

Impact of Board Characteristics and Ownership Structure on NonPerforming Loan in Nepalese Commercial Banks

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Abstract

This study examines the impact of board characteristics and ownership structure on non-performing loan of Nepalese commercial banks. The selected dependent variables are non-performing loan and credit to deposit ratio. Similarly, the selected independent variables are board size, board diversity, board independence, institutional ownership, audit committee and board meeting. The study is based on secondary data of 15 commercial banks with 105 observations for the period from 2015/16 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 board characteristics and ownership structure on non-performing loan of Nepalese commercial banks.

The study showed that board size has a positive impact on non-performing loan and credit-to-deposit ratio. It means that increase in board size leads to increase in non-performing loans and credit-to-deposit ratio. Similarly, board diversity has a positive impact on non-performing loan and credit-to-deposit ratio. It means that greater the proportion of female director in the board, higher would be the non-performing loan and credit-to-deposit ratio. Likewise, Furthermore, board independence director has a negative impact on non-performing loan. It indicates that increase in the numbers of independent director leads to decrease in non-performing loans. In addition, audit committee has a negative impact on non-performing loan. It indicates that larger the audit committee size, lower would be the non-performing loan. Furthermore, institutional ownership has a positive impact on non-performing loan. It shows that increase in the proportion of institutional ownership leads to increase in non-performing loan.

Keywords: non-performing loan, board size, board diversity, board independence, institutional ownership, audit committee, board meeting.

1. Introduction

Corporate governance (CG) is the set of guidelines, customs, and procedures that regulate how a business is run and managed. It supports

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an organization's efforts to conduct operations with honesty, equity, and transparency. CG aids a company in making the appropriate disclosures and choices regarding its ethical business practices. Consistently applied corporate governance can increase public and international trust, which will help the growth of a good and healthy banking industry (Abbadi et al., 2016). Implementing CG can establish a strong basis for responsible and competent business operations in the banking industry. In order to better manage banks in the face of present and future challenges typified by fierce competition between banks for gaining customers' trust and expanding bank business, the CG idea, as a contemporary corporate management model, is thought to be able to make a difference (Nenu et al., 2018). An organization's accountability and transparency are increased, decision-making is improved, and the company's value is increased with the aid of effective corporate governance. A healthy financial system is eventually aided by effective corporate governance in the banking sector, which also helps to promote financial stability and increase risk management. Similar to this, Liu and Lu (2007) characterized corporate governance as having a basic connection to preventing financial record manipulation and minimizing the agency problem.

Corporate governance is a modern corporate management model which is believed to bring change for better bank management in facing current and future challenges marked by intense competition between banks in winning customer trust and developing bank business. Good corporate governance is a good shield for companies to fight corporate fraud (Salleh and Othman, 2016). The banking industry grows rapidly because a bank is an agency that act as a driving force for a country's economy. One of the most important lessons from the financial crisis 2008–2009 is that corporate governance really matters, especially in the banking industry, where management's risk-taking activities are not immediately visible to the board or outside investors (Becht et al., 2011). Non-performing loan is a crucial tool to measure financial performances of any organization. Mingaleva et al. (2014) stated that NPL is the most serious concern regarding the global financial crisis for many countries. NPLs essentially represent economic losses and forgone interest revenue related to poor credit quality of the borrower, and therefore are considered an indicator of banks' riskiness (Cantrell, McInnis, and Yust, 2013). Dao and Kang (2022) proved that NPL as a sharp increase in the lending spread, a reduction in output and a depreciation in the real exchange rate of the developing country. Louzis et al. (2010) revealed that there is positive relationship between non-performing loan and financial risk of corporation governance.

