Impact of Corporate Governance on Credit and Liquidity Risks of Nepalese Commercial Banks

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Abstract

The study examines the impact of corporate governance on credit risk and liquidity risk of Nepalese commercial banks. Liquidity risk and non-performing loans are selected as the dependent variables. The independent variables are board size, number of board meetings, audit committee size, independent directors, gender diversity and bank size. The study is based on secondary data of 17 commercial banks with 102 observations for the period from 2016/17 to 2021/22. The data were collected from Banking and Financial Statistics published by Nepal Rastra Bank, publications and websites of Nepal Rastra Bank (NRB) and annual reports of the selected commercial banks. The correlation coefficients and regression models are estimated to test the significance and importance of corporate governance on the credit risk and liquidity risk of Nepalese commercial banks.

The study showed that independent director has a negative impact on non-performing loan. It shows that increase in the number of independent directors leads to decrease in non-performing loan. In addition, gender diversity has a positive impact on non-performing loan and liquidity risk. It shows that higher the number of female directors, higher would be the non-performing loans and liquidity risk. Likewise, bank size has a negative impact on non-performing loans and liquidity risk. It indicates that larger the bank size, lower would be the non-performing loans and liquidity risk. Furthermore, number of board meeting has a negative impact on non-performing loans and liquidity risk. It shows that higher the number of board meetings, lower would be the non-performing loans and liquidity risk. Similarly, the results also showed that board size has a positive effect on liquidity risk. It means that increase in board size leads to increase in liquidity risk. However, audit committee size has a negative effect on liquidity risk. It means that increase in audit committee size leads to decrease in liquidity risk.

Keywords: board size, number of board meetings, audit committee size, independent directors, gender diversity, bank size

1. Introduction

Corporate governance is a mechanism to structure, operate and control a company with the objective to achieve long-term strategic goals of safeguarding the interests of shareholders and different stakeholders. It is concerned with the proper implementation of policies and procedures by a company to satisfy its related parties including shareholders, employees, customers, suppliers, regulatory authorities and the community at large (Kaur

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and Pareek, 2014). The fundamental base of corporate governance is the agency theory which states that there is separation between ownership and control. This separation creates divergence in the interests of various parties involved including management and stakeholders, generating agency problem. In particular, better disclosures are considered to be the better way to reduce the agency problem. Corporate governance appends transparency and disclosure of corporate structure to ensure accountability of management towards shareholders. Adebayo et al. (2013) states that the corporate governance is about building credibility, ensuring transparency and accountability as well as maintaining an effective channel of information disclosure that will foster good corporate performance. Corporate governance, therefore, refers to the processes and structures by which the business and affairs of institutions are directed and managed in order to improve long term shareholders' value by enhancing corporate performance and accountability while taking into account the interest of other stakeholders. Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders (Stanwick, 2008). Corporate governance concerns the relationships among the management, board of directors, controlling shareholders, minority shareholders and other stakeholders (Anderson and Campbell, 2004). Corporate governance is systematic and formalized manners of ensuring that top management represented by the board of directors do not make decision making powers occasioned by management and ownership separation to pursue personal interests at the expense of other stakeholders. Moreover, it is the process which facilitates the creation of shareholder's value, protection of the individual and collective interests of all stakeholders in an establishment are achieved through.

Koerniadi et al. (2014) analyzed the impact of firm-level corporate governance practices on the riskiness of a firm's stock returns in a setting that can be considered as less conducive to managerial risk-taking. The empirical evidence, based on a comprehensive sample of New Zealand firms, showed that firms with large boards are associated with lower levels of risk-taking, ceteris paribus. Furthermore, the results indicated that multiple large shareholders facilitate higher levels of risk-taking by the firm. Finally, the results also showed that concentrated shareholdings of inside directors have a negative relation to risk-taking. Eling and Marek (2014) examined the impact of factors related to corporate governance (i.e., compensation, monitoring, and ownership structure) on risk taking in the insurance industry. Based on Structural Equation Model, the study presented empirical evidence on the link between corporate governance and risk taking, considering insurers from

two large European insurance markets. The results showed that higher levels of compensation, increased monitoring (more independent boards with more meetings), and more block holders are associated with lower risk taking. Alam and Shah (2013) explored the relationship of corporate governance with firm risk. This study established a link between corporate governance variables and firm risk for a sample of 106 Pakistani firms over a time of six years (2005-2010). Based on the estimation results, family control and bank control have negative impact on the firm risk whereas ownership structure and chairman/CEO duality posit positive relationship with risk. Board size is mainly concerned with the board's ability to monitor and control managers to ensure value maximization of banks and other corporate bodies. Therefore, if monitoring and control activities of the board are well executed, it is more likely managers' actions will be well controlled thereby reducing agency costs and credit risk for an enhanced performance of banks and other corporate entities.

