Effects of Corporate Governance on Bank Risk Taking

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Abstract

This paper intends to examine the effects of corporate governance on bank risk-taking. The data from 14 commercial banks are collected applying stratified random sampling technique for the period of 2010 to 2021. Board size, audit committee meeting, institutional ownership, CEO tenure, board meeting, and CEO age are taken as proxies for corporate governance variables, and the non-performing loan ratio is taken as a proxy for bank risk-taking. The result of unbalanced panel regression shows a significant positive effect of board size and CEO age on bank risk-taking, whereas the effect of audit committee meetings, institutional ownership, CEO tenure, and board meetings on bank risk-taking is insignificant. Therefore, it can be concluded that Nepalese commercial banks can improve their performance by keeping the board size as small as possible and hiring younger CEOs so as to avoid undesirable risk-taking.

Key words: corporate governance, Breusch-Pagan test, non-performing loan ratio, firm performance

I. Introduction

Risk is an integral part of business activity. The bank's willingness to take risks indicates the bank's aggressive asset allocation. Leaven and Levine (2009) find that banks with more powerful owners tend to take greater risks, which is consistent with theories predicting that equity holders have stronger incentives to increase risk than non-shareholding managers and debt holders and that large owners with substantial cash flows have the power and incentives to induce the bank's managers to increase risk taking. Because banks are highly leveraged institutions with significant public deposits, regulators are concerned about their risk-taking. Corporate governance (CG) is one of the factors that can negate the excessive risk-taking of banks. CG is a mechanism that helps owners and regulators become more accountable, efficient, and transparent, which in turn builds trust and confidence. Well-governed companies carry lower financial and non-financial risks and generate higher shareholder returns (World Bank,2016).

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Erkens, Hung, and Matos (2012) find positive effects of corporate governance on firm performance during the financial crisis through firms' risk-taking and financing policies. In addition, Alin (2015) concluded that the quality of corporate governance has a positive and strong influence on corporate performance and risk, and Falicio, Rodrigues, Grove, and Greiner (2018) found similar results.

The 2008–2009 Global Financial Crisis has attracted much research interest in bank risk taking and bank instability (Abedifar, Molyneux, & Tarazi, 2013). The failures of banking and other financial institutions that took place in 1998 and 2007 are considered poor corporate governance practices that failed to manage bank risk (Abou-El-Sood, 2017). An article published by the Nepal Economic Forum (2013) mentioned the fraudulent activities performed by the management, board of directors, or promoters of some banks and financial institutions in Nepal. Wagle (2022) states that Nepal's banking industry is walking a precarious and risky road due to a combination of factors ranging from poor regulation and supervision by the monetary authority to blatant compromises in corporate governance practices by bank and financial institutions themselves in their operation and business. Agency theory highlights the link between corporate governance and firm risk-taking. Different ownership structures have divergent effects according to their propensity to resolve or exacerbate agency conflicts (Nguyen, 2011). Managers in countries with low investor protection are often dominant insiders, having much of their wealth invested in the firms they control. They invest more conservatively than outside shareholders. John, Litov, and Yeung (2008) looked at the relationship between investor protection and corporate risk-taking. Their paper concludes that low investor protection encourages firms to take risks.The empirical evidence indicates that the corporate governance mechanism of Nepali commercial banks is weak (Aryal, 2020). Improving corporate governance can serve a number of important public policy objectives and reduce emerging market vulnerability to financial crises, reinforce property rights, reduce transaction costs and the cost of capital, and lead to capital market development. Weak corporate governance frameworks, on the other hand, reduce investor confidence and can discourage outside investment. Intense competition between financial institutions in Nepal has increased the importance of corporate governance in the industry. The purpose of the paper is to examine the effect of corporate governance on the risk-taking of Nepalese commercial banks. To that end, the paper investigates the impact of six corporate governance variables: board size, audit committee meetings, institutional ownership, CEO tenure, board meeting frequency, and CEO age.

II. Review of literature

There is always a conflict of interest as the banks collect substantial public deposits at a lower rate and try to lend them at a higher rate to gain a larger return. In the process, they often take higher risks. The empirical evidence suggests that bank risk-taking can be balanced through good corporate governance. The failures of banking and other financial institutions that took place in 1998 and 2007 are considered poor corporate governance practices that failed to manage bank risk (Abou-El-Sood, 2017). As a result, bank risk-taking is currently a source of concern for regulators and policymakers.