Orozco *et al.* (2018) revealed that there is a significant positive relationship between board size and business credit and its provisioning. DeYoung *et al.* (2013) stated that CEO risk-taking incentives lead to riskier business policy decisions concerning lending to businesses, non-interest-based banking activities, and investing in mortgage-backed securities in commercial banks. Erkens *et al.* (2012) described those financial institutions with more independent boards and higher institutional ownership experienced worse stock returns during the global financial crisis. Thus, weak corporate governance and excessive risk-taking can lead to severe banking instability and huge losses. Tahir *et al.* (2018) concluded that state-owned banks reduce bank performance and increase the risk of having dispersed ownership. Stulz (2015) argued that governance plays an important role in helping banks pursue an 'optimal' level of risk that allows managers to maximize shareholder value while also taking into account the social costs of bank failures. Srivastav and Hagendorff (2016) argued that several board attributes can play a crucial oversight role in management's risk-taking behavior. Among the board attributes, board diversity is a major issue in the corporate governance. Akbar *et al.* (2017) examined the relationship between board structure and corporate risk taking in the UK financial sector. The study showed how the board size, board independence and combining the role of CEO and chairperson in boards may affect corporate risk taking in financial firms in the UK financial sector.

Rachdi and Ben Ameer (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. Abdelbadie and Salama (2019) investigated the structure and implications of the professional connections among bank directors of 168 US commercial banks listed continuously from 2009 to 2015. The study found that the barriers set out in the Interlocks Act have been circumvented by the establishment of indirect interlocks that allow for mass professional connections among bank directors. 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. Grove and Basilico (2011) found that CEO duality is negatively associated with financial 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.

Credit risk is the most important risk to consider because it is the biggest risk faced by banks. To control these risks, banks make various efforts such as implementing good corporate governance. One of the good corporate governance strategies undertaken by banks is to diversify the company's board members. Credit risk is the possible loss resulting from a borrower's failure to repay a loan or fulfill a contractual obligation. 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. Trinh *et al.* (2015) investigated the impact of corporate governance on liquidity risk, credit risk, and capital risk. The study showed an insignificant correlation between board size and liquidity, credit and capital risk. Similarly, Al-Smadi and Mohammad (2013) found that there is a negative impact of the size of the board on credit 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. Alkurdi *et al.* (2019) showed that the size of the board of directors is negatively associated with credit risk.

In the context of Nepal, Khadka *et al.* (2023) examined the impact of board diversity on credit risk of Nepalese commercial banks. The study showed that board size, number of female directors, independent board director and bank size have positive impact on non-performing loan. However, credit to deposit ratio and operating expenses ratio have a negative impact on non-performing loan. Likewise, board size, number of female directors, independent board director, bank size and operating expenses have a positive impact on loan loss provision. However, credit to deposit ratio has a negative impact on loan loss provision. The study concluded that credit to deposit ratio

is the most influencing factor that explains the changes in non-performing loan of Nepalese commercial banks. Similarly, the study also concluded that bank size is the most influencing factor that explains the changes in loan loss provision of Nepalese commercial banks. Pradhan *et al.* (2020) analyzed the corporate governance, risk taking and profitability of Nepalese commercial banks. The study found that female director has a positive and significant impact on bank risk which implies that higher the number of females in directors, lower would be the bank risk.

The above discussion shows that empirical evidences vary greatly across the studies concerning on the impact of board characteristics and ownership structure on non-performing loan 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 main purpose of the study is to analyze the impact of board characteristics and ownership structure on non-performing loan of Nepalese commercial banks. Specifically, it examines the relationship of board size, board diversity, board independence, institutional ownership, audit committee and board meeting with non-performing loan and credit to deposit ratio in the context 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 is based on the secondary data which were gathered from 15 Nepalese commercial banks for the study period from 2015/16 to 2021/22, leading to a total of 105 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. This 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	Observation
1	Rastriya Banijya Bank Limited	2015/16-2021/22	7
2	Sanima Bank Limited	2015/16-2021/22	7
3	NMB Bank Limited	2015/16-2021/22	7
4	Global IME Bank Limited	2015/16-2021/22	7
5	Himalayan Bank Limited	2015/16-2021/22	7
6	Nabil Bank Limited	2015/16-2021/22	7
7	Prabhu Bank Limited	2015/16-2021/22	7
8	NIC Asia Bank Limited	2015/16-2021/22	7
9	Nepal SBI Bank Limited	2015/16-2021/22	7
10	Nepal Bank Limited	2015/16-2021/22	7
11	Prime Commercial Bank Limited	2015/16-2021/22	7
12	Agricultural Development Bank Limited	2015/16-2021/22	7
13	Everest Bank Limited	2015/16-2021/22	7
14	Machhapuchchhre Bank Limited	2015/16-2021/22	7
15	Citizens Bank International Limited	2015/16-2021/22	7
Total number of observations			105

Thus, the study is based on 105 observations.