Chou and Buchdadi (2017) examined the independent board, audit committee, risk committee, the meeting attendance level and its impact on the performance of listed banks in Indonesia. The study found a positive relationship between risk committee, the meeting attendance level and bank risk. Ratri (2021) showed that board size, the proportion of financial experts, and the number of members of the board attending the meeting have a positive effect on bank performance. Banks' benefits from high meetings held are significantly eroded by lower director attendance (Gray et al., 2016). This increase in the frequency of meetings itself causes directors to be too busy so that the benefits of the high number of meetings being held will be eroded. The study also found a positive relationship between number of meeting and bank risk. Jabari and Muhamad (2022) examined two dimensions of diversity on the board of directors (BOD) and the Sharia supervisory board (SSB), namely, gender diversity and educational diversity, and their influence on risk taking by Islamic banks. Based on a sample of Islamic banks in twenty-six countries, the findings showed that greater representation of women on the BOD decreases the insolvency risk at listed Islamic banks. Similarly, the educational diversity of BOD and SSB members have a significant influence on Islamic banks' risk taking, conditional on whether they are publicly listed.

Wang (2012) investigated the relevance of board size and firm's risky policy choices. The study found that both the managerial pay to performance sensitivity and the managerial pay to firm risk sensitivity are negatively related to board size, suggesting that small boards give CEOs larger incentives and

force them to bear more risk than larger boards. Moreover, Haider and Fang (2018) examined whether the moderating role of large shareholders is any different in state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs) in China. The study found that board size is negatively associated with future firm risk when measured as volatility in future stock prices and future cash flows. Second, large shareholders directly influence managerial decisions about future firm risk, irrespective of board size. Huang and Wang (2015) indicated that firms with smaller boards experience larger variability in future firm performance. These firms are also associated with higher executive pay-to-performance sensitivity, tend to pursue riskier investment policies, and engage more frequently in earnings management. However, Chinese firms with smaller-sized boards are found to be more conservative in using debt financing. Angkinand and Wihlborg (2010) examined the deposit insurance coverage, ownership, and banks' risk-taking in emerging markets. The study found a positive relationship between foreign ownership and banks' risk-taking. Using a unique database of 381 newly privatized firms from 57 countries, Boubakri et al. (2013) found a strong and robust evidence that foreign ownership is positively related to corporate risk-taking. Moreover, the study also found that high risk-taking by foreign owners depends on the strength of country-level governance institutions.

In Nepalese context, Khatiwada et al. (2023) analyzed the relationship between corporate governance and non-performing loans of Nepalese commercial banks. The study showed that board independence, audit committee, institutional ownership and leverage have negative impact on non-performing loans and loan loss provision. Similarly, board size and gender diversity have a positive impact on non-performing loans and loan loss provision. Likewise, the study concluded that leverage followed by institutional ownership is the most influencing factor that explains the changes in the non-performing loans of Nepalese commercial banks. Similarly, the study also concluded that leverage is the most influencing factor that explains the changes in loan loss provision in context of Nepalese commercial banks. Nepali (2022) examined the linkages of corporate governance with the performance and risk-taking of Nepalese banks. The study revealed that a greater number of board meetings and audit committee meetings leads to better performance and lower risk. Koirala et al. (2023) analyzed the effect of corporate governance and bank capital reserve on non-performing loan and bank risk taking in Nepalese commercial banks. The study showed that board size, capital reserve, leverage, and board meeting have positive impact on non-performing loan. However, audit committee size, capital adequacy

ratio and foreign ownership have negative impact on non-performing loan. The study also showed that board size, audit committee size, capital adequacy ratio, and leverage have negative impact on bank risk taking. In addition, capital reserve and board meeting have positive impact on bank risk taking. The study concluded that board meeting followed by capital adequacy ratio are the most influencing factor that determines the changes in non-performing in Nepalese commercial banks. The study also concluded that foreign ownership is the most influencing factor that influences the bank risk taking in terms of operational risk of Nepalese commercial banks.