Agency theory states a larger board can increase difficulties in aligning shareholders' and managers' interests. Research in social psychology and organizational behavior also suggests a crucial relationship between board size and risk-taking. Gonzalez, Gil, Bua, and Herrera (2022). Nakano and Nyugen (2012) examined the relationship between board size and corporate risk taking. The result shows that larger board sizes appear to be associated with lower risk-taking. Huang and Wang (2015) show that smaller boards are associated with riskier firm policy choices and consequently greater firm risk. Similarly, Zheng (2008) documents that corporate performance and value become less variable as a firm's board of directors grows larger. Teodosia, Madalino, and Vieira (2022), on the other hand, demonstrated in their study that larger boards tend to take a high level of risk.Aurori, Muttakin, Hossain, and Farooque (2014) found that board size has a positive and significant impact on bank risk taking.On the contrary, Abidi, Nsaibi, and Hussainey (2022) claimed in their research that there is no relationship between board size and risk. Though the findings are contradictory, based on both the theory and the empirical majority of the findings, the paper broadens the analysis by examining the following hypothesis:

H1: There is significant effect of board size on bank risk taking.

From the theory of agency perspective, the audit committee is considered a tool to improve the quality of monitoring information flow between those who own the entity and those who ensure its management (Forker, 1992). Similarly, Al-Matari (2013) predicts that audit committees that meet more frequently are better informed about the company's circumstances and provide a more effective oversight and monitoring mechanism of financial activities, which includes the preparation and reporting of company financial information. Anasweh (2021) concludes that in Islamic banks and conventional banks, audit committee meetings have a significant positive effect on firms' performance. Sun and Liu (2013) document that audit committee effectiveness increases risk management effectiveness. On the other hand, Fariha, Hossain, and Ghosh (2021) find that audit committee meetings have no significant relationship with firm performance. Likewise, Loana and Mariana (2014) analyzed the impact of audit committee characteristics on company performance. They concluded that there is no significant relationship between audit committee meeting frequency and return on assets. Similarly, Oghuma and Garuba (2021) presented an insignificant relationship between audit committee meetings and bank risk-taking. Therefore, this study examines the following hypothesis:

H2: There is significant effect of audit committee meeting on bank risk taking.

According to stakeholder theory, institutional ownership is important in monitoring corporate risk taking. Altunbaş, Thornton, and Uymaz (2019) state that institutional investors have a positive and significant impact on corporate risk-taking. Similarly, Sakawa, Watanabel, Duppati, and Faff (2021) find that institutional shareholders enhance managerial risk-taking. Also, Wright, Ferris, Sarin, & Awasthi (1996) found that institutional investors positively influence corporate risk taking. Chakroborty and Gao (2018) discovered in their paper that there is a significant impact of institutional shareholding on firm risk. Erkens, Hung, and Matos (2012) find that firms with higher institutional ownership had worse stock returns than other firms during the crisis. Conversely, Aurori, Muttakin, Hossain, and Farooque

(2014) reveal that there is no significant impact of institutional ownership on bank risk-taking. Therefore, the following hypothesis is set for this study.

H3: There is significant positive effect of institutional ownership on risk taking.

The relationship between CEO tenure and bank risk-taking is guided by human capital theory. Based on human capital theory, it is argued that different demographic attributes of CEOs, such as gender, education, tenure, and nationality, bring to the organization different human capitals, including perspectives, expertise, skills, backgrounds, and knowledge, and can thus influence financial performance and growth. For example, longer-tenured CEOs are likely to bring in human capital, including vast experience and considerable expertise, which can influence organizational performance and sustainability (Esho & Verhoef, 2020). The Upper Echelons theory (Hambrick & Mason, 1984) also guides the relationship between CEO tenure and bank risk taking. The theory states that organizational outcomes, strategic choices, and performance levels are partly determined by managerial background characteristics.

Tadele and Kaleyabara (2020) examined the relationship between CEO tenure and bank risk taking, and the results supported the idea that CEO tenure negatively affects bank risk. In addition, Limbach, Schmid, and Scholz (2015) show that CEO tenure has an inverse relationship with firm value in their research.Chen and Zheng (2014) show in their report that the career concerns of a CEO, rather than power or experiences, might be the dominant effect of tenure in its positive relationship with risk-taking. However, Mukherjee and Sen (2022) investigated in their article the impact of CEO attributes on corporate reputation, financial performance, and corporate sustainability in India. The result confirms that the CEO's tenure does not affect the financial performance of a firm. Based on the evidence, the following hypothesis is developed:

H4: There is significant negative effect of CEO tenure on bank risk taking.