The model

The model used in the study assume that non-performing loans depend upon the corporate governance attributes of Nepalese commercial banks. The dependent variables selected for the study are non-performing loan and credit to deposit ratio. Similarly, the selected independent variables are board size, independent directors, board diversity, institutional ownership, board diversity and audit committee. Therefore, the model takes the following forms:

$$NPL = \beta_0 + \beta_1 BS + \beta_2 BI + \beta_3 AC + \beta_4 IO + \beta_5 BM + \beta_6 BD + \varepsilon_t$$

$$CD = \beta_0 + \beta_1 BS + \beta_2 BI + \beta_3 AC + \beta_4 IO + \beta_5 BM + \beta_6 BD + \varepsilon_t$$

Where,

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

CD= Credit to deposit ratio as measured by the ratio of total loan to total deposit, in percentage.

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

BD = Board diversity as measured by the proportion of female directors to the total directors of the board.

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

IO = Institutional ownership as measured by the percentage of institutional ownership, in percentage.

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

BM = Board meeting as measured by the number of board level meetings held in a year, in numbers.

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

Board size

Tarchouna et al. (2017) suggested that there is a negative relationship between board size and non-performing loans (NPLs). This means that, as the size of a board increases, the number of NPLs tends to decrease. According to Lafuente et al. (2019), larger boards are more likely to be more diverse, with a wider range of perspectives and experiences. This diversity can help to improve decision-making and reduce the likelihood of risky lending decisions. Balagobei (2019) assessed the association between corporate governance and non-performing loans of listed banks in Sri Lanka. The study found a negative association between corporate governance and non-performing loans. Based on it, the study develops following hypothesis:

H₁: There is a negative relationship between board size and non-performing loans.

Board diversity

Board diversity is the proportion of female directors to the total directors of the board. Luckcrath-Rovers (2013) stated that having female board members improves the performance of MFIs. One reason for this impact is based on the assumption that gender diversity leads to more stringent monitoring by the board. Creary et al. (2019) argued that better monitoring by female board members is due to the fact that they are more careful and risk averse. Rose (200) found that board diversity is negatively associated with NPLs. This means that banks with more diverse boards are more likely to have lower NPLs. Arioglu (2020) found that banks with more diverse boards have lower credit risk and less likely to lend to risky borrowers. The study

argued that this is because diverse boards bring different perspectives to the table, which can help to identify and mitigate risk. Based on it, the study develops following hypothesis:

H₂: There is a negative relationship between board diversity and non-performing loans.

Audit committee

Akter et al. (2021) argued that a large audit committee comprises people with diverse experience and financial expertise can ensure higher bank efficiency, which, in turn, reduces bank's credit risks. Ojeka et al. (2021) assessed the audit committee characteristics and non-performing loans in Nigerian Deposits Banks. The study found a significant negative association between audit committee size and non-performing loans in the context of Nigerian banks. Irawati et al. (2019) discovered a negative correlation between non-performing loans in Indonesian banks and the size of the audit committee. Companies with strong audit committees tends to have lower CD Ratio. This is likely because audit committees play a key role in monitoring the company's lending practices and ensuring that they are in line with risk appetite. Based on it, the study develops following hypothesis:

H₃: There is a negative relationship between audit committee size and non-performing loan.

Institutional ownership

Balagobei (2019) found that there is a negative relationship between institutional ownership and non-performing loans (NPLs). This means that, as the level of institutional ownership increases, the number of NPLs tends to decrease. Ojeka et al. (2021) stated that institutional investors are more likely to be more objective and critical of management's decisions. This can help to identify and mitigate risks early on, before they lead to NPLs. Ivashina and Scharfstein (2010) revealed that institutional investors are more likely to have more experience and expertise in financial matters. This can help them to provide better oversight of lending activities and ensure that loans are made to borrowers who are likely to repay them. Further, Creary et al. (2019) argued that institutional ownership can play a role in reducing NPLs. Based on it, the study develops following hypothesis:

H₄: There is a negative relationship between institutional ownership and non-performing loan.