The above discussion shows that empirical evidences vary greatly across the studies on the impact of corporate governance on credit and liquidity risks of commercial banks. Though there are above mentioned empirical evidences in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The major objective of the study is to examine the impact of corporate governance on credit and liquidity risks of Nepalese commercial banks. More specifically, it examines the relationship of board size, audit committee, annual meetings, board gender diversity, board independence and bank size with liquidity risk and non-performing loans of Nepalese commercial banks.

The remainder of this study is organized as follows. Section two describes the sample, data and methodology. Section three presents the empirical results and the final sections draws the conclusion.

2. Methodological aspects

The study was based on the secondary data which were gathered for 17 commercial banks of Nepal for the period from 2016/17 to 2021/22, leading to a total of 102 observations. The study has employed purposive sampling method. The main sources of data include Banking and Financial statistics published by Nepal Rastra Bank, reports published by Ministry of Finance and the annual report of respective banks. The study is based on descriptive as well as causal comparative research designs. Table 1 shows the list of commercial banks selected for the study along with the study period and number of observations.

Table 1

List of commercial banks selected for the study along with study period and number of observations

S.N.	Name of commercial banks	Study period	Observations
1	Rastriya Banijya Bank Limited	2016/17-2021/22	6
2	Everest Bank Limited	2016/17-2021/22	6
3	Global IME Bank Limited	2016/17-2021/22	6
4	Himalayan Bank Limited	2016/17-2021/22	6
5	Kumari Bank Limited	2016/17-2021/22	6
6	Laxmi Sunrise Bank Limited	2016/17-2021/22	6
7	Machhapuchchhre Bank Limited	2016/17-2021/22	6
8	NIC Asia Bank Limited	2016/17-2021/22	6
9	Nabil Bank Limited	2016/17-2021/22	6
10	Nepal Bank Limited	2016/17-2021/22	6
11	Citizens Bank International Limited	2016/17-2021/22	6
12	Nepal Investment Mega Bank Limited	2016/17-2021/22	6
13	NMB Bank Limited	2016/17-2021/22	6
14	Prabhu Bank Limited	2016/17-2021/22	6
15	Prime Commercial Bank Limited	2016/17-2021/22	6
16	Siddhartha Bank Limited	2016/17-2021/22	6
17	Sanima Bank Limited	2016/17-2021/22	6
Total number of observations			**102**

Thus, the study is based on the 102 observations.

The model

The model estimated in this study assumes that bank credit risk and liquidity risk depend on corporate governance variables. The dependent variables selected for the study are non-performing loan and liquidity ratio. Similarly, the selected independent variables are board size, number of board meetings, audit committee size, independent directors, gender diversity and bank size. Therefore, the models take the following forms:

$NPL = \beta_0 + \beta_1 BS + \beta_2 AC + \beta_3 AM + \beta_4 ID + \beta_5 GD + \beta_6 S + e_{it}$

$LR = \beta_0 + \beta_1 BS + \beta_2 AC + \beta_3 AM + \beta_4 ID + \beta_5 GD + \beta_6 S + e_{it}$

Where,

NPL= Nonperforming loan as measured by the ratio of non-performing loans to total loans, in percentage.

LR= Liquidity risk as measured by the ratio of total loans to total deposits, in percentage.

BS= Board size as measured by the number of board members, in numbers.

AM= Annual meeting as measured by the number of board meetings in a year, in numbers.

AC= Audit committee size as measured by the number of audit members, in numbers.

ID= Independent directors as measured by the number of independent directors on the board, in numbers.

GD=Gender diversity as measured by the number of female directors in the board of directors, in numbers.

S= Bank size as measured by total assets, Rs in billion.

The following section describes the independent variables used in this study along with hypothesis formulation.