According to agency theory, more frequent board meetings may result in more concentrated monitoring, which lowers agency costs, contributes to more exchange of ideas among board members, and helps them be better equipped with information, resulting in better financial performance.Al-Daoud, Saidin and Abidin (2016), analyzed the relationship between board meeting frequency and firm performance. The findings of the study suggest that there is a positive relationship between the frequency of corporate board meetings and firm performance. This suggests that through meetings, board members determine operational issues through discussing and engaging with each other frequency meetings enhancing the decision-making process, and consequently the performance of the firms. Consistent with above findings, Abidi, Nsaibi and Hussainey (2022) also concluded that there is negative relationship between number of board meetings and risk. Similarly, Vaefus (1999) finds an inverse relationship between board meeting frequency and firm performance. On the contrary, Horvath and Spirollari (n.d) concluded on their research that Board size and Board meeting has no effect on firm performance. Therefore, the following hypothesis is developed.

H5: There is significant effect of board meetings on bank risk taking.

Similar to CEO tenure, the relationship between CEO age and bank risk is backed by the Upper Echelons theory (Hambrick & Mason, 1984). This theory presents the idea that top executives analyze situations and prospective decisions through a lens sculpted by their attributes, which include age, tenure, functional background, education, socio-economic roots, and financial position. For example, younger CEOs tend to take on greater risks than older ones, which will be reflected in their strategic actions and, over time, in the organization's outcomes (Hambrick & Mason, 1984). Amran, Yusof, Ishak, and Aripin (2014) concluded that there is a negative and significant impact of the age of the CEO on firms' performance. In another paper, Child (1975) documents that firms led by younger CEOs exhibit higher return volatility. On the other hand, Talbi (2017) documented a positive and significant relationship between CEO age and bank risk-taking. Similarly, Yeoh and Hooy (2020) find that CEO age has an inverse u-shaped relationship, such that risk-taking increases with CEO age but reduces beyond a certain age threshold. Mukherjee and Sen (2022) examined the impact of CEO attributes on corporate financial performance, and the results showed an insignificant relationship between CEO age and financial performance. Based on empirical findings, the following hypothesis is formed:

H6: There is significant effect of CEO age on risk taking.

III. Research Methodology

This study is guided by the positivistic paradigm. The paper follows a descriptive and casual comparative research design. Out of 26 commercial banks operating in Nepal (Nepal Rastra Bank, 2022), 14 commercial banks have been chosen using stratified random sampling techniques. The data for the period of 2009 to 2021 are collected from the web site of the Nepal Rastra Bank and the annual reports of the concerned banks. Data is run through different types of statistical tests, including the outlier test, multicollinearity test, normality test, and auto correlation test, before running a panel regression test. A pooled ordinary least squares regression technique is used in the regression analysis to investigate the relationship between corporate governance factors and risk taking.

The paper uses non-performing loans as a proxy for bank risk taking and six corporate governance variables: board size, audit committee meetings, institutional ownership, CEO tenure, number of board meetings, and CEO age.

Table 1

Definition of Variables

Variables		Measure
Non-performing loan ratio	Dependent variable	The ratio of Non-performing loan to total loan.
Board size	Independent variable	Total number of Board members
Institutional ownership	Independent variable	Percent of ownership held by Institutions.

Audit committee meeting	Independent variable	Frequency of meeting held by audit committee in a year.
Board meeting	Independent variable	Frequency of meeting held by board in a year.
CEO tenure	Independent variable	Number of years the manager serves as the bank CEO.
CEO age	Independent variable	Age of CEO while working in the bank.

The relationship between dependent and independent variables are expressed in the following equation.

$$NPL = \beta_0 + \beta_1 BS + \beta_2 ACM + \beta_3 IO + \beta_4 CEOT + \beta_5 BM + \beta_6 CEOA + e$$

Where, NPL refers to the non-performing loan ratio, BS refers to board size, ACM refers to an audit committee meeting, IO refers to institutional ownership, CEOT refers to CEO tenure, BM refers to the number of board meetings, CEOA refers to CEO age, and e refers to error term.