Board independence

Erkens et al. (2007) found that there is a negative relationship between board independence and non-performing loans (NPLs). This means that, as the level of board independence increases, the number of NPLs tends to decrease. Adams and Mehran (2005) revealed that independent directors are more likely to have more experience and expertise in financial matters. This can help them to provide better oversight of lending activities and ensure that loans are made to borrowers who are likely to repay them. Ivashina and Scharfstein (2010) also discovered that independent boards improve bank performance and lower the amount of nonperforming loans. Based on it, the study develops following hypothesis:

H₅: There is a negative relationship between board independence and non-performing loan.

Board meeting

More frequent board meetings can help to improve communication and coordination between the board and management. This can lead to better decision-making and a reduction in the risk of risky lending decisions (Rehman et al., 2016). Ben Saada (2018) suggested that 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. Pop et al. (2018) concluded that there is negative relationship between number of board meetings and banking risk. Moreover, Balagobei (2019) stated that more frequent board meetings can help to ensure that the board is more actively involved in oversight of lending activities. This can help to identify and mitigate risks early on, before they lead to NPLs. Based on it, the study develops following hypothesis:

H₆: There is a negative relationship between board meeting and non-performing loan.

3. Results and discussion

Descriptive statistics

Table 2 presents the descriptive statistics of selected dependent and independent variables during the period 2015/16 to 2021/22.

Table 2

Descriptive statistics

This table shows the descriptive statistics of dependent and independent variables of 15

Nepalese commercial banks for the study period of 2015/16 to 2021/22. The dependent variables are NPL (Nonperforming loan as measured by the ratio of gross non-performing loan to total loans, in percentage) and CD (Credit to deposit ratio as measured by the ratio of total loan to total deposit, in percentage). The independent variables are BS (Board size as measured by the ratio of absolute number of directors on the board of a company, in numbers), BD (Board diversity as measured by the proportion of female directors to the total directors of the board), AC (Audit committee size as measured by the number of audit members, in numbers), IO (Institutional ownership as measured by the percentage of institutional ownership, in percentage), BI (Independent director as measured by the number of independent directors on the board, in numbers) and BM (Board meeting as measured by the number of board level meetings held in a year, in numbers).

Variables	Minimum	Maximum	Mean	Std. Deviation
NPL	0.01	8.83	1.49	1.45
CD	0.58	0.96	0.84	0.08
BS	5.00	11.00	6.98	1.13
BD	0.00	1.00	0.54	0.50
BI	0.00	2.00	0.62	0.51
IO	0.02	1.00	0.44	0.24
AC	2.00	5.00	3.11	0.56
BM	12.00	102.00	35.30	17.40

Correlation analysis

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

Table 3

Pearson's correlation coefficients matrix

This table shows the bivariate Pearson's correlation coefficients of dependent and independent variables of 15 Nepalese commercial banks for the study period of 2015/16 to 2021/22. The dependent variables are NPL (Nonperforming loan as measured by the ratio of gross non-performing loan to total loans, in percentage) and CD (Credit to deposit ratio as measured by the ratio of total loan to total deposit, in percentage). The independent variables are BS (Board size as measured by the ratio of absolute number of directors on the board of a company, in numbers), BD (Board diversity as measured by the proportion of female directors to the total directors of the board), AC (Audit committee size as measured by the number of audit members, in numbers), IO (Institutional ownership as measured by the percentage of institutional ownership, in percentage), BI (Independent director as measured by the number of independent directors on the board, in numbers) and BM (Board meeting as measured by

the number of board level meetings held in a year, in numbers).