Board size

Debrah et al. (2022) revealed that a universal bank with a small board size is not likely to reduce credit risk. The study established the importance of having large boards which are independent of management of universal banks in Ghana. Large boards may enhance credit assessment and monitoring thereby reducing credit risk. Abdulai et al. (2020) revealed that large board size has negative and significant influence on loan portfolio at risk and default risk in financial institutions. Pathan (2009), by using a sample of 212 large US banks over 1997–2004 and several indicators of bank risk, found that board size is negatively related to risk. Agoraki *et al*. (2010) examined the impact of board size on banking risk management. The study found that there is an insignificant negative correlation between board size and credit risk. Based on it, this study develops the following hypothesis:

H_1: There is a positive relationship of board size with credit risk and liquidity risk.

Number of meetings

The frequency of the board's activities indicates the level of diligence and the level of vigilance exercised by the directors. Improved quality of board oversight of managers and financial reporting process, high frequency of board meetings and high attendance rate of directors lead to improved quality of risk management. When a board of directors and its committees meet more often, this is seen as evidence of a management structure that effectively performs its functions and this reduces the risk of manipulation and discretionary adjustments of the disclosed accounting information (Coles *et al*., 2001). Aebi *et al.* (2012) examined the risk management, corporate governance, and bank performance in the financial crisis. The study found a positive relationship between frequency of board meeting and risk management. Bourakba and Zerargui (2015) found a negative relationship between credit risk and number of board meetings in Islamic banking. Based

on it, this study develops the following hypothesis:

H_2: There is negative relationship between number of meetings with credit risk and liquidity risk.

Independent directors

According to Beasley (1996), outside directors are directly related to the strength and independence of the board. The results also showed a positive relationship between independent directors and credit risk. Rachdi and Ameur (2011) found that board independence is the only significant variable among board characteristics that affect credit risk. Board independence has a positive and significant effect on credit risk, which indicates that increase in the number of independent directors leads to increase in credit risk. Similarly, Young (2010) concluded that the separation of CEO duality plays a major role in risk reduction in the banking sector. The study also showed a positive relationship between independent directors and loan default. In addition, Core *et al.* (1999) revealed that proportion of inside directors on the board is inversely related to board strength. Based on it, this study develops the following hypothesis:

H_3: There is a positive relationship of independent directors with liquidity and credit risks.

Gender diversity

According to Hillman et al. (2007), women bring professional experience and different perspectives compared to men. The presence of female members on the board will lead to more informative and strategic actions to identify better investment opportunities for the company. Mateos de Cabo et al. (2012) indicated that the greater the proportion of women on the board of commissioners, lower would be the level of the credit risk of the bank. Likewise, Berger et al. (2014) found a negative relationship between female director and credit risk in German banking sector. Similarly, Adams and Funk (2012) found that female board members are more risk loving than their male counterparts. Furthermore, Pradhan et al. (2020) showed that female director has a negative and significant impact on bank risk which reveals that higher the number of females in directors, lower would be the bank risk. Based on it, this study develops the following hypothesis:

H_4: There is a negative relationship of gender diversity with credit risk and liquidity risk.

Bank size

Kwashie et al. (2022) investigated the impact of credit risk on financial performance of commercial banks in Ghana. The study found a negative

relationship between credit risk and bank size. Moreover, Zheng et al. (2018) assessed the factors affecting bank credit risk. The study found that capital and bank size are inversely associated with bank credit risk. Furthermore, Abdulla et al. (2012) examined credit risk management of domestic and foreign banks in Pakistan. The results showed that the bank size has a negative and significant relationship with credit risk in domestic banks. Similarly, Tehulu and Olana (2014) examined the bank- specific determinants of credit risk in Ethiopian banks. The results revealed that the bank size has a negative and statistically significant impact on credit risk. Based on it, this study develops the following hypothesis:

H_5: There is a negative relationship of bank size with credit and liquidity risk.

Audit committee size

The audit committee has a special role to ensure that the interests of shareholders and other stakeholders are protected, by ensuring effective risk management and compliant and transparent financial reporting. Yatim (2009) showed a positive and significant association between the size of the audit committee and the management of risk. This suggests that large audit committees are likely to enhance the quality of internal control, thus supporting the establishment of risk management models. Alzharani and Aljaaidi (2015) found that there is negative and significant connection between audit committees and risk. Similarly, Abdullah and Shukor (2017) indicated that larger audit committees will be able to perform their role better through sharing of knowledge and which would require less outsourcing for the required services. Based on it, this study develops the following hypothesis:

H_6: There is a negative relationship of audit committee size with credit risk and liquidity risk.