IV. Results and Analysis

Descriptive Statistics

Table 2

Descriptive data Summary of Variables

	Mean	Minimum	Maximum	Std. Dev.
ACM	13.20	3	27	5.97
BM	27.13	6	65	16.54
BS	6.95	5	9	1.17
CEOA	51.91	42	64	4.78
CEOT	4.75	1	12	3.35
IO	20.15	0.12	62.99	18.79
NPLR	1.77	0.005	5.91	1.59

Note. Author's calculation from Eviews 12, Student version

Table 2 shows ACM ranges from 3 to 27, with an average of 13.20. The standard deviation of the ACM is 5.97. Similarly, BM ranges from 6 to 65. The mean value of BM is 27.13, and the standard deviation is 16.54. BS in board committee ranges from 5 to 9 members with an average of 6.95 members and with standard deviation of 1.17. CEOA ranges from 42 to 64. The mean value of age of CEO is 51.91 and standard deviation is 4.78. CEOT ranges from 1 to 12, with an average of 4.75. The standard deviation for CEOT is 3.35. Similarly, IO ranges from 0.12% to 62.99%, with an average of 20.15%. The standard deviation for it is 18.79%. Similarly, NPLR ranges from 0.005% to 5.91%. The mean value for it is 1.77%, and the standard deviation for it is 1.59%.

Table 3 shows the relationship between the dependent variable and the independent variable. The result shows a positive correlation of NPL with ACM, BM, CEOA, and institutional ownership, whereas there is a negative relationship with BS. It also shows a negative relationship between NPL and CEOT. ACM is found to have a positive relationship with BM, BS, and IO. Also, ACM is found to have a negative relationship with CEOA and CEOT. Similarly, BM has a positive relationship with CEOA. BM has a negative relationship with CEOT and IO. BS has a positive relationship with CEOT, whereas IO has a negative relationship with CEOA. The table shows a positive relationship between CEOA, CEOT, and IO. Finally, it shows a negative relationship between CEOT and IO.

Table 3

Correlation matrix of dependent and independent variables

	NPL	ACM	BM	BS	CEOA	CEOT	IO
NPL	1						
ACM	0.1263	1					
	(0.2408)						
BM	0.3563*	0.58836*	1				
	(0.0007)	(0.0000)					
BS	-0.0747	0.05338	-0.1672	1			
	(0.4886)	(0.6213)	(0.1195)				
CEOA	0.5132*	0.0371	0.15423	-0.0954	1		
	(0.0000)	(0.7311)	(0.1514)	0.3762)			

CEOT	-0.2163**	-0.2983*	-0.3395*	0.3561*	0.1628	1	
	(0.0429)	(0.0048)	(0.0012)	(0.0007)	(0.1296)		
IO	0.3299*	0.11017	0.0839**	-0.1080	0.2606**	-0.2166**	1
	(0.0017)	(0.3068)	(0.0426)	(0.3164)	(0.0142)	(0.0426)	

Note. Author's calculation from Eviews 12 Student version

* coefficient is significant at 1% level, ** coefficient is significant at 5% level, the number in parenthesis indicates the p value

The panel data went through an outlier test; a few variables were found to be outliers, so they were winnowized. This preventive strategy helped to remove the outliers from the data. In the next step, the normality test is performed. The Jarque-Bera LM test is performed to test the normality of the data. The alternative hypothesis for the study is "The data are normal." Table 4 shows the result, and the p value of the test is 0.151, which is greater than 0.05, so the data are found to be normal.

In the next step, the autocorrelation test is performed. Autocorrelation is a statistical tool that measures how the lagged version of the value of a variable is related to the original version of it in a time series. The presence of autocorrelation wasn't detected in the study. For this purpose, the Durbin Watson (DW) test has been conducted and found no autocorrelation as the DW test value is 2.16.

Table 4

Normality test

Test	Jarque-Bera LM Value	Probability
	3.781	0.151

Note. Author's calculation from EViews 12 Student version

The data are analyzed using the pool ordinary regression analysis (POLS) model. Before reaching the model, the Breush Pagan test and the LM test are performed. The null hypothesis for the test is that the POLS model is better than the fixed-effects and random-effects models. The data in table 5 show a p value of 0.1826, which is greater than 0.05, so the author couldn't reject the null hypothesis. Therefore, the POLS is used to analyze the data.

Table 5

Breush Pagan LM test

	Cross-section	Time	Both
Breush Pagan LM Test	1.776370	0.000164	1.776534
P-value	(0.1826)	(0.9898)	(0.1826)

Note. Author's calculation from EViews 12 Student version

Table 6

POLS result

	Beta	T	Sig.
(Constant)	-3.526	-2.7859	0.0067
ACM	-0.027	-1.4323	0.1562
BM	0.0107	1.4286	0.1572
BS	0.165	2.0469	0.0441
CEOA	0.064	2.5319	0.0134
CEOT	-0.038	-1.4168	0.1606
IO	0.374	0.8539	0.3958
Model	R square	Adj. R square	Durbin Watson Stat
1	0.6213	0.5864	2.1695