Variables	NPL	CD	BS	BD	BI	IO	AC	BM
NPL	1							
CD	-0.365**	1						
BS	0.070	0.040	1					
BD	0.130	0.335**	-0.132	1				
BI	-0.216*	0.170	0.001	0.292**	1			
IO	0.385**	-0.309**	0.183	-0.08	0.001	1		
AC	-0.190	-0.010	0.230*	-0.053	0.090	0.160	1	
BM	0.487**	-0.200*	-0.022	0.130	0.051	0.426**	-0.080	1

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

Table 3 shows that board size has a positive relationship with non-performing loan. It means that increase in board size leads to increase in non-performing loans. Similarly, there is a positive relationship between board diversity and non-performing loan. It means that greater the proportion of female director in the board, higher would be the non-performing loan. Likewise, board meetings have a positive relationship with non-performing loan. It shows that more the number of board meetings, higher would be the non-performing loan. Furthermore, board independence director has a negative relationship with non-performing loan. It indicates that increase in the numbers of independent director leads to decrease in non-performing loans. In contrast, there is a negative relationship between audit committee and non-performing loan. It indicates that larger the audit committee size, lower would be the non-performing loan. Furthermore, institutional ownership has a positive relationship with non-performing loan. It shows that increase in the proportion of institutional ownership leads to increase in non-performing loan.

Similarly, board size has a positive relationship with credit-to-deposit ratio. It means that increase in board size leads to increase in credit-to-deposit ratio. Similarly, there is a positive relationship between board diversity and credit-to-deposit ratio. It means that greater the proportion of female director in the board, higher would be the credit-to-deposit ratio. Likewise, board meetings have a negative relationship with credit-to-deposit ratio. It shows that more the number of board meetings, lower would be the credit-to-deposit ratio. Furthermore, board independence director has a positive relationship with credit-to-deposit ratio. It indicates that increase in the numbers of independent director leads to increase in credit-to-deposit ratio. In contrast, there is a negative relationship between audit committee and credit-to-deposit ratio. It indicates that larger the audit committee size, lower would be the credit-to-deposit ratio. Furthermore, institutional ownership has a negative relationship with credit-to-deposit ratio. It shows that increase in the proportion of institutional ownership leads to decrease in credit-to-deposit ratio.

Regression analysis

Having indicated the Pearson’s correlation coefficients, the regression analysis has been carried out and the results are presented in Table 4 and Table 5. More specifically, Table 4 shows the regression results of board size, independent directors, board diversity, institutional ownership, board diversity and audit committee on non-performing loan of Nepalese commercial banks.

Table 4

Estimated regression results of board size, independent directors, board diversity, institutional ownership, board diversity and audit committee on non-performing loan. The results are based on panel data of 15 commercial banks with 105 observations for the period 2015/16-2021/22 by using linear regression model. The model is $NPL = \beta_0 + \beta_1 BS + \beta_2 BI + \beta_3 AC + \beta_4 IO + \beta_5 BM + \beta_6 BD + \varepsilon_t$ where the dependent variable is NPL (Nonperforming loan as measured by the ratio of gross non-performing loan to total loans, in percentage). The independent variables are BS (Board size as measured by the ratio of absolute number of directors on the board of a company, in numbers), BD (Board diversity as measured by the proportion of female directors to the total directors of the board), AC (Audit committee size as measured by the number of audit members, in numbers), IO (Institutional ownership as measured by the percentage of institutional ownership, in percentage), BI (Independent director as measured by the number of independent directors on the board, in numbers) and BM (Board meeting as measured by the number of board level meetings held in a year, in numbers).