3. Results and discussion

Descriptive statistics

Table 2 presents the desscriptive statistics of selected dependent and independent variables during the period 2016/17 to 2021/22.

Table 2

Descriptive statistics

This table shows the descriptive statistics of dependent and independent variables of 17 Nepalese commercial banks for the study period of 2016/17 to 2021/22. The dependent variables are NPL (Nonperforming loan as measured by the ratio of non-performing loans to total loans, in percentage) and LR (Liquidity risk as measured by the ratio of total loans to total deposits, in percentage). The independent variables are BS (Board size is measured as total members on board, in number), AM (Annual meeting as measured by the number of board meetings in a year, in numbers), AC (Audit committee size as measured by the number of audit members, in numbers), ID (Independent directors as measured by the number of

independent directors on the board, in numbers), GD (Gender diversity as measured by the number of female directors in the board of directors, in numbers), and S (Bank size as measured by total assets, Rs in billion).

Variables	Minimum	Maximum	Mean	Std. Deviation
NPL	0.01	8.83	1.55	1.42
LR	27.10	98.08	84.18	10.17
BS	5.00	9.00	6.55	0.91
AM	6.00	62.00	22.35	11.99
AC	2.00	5.00	3.13	0.50
GD	0.00	1.00	0.85	0.35
ID	0.00	2.00	0.66	0.53
S	42.73	419.81	164.06	75.09

Source: SPSS Output

Correlation analysis

Having indicated the descriptive statistics, Pearson's correlation coefficients are computed and results are presented in Table 3.

Table 3

Pearson's correlation coefficient matrix

This table shows the correlation coefficients of dependent and independent variables of 17 Nepalese commercial banks for the study period of 2016/17 to 2021/22. The dependent variables are NPL (Nonperforming loan as measured by the ratio of non-performing loans to total loans, in percentage) and LR (Liquidity risk as measured by the ratio of total loans to total deposits, in percentage). The independent variables are BS (Board size is measured as total members on board, in number), AM (Annual meeting as measured by the number of board meetings in a year, in numbers), AC (Audit committee size as measured by the number of audit members, in numbers), ID (Independent directors as measured by the number of independent directors on the board, in numbers), GD (Gender diversity as measured by the number of female directors in the board of directors, in numbers), and S (Bank size as measured by total assets, Rs in billion).

Variables	NPL	LR	BS	AM	AC	ID	GD	S
NPL	1							
LR	-0.186	1						
BS	-0.118	0.082	1					
AM	-0.092	-0.083	0.154	1				
AC	0.159	-0.198*	0.025	-0.221*	1			
ID	-0.147	-0.099	0.072	-0.064	-0.106	1		
GD	0.359**	0.141	-0.202*	-0.003	-0.158	0.104	1	
S	-0.032	-0.043	0.086	0.182	-0.016	0.174	0.382**	1

Notes: The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.

Table 3 shows that board size has a negative relationship with non-performing loan. It means that increase in board size leads to decrease in non-performing loan. In addition, there is a positive relationship between audit committee size and non-performing loan. It means that increase in the size of audit committee leads to increase in non-performing loan. Similarly, independent director has a negative relationship with non-performing loan. It shows that increase in the number of independent directors leads to decrease in non-performing loan. Furthermore, there is a negative relationship between bank size and non-performing loans. It indicates that larger the bank size, lower would be the non-performing loan. In contrast, gender diversity has a positive relationship with non-performing loan. It shows that higher the number of female directors, higher would be the non-performing loan. Furthermore, number of board meeting has a negative relationship with non-performing loan. It shows that higher the number of board meetings, lower would be the non-performing loan.

Similarly, the results also shows that board size has a positive relationship with liquidity risk. It means that increase in board size leads to increase in liquidity risk. However, there is a negative relationship between audit committee size and liquidity risk. It means that increase in audit committee size leads to decrease in liquidity risk. Similarly, independent director has a negative relationship with liquidity risk. It shows that increase in the number of independent directors leads to decrease in liquidity risk. Furthermore, gender diversity has a positive relationship with liquidity risk. It indicates that higher number of female directors leads to increase in liquidity risk. In contrast, there is a negative relationship between bank size and liquidity risk. It indicates that larger the bank size, lower would be the liquidity risk. Furthermore, number of board meeting has a negative relationship with liquidity risk. It shows that higher the number of board meetings, lower would be the liquidity risk.