Note. Author's calculation from EViews 12, Student version

Table 6 shows the regression result for POLS. The result shows that there is a negative effect of ACM and CEOT on risk-taking. However, the effect was found to be insignificant with a p value of 0.1652 and 0.1602, respectively. Similarly, the result shows a positive

effect of BM, BS, CEOA, and IO on risk taking, though only CEOA and BS were found to have a significant effect on risk taking. The CEOA and BS have p values of 0.0134 and 0.0441, respectively. The beta for the CEOA and BS is 0.0638 and 0.1653, respectively. The beta value of 0.0638 indicates that a 1-unit change in CEO age increases the risk taking (non-performing loan ratio) by 0.0638 percent and a 1-unit increase in BS increases the risk taking (non-performing loan ratio) by 0.1653 percent. R square for the regression is 0.6213, implying that the independent variables explain 62.13 percent of the variation in risk taking and the remaining 37.87 percent is explained by other factors. The result of the DW stat presented above states that there is an absence of autocorrelation because its value is around 2.

V. Discussion

The study is conducted using the non-performing loan ratio as a proxy for risk taking and board size, audit committee meetings, CEO tenure, board meetings, institutional ownership, and CEO age as proxies for corporate governance. The beta coefficient for audit committee meetings is -0.027, indicating that the more audit committee meetings there are, the lower the non-performing loan will be. However, the p-value of an audit committee meeting is 0.1562, which means there is no significant effect of an audit committee meeting on risk taking, The beta coefficient of board size is 0.16527 with a corresponding p-value of 0.0441, which indicates that there is a significant positive effect of board size on risk taking. This result is in line with the findings of Teodosia, Madalino, and Vieira (2022); Pathan (2009); Aurori, Muttakin, Hossain, and Farooque (2014); and Chand (2020). According to Jensen (1993), as the board size increases, the agency cost problems and the coordination/communication problems overwhelm the potential advantages of having more directors to draw on, leading to the acceptance of more risky projects. The beta coefficient of board meetings is 0.011, which indicates that the higher the frequency of board meetings, the higher the non-performing loan. However, the p-value of board meetings is 0.1572, which means there is no significant effect of board meetings on risk taking. The beta coefficient of CEO age is 0.0638 with a corresponding p-value of 0.0134, which indicates that there is a significant positive effect of CEO age on risk taking. This implies that younger CEOs are reluctant to take higher risks as compared to older ones. This result supports the findings of Talbi (2017). Also, Weller, Levin, and Denburg (2011) argue that older adults base their decision-making on more experiential strategies than analytic perspectives due to frontal lobe function. Consequently, older CEOs are more willing to take risks as they have greater experience in identifying risky strategies that produce the greatest chances of success (Simsek, 2007). Similarly, the beta coefficient of institutional ownership is 0.37376, which indicates that the higher the institutional ownership, the higher the non-performing loan. Although the p-value of institutional ownership is 0.396, this means that institutional ownership has no significant effect on bank risk taking.This result is consistent with the research presented by Aurori, Muttakin, Hossain, and Farooque (2014).

VI. Conclusion and Implication

According to the findings of this paper, two corporate governance variables, namely BS and CEOA, have a significant effect on risk taking. Among them, the strongest predictor of risk-taking is board size. The regression result shows a significant positive effect of board size on risk taking, which implies that smaller boards may constrain risk taking. Similarly, the second highest predictor of risk taking is CEO age. The POLS result shows a significant positive effect of CEO age on risk taking, which implies older CEOs are more willing to take risks as they have greater experience in identifying risky strategies that produce the greatest chances of success. However, on the contrary to the other research, the POLS result shows that the remaining explanatory variables audit committee meetings, board meetings, CEO tenure, and institutional ownership have no significant impact on risk taking. As a result, it can be concluded that small boards and younger CEOs can reduce risk in Nepalese commercial banks.

The public deposits their savings in banks for the safekeeping of their money. To protect the public's savings, banks must invest these funds in a safe project that can eliminate the undesirable risks that can result in bankruptcy in the future. Therefore, as per the findings of the paper, small boards are bound to take less risk, which can help the regulators and policymakers consider keeping boards to a minimum size so as to enable the board to perform more efficiently, contributing towards the sustainable growth of the bank. The CEO is the major decision-maker for the bank. Their decisions create the future of the bank. The findings of the study reveal that younger CEOs take less risk than older ones. So, hiring young, energetic, and well-educated individuals as COS can avoid undesirable risk-taking for the banks. The study incorporates data for a short period, and CEO age is found to have a significant effect on risk taking, but tenure's effect is found to be insignificant. As a result, future researchers can take into account the interaction effect of CEO tenure and age on bank risk taking.

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