate. It is pertinent to mention here that the proxies used for corporate governance are all positively correlated, and that correlation is also statistically significant. This positive correlation indicate that all the proxies are representing corporate governance for banks. However, at the same time, we show that board size and board independence have a slightly high correlation but as per prior literature a correlation above 80% normally causes problems of multicollinearity. Mitton (1998) report that one of the main functions of an effective corporate governance is to minimize the risk by taking such necessary action which reduces the discretion of the management. Having an independent audit committee with a majority of the members of the board of directors as being independent make sure that management of the companies take such decisions which are in the best interest of the firms and ultimately in the interests of investors and other stakeholders too.

## 4.3 Regression Analysis

### 4.3.1 Panel Data Analysis

As reported earlier, we use secondary data and panel in nature. Econometrician have reported that data analysis needs to be takes as per the nature of the data (Sekran, 1998). Since our data is panel in nature,

we use diagnostic tests to determine which of the panel data technique is best suited for data analysis of our study.

**Table 3** Hausman Test

Test Summary	Chi-Sq. Statistic	Prob.
Cross-section random	63.44	0.0000

We follow the same standards procedures for panel data analyses. The applied diagnostic procedures reveal that we need to use the fixed effect model estimating the causal association of corporate governance on risk management of the banking firms. Table-3 shows results of the Hausman test. The results show that fixed effect model is the suitable model for data analysis.

#### 4.3.2 Regression Analysis

The above diagnostic test shows that due to the nature of the data being panel, Fixed Effect Model (FE Model) is a suitable estimation technique to examine the effect of corporate governance on the risk management of the sample banks. The next section reports FE Model results.

**Table 4.** Fixed Effect Model Results of Risk Management with Corporate Governance

Variable	Coefficient	t-Statistic	Prob
Constant	0.61	1.44	.154
BI	-0.05	2.64	.010
AC	-0.18	2.57	.013
BH	0.66	2.22	.030
BS	-0.04	-1.44	.154
FS	0.17	2.74	.011
LG	0.32	2.11	.020
Adj. R <sup>2</sup>			53.44
F-Statistics			45.66***

LGS is log of z score and is used as proxy for risk management, BI is board independence, AC is audit committee, BH is block holding, BS is board size, FS is firm size, and LG is leverage.

Table 4 present results of the FE Model wherein we investigate the association of risk management with corporate governance. Specifically, we examine whether corporate governance is a determinant of the risk management of banking firms. We investigate whether board size, board independence, block holding, and audit committee has any role in minimizing the risks taken by banks. Results are interesting. All the variables of interest i.e., corporate governance proxied by board size, board independence, and audit committee have a negative association with risk management of the banks. However, block holding has a positive association with risk. The results infer that since corporate governance is a system which helps managers run firms in the best interest of the investors, and it also aligns the interests of the management with those of the firm (shareholders), thus management tries their level best to minimize the risk involved (Shleifer&Vishney, 1998).

Others report that corporate governance system has many fold functions. One of them is to implement the rules and regulation. Managers know that they are required to manage and run the firm as per the stated rules and regulations, otherwise, investors are to take actions against them such as removal of the

management through board of directors, and judicial litigation. Bhattacharya et al., (2001) report that a good system of corporate governance always reduces the chances of litigation which not only brings a bad name to the management but also to the firm and thus investor loses confidence in such firms and resultantly avoid investing in these firms. Shleifer and Vishney (1998) report that block holders may convince the management to take such decisions which are in their interests. Such action not only harms the spirit of the corporation but also indicates a negative premise of investors losing confidence. It also increases the chances of the litigation and thus increases the costs of the firms (Bhattacharya et al., 2001).

## 5. Conclusion

Corporate governance (CG) is an important aspect of a good and strong financial reporting system. One of the main aims of a strong CG is to ensure the stakeholders are protected. Moreover, it also reduces the information asymmetry between the insiders and outsiders which increases the trust of the investors on the financial reporting of the firms. Such reduction in information asymmetry enables investors to understand the firm fundamental information and take informed decisions regarding their investments. Moreover, it also helps in minimizing and managing the risk of the firms. A good disclosure of information enables the current and potential investors of the firms to rely on the fundamental information of the firms. Based on this premise, this study was conducted. We take financial institutions to study the effect of CG on the risk management of banks since banks are riskier than non-financial institutions. Using a data for 30 commercial banks from Pakistan for the period 2012-2020, we investigate the effect of CG on the risk management of the banks. We use board size, board independence, audit committee, and block holding as our main proxies for CG while we use log of Z-score for the risk management of a bank. We also control for bank size and bank leverage. We find that all the independent variables have a negative association with risk management of bank. We conclude that since CG helps reduce information asymmetry and facilitate the disclosure of firm fundamental information which is impounded by the investors in taking investment decisions. Such strong system of CG helps reduce risk by forcing managers to take decision in the interest of the firm rather than in the interest of the few shareholders. Management may also take decision, as required by law, since they care for their reputation and to avoid litigation and its related costs.

This study is not without its limitations. Some of the banks were left out because of the availability of the data. Moreover, we could not control for the reporting requirement of the banks since prudential regulations are an important factor in controlling for the risk and protecting the investors. We also believe that we have a smaller sample wherein future studies may include all the commercial banks including the Islamic banks. There are certainly some omitted variables, and we could not control for the omitted variable bias. Future studies may focus on the inclusion of a full list of variables related to risk management.

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