Regression analysis

Having indicated the Pearson's correlation coefficients, the regression analysis has been carried out and results are presented in Table 4. More specifically, it shows the regression results of board size, number of annual meetings, bank size, gender diversity, independent directors and audit committee with non-performing loans of Nepalese commercial banks.

Table 4

Estimated regression results of board size, number of board meetings, bank size, gender diversity, independent directors and audit committee with non-performing loan

The results are based on the panel data of 17 commercial banks with 102 observations for

the period of 2016/17 to 2021/22 by using linear regression model. The model: NPL= β_0 + β_1 BS + β_2 AM + β_3 AC + β_4 ID + β_5 GD + β_6 S + e_{it} where, the dependent variable is NPL (Nonperforming loan as measured by the ratio of non-performing loans to total loans, in percentage). The independent variables are BS (Board size is measured as total members on board, in number), AM (Annual meeting as measured by the number of board meetings in a year, in numbers), AC (Audit committee size as measured by the number of audit members, in numbers), ID (Independent directors as measured by the number of independent directors on the board, in numbers), GD (Gender diversity as measured by the number of female directors in the board of directors, in numbers), and S (Bank size as measured by total assets, Rs in billion).

Model	Intercept	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		BS	AM	AC	ID	GD	S			
1	2.761 (2.697)*	-0.184 (1.192)						0.004	1.428	1.421
2	1.798 (5.980)**		-0.011 (0.929)					0.001	1.430	0.863
3	0.153 (0.173)			0.446 (1.605)				0.015	1.418	2.577
4	2.057 (5.604)**				-0.592 (1.489)			0.012	1.421	2.216
5	0.909 (4.262)**					0.964 (3.850)**		0.120	1.341	14.821
6	4.084 (0.512)						-0.098 (0.317)	0.009	1.432	0.101
7	0.448 (0.055)		-0.009 (0.719)	0.358 (1.241)	-0.562 (1.372)		-0.026 (0.319)	0.008	1.423	1.208
8	15.065 (1.921)				-0.657 (1.767)	1.187 (4.486)**	-0.534 (1.730)	0.164	1.307	7.582
9	2.008 (1.421)	-0.162 (1.037)	0.007 (0.533)	0.381 (1.325)	-0.518 (1.290)			0.019	1.416	1.488
10	13.903 (1.768)	-0.004 (0.026)	-0.002 (0.217)	0.595 (2.235)*	-0.580 (1.557)	1.283 (4.671)**	-0.566 (1.785)	0.186	1.290	4.834

Notes:

i. Figures in parenthesis are t-values.

ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.

iii. Non-performing loan is the dependent variable.

Table 4 shows that the beta coefficients for board size are negative with non-performing loans. It indicates that the board size has a negative impact on non-performing loans. This finding is inconsistent with the findings of Debrah et al. (2022). Furthermore, the beta coefficients for number of board meetings are negative with non-performing loans. It indicates that the number of board meetings have a negative impact on non-performing loans. This finding is similar to the findings of Aebi *et al.* (2012). Similarly, the beta coefficients for gender diversity are positive with non-performing loans. It indicates that gender diversity has a positive impact on non-performing loans. This finding is consistent with the findings of Adams and Funk (2012). Likewise, the beta coefficients for independent directors are negative with non-performing loans. It indicates that independent directors have a negative impact on non-performing loans. This finding is similar to the findings of Young (2010). However, the beta coefficients for bank size are negative with

non-performing loans. It indicates that bank size has a negative impact on non-performing loans. This finding is consistent with the findings of Tehulu and Olana (2014).

Table 5 shows the regression results of board size, number of board meetings, bank size, gender diversity, independent directors and audit committee with liquidity ratio of Nepalese commercial banks.

Table 5

Estimated regression results of board size, number of board meetings, bank size, gender diversity, independent directors and audit committee with liquidity ratio

The results are based on the panel data of 17 commercial banks with 102 observations for the period of 2016/17 to 2021/22 by using linear regression model. The model: $LR = \beta_0 + \beta_1 BS + \beta_2 AM + \beta_3 AC + \beta_4 ID + \beta_5 GD + \beta_6 S + e_{it}$ where, the dependent variable is LR (Liquidity risk as measured by the ratio of total loans to total deposits, in percentage). The independent variables are BS (Board size is measured as total members on board, in number), AM (Annual meeting as measured by the number of board meetings in a year, in numbers), AC (Audit committee size as measured by the number of audit members, in numbers), ID (Independent directors as measured by the number of independent directors on the board, in numbers), GD (Gender diversity as measured by the number of female directors in the board of directors, in numbers), and S (Bank size as measured by total assets, Rs in billion).

Model	Intercept	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		BS	AM	AC	ID	GD	S			
1	78.197 (10.691)**	0.913 (0.826)						0.003	10.192	0.683
2	85.764 (40.037)**		-0.071 (0.836)					0.002	10.191	0.699
3	96.603 (15.485)**			-3.958 (2.016)*				0.029	10.025	4.066
4	86.611 (32.963)**				-2.845 (1.001)			0.031	10.176	1.024
5	82.385 (51.150)**					2.699 (1.428)		0.010	10.214	2.038
6	108.707 (1.915)						-0.953 (0.432)	0.008	10.217	0.187
7	100.389 (14.484)**			-4.218 (2.141)*	-3.485 (1.240)			0.035	9.998	2.812
8	74.396 (9.545)**	1.465 (1.294)	-0.087 (1.031)			3.204 (1.662)		0.014	10.105	1.474
9	131.647 (2.131)*		-0.064 (0.740)		-3.130 (1.081)	3.500 (1.702)	-1.777 (0.725)	0.007	10.139	1.183
10	134.314 (2.232)*	1.844 (1.641)	-0.130 (1.487)	-4.480 (2.201)*	-4.315 (1.513)	3.522 (1.677)	-1.708 (0.705)	0.059	9.870	2.060

Notes:

i. Figures in parenthesis are t-values.

ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.

iii. Liquidity ratio is the dependent variable.

Table 5 shows that the beta coefficients for board size are positive with liquidity ratio. It indicates that the board size has a positive impact on liquidity ratio. This finding is consistent with the findings of Agoraki *et al*. (2010). Furthermore, the beta coefficients for number of board meetings are

negative with liquidity ratio. It indicates that the number of board meetings have a negative impact on liquidity ratio. This finding is similar to the findings of Bourakba and Zerargui (2015). Similarly, the beta coefficients for gender diversity are positive with liquidity ratio. It indicates that gender diversity has a positive impact on liquidity ratio. This finding is consistent with the findings of Pradhan et al. (2020). Likewise, the beta coefficients for independent directors are negative with liquidity ratio. It indicates that independent directors have a negative impact on liquidity ratio. This finding is similar to the findings of Beasley (1996). However, the beta coefficients for audit committee are negative with liquidity ratio. It indicates that audit committee has a negative impact on liquidity ratio. This finding is consistent with the findings of Yatim (2009).

4. Summary and conclusions

Effective corporate governance frameworks have become more and more necessary as the industry has developed over time. Banks are prone to risk-taking due to their high leverage, limited creditor market discipline (reflecting deposit insurance and too-big-to-fail guarantees), and the ability to increase rapidly and opaquely the riskiness of their assets. Moreover, bank failures can be costly to the taxpayer and have adverse effects on the real economy.

This study attempts to analyze the impact of corporate governance on credit and liquidity risks of Nepalese commercial banks. The study is based on secondary data of 17 commercial banks with 102 observations for the period from 2016/17 to 2021/22.

The study showed that board size, board meetings, independent directors and bank size have negative impact on non-performing loans. Likewise, audit committee and gender diversity have positive impact on non-performing loan. The study also showed that board size, and gender diversity have positive impact on the liquidity risk of the banks. However, number of board meetings, audit committee, independent directors and bank size have negative impact on liquidity risk of Nepalese commercial banks. The study concludes that good corporate governance can helps to minimize the liquidity risk and credit risk in Nepalese commercials banks. Similarly, the study also concludes that audit committee size and gender diversity are the most dominant factors that explains the changes in liquidity risk and credit risk in Nepalese commercial banks.

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