Model	Intercept	Regression coefficients of						Adj. R ²	SEE	F-value
		BS	BD	BI	IO	AC	BM			
1	0.859 (0.965)	0.09 (0.715)						0.005	1.457	0.511
2	1.279 (6.12)***		0.384 (1.355)					0.080	1.448	1.837
3	1.871 (8.498)***			-0.620 (2.248)**				0.038	1.426	5.053
4	0.458 (1.658)*				2.339 (4.235)***			0.141	1.348	17.935
5	3.032 (3.818)***					-0.496 (1.976)*		0.027	1.434	3.904
6	0.05 (0.178)						0.041 (5.662)***	0.231	1.276	32.059
7	0.459 (0.459)	0.115 (0.909)	0.419 (1.464)					0.062	1.449	1.33
8	1.645 (6.845)***		0.621 (2.163)**	-0.799 (2.820)***				0.071	1.401	4.956
9	0.529 (1.633)		0.719 (2.738)***	-0.824 (3.193)***	2.416 (4.516)***			0.228	1.277	11.245
10	2.24 (3.109)***		0.672 (2.627)*	-0.755 (2.991)***	2.659 (5.153)***	-0.584 (-2.640)*		0.271	1.241	10.675
11	1.347 (1.888)*		0.515 (2.120)**	-0.776 (3.282)***	1.692 (3.110)***	-0.457 (2.177)**	0/029 (3.874)***	0.361	1.162	12.737

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 positive with

non-performing loan. It indicates that board size has a positive impact on non-performing loan. This finding is inconsistent with the findings of Balagobei (2019). Likewise, the beta coefficients for board meetings are positive impact on non-performing loan. It reveals that board meetings have a positive impact on non-performing loan. This finding is similar to the finding of Pop et al. (2018). Likewise, the beta coefficients for board independence are negative with non-performing loan. It indicates that board independence has a negative impact on non-performing loan. This finding is inconsistent with the findings of Ivashina and Scharfstein (2010). The beta coefficients for audit committee size are negative with non-performing loan. It reveals that of audit committee size has a negative effect on non-performing loan. This finding is similar to the findings of Irawati et al. (2019). Similarly, the beta coefficients for institutional ownership are positive with non-performing loans. It indicates that institutional ownership has a positive impact on non-performing loan. This finding inconsistent with the findings of Ojeka et al. (2021). Moreover, the beta coefficients for board diversity are positive with non-performing loan. It indicates that board diversity has a positive impact on non-performing loan. This finding is similar to the findings of Arioglu (2020).

Table 5 shows the regression results of board size, independent directors, board diversity, institutional ownership, board diversity and audit committee on credit to deposit ratio of Nepalese commercial banks.

Table 5

Estimated regression results of board size, independent directors, board diversity, institutional ownership, board diversity and audit committee on credit to deposit ratio

The results are based on panel data of 15 commercial banks with 105 observations for the period 2015/16-2021/22 by using linear regression model. The model is $CD = \beta_0 + \beta_1 BS + \beta_2 BI + \beta_3 AC + \beta_4 IO + \beta_5 BM + \beta_6 BD + \epsilon_t$ where the dependent variable is CD (Credit to deposit ratio as measured by the ratio of total loan to total deposit, in percentage). The independent variables are BS (Board size as measured by the ratio of absolute number of directors on the board of a company, in numbers), BD (Board diversity as measured by the proportion of female directors to the total directors of the board), AC (Audit committee size as measured by the number of audit members, in numbers), IO (Institutional ownership as measured by the percentage of institutional ownership, in percentage), BI (Independent director as measured by the number of independent directors on the board, in numbers) and BM (Board meeting as measured by the number of board level meetings held in a year, in numbers).

Model	Intercept	Regression coefficients of						Adj. R _{bar} ²	SEE	F-value
		BS	BD	BI	IO	AC	BM			
1	0.823 (17.803)**	0.002 (0.380)						0.008	0.076	0.144
2	0.813 (78.951)**		0.050 (3.607)**					0.104	0.071	13.011
3	0.825 (71.572)**			0.025 (1.723)				0.019	0.075	2.970
4	0.884 (59.835)**				-0.097 (3.303)**			0.087	0.072	10.911
5	0.847 (20.184)**					-0.002 (0.146)		0.010	0.076	0.021
6	0.871 (52.971)**						-0.001 (2.073)*	0.031	0.074	4.298
7	0.774 (16.931)**	0.006 (0.893)	0.052 (3.691)**					0.102	0.714	6.892
8	0.770 (16.735)**	0.005 (0.857)	0.049 (3.299)**	0.011 (0.741)				0.098	0.072	4.757
9	0.897 (61.248)**		0.047 (3.508)**			-0.007 (1.274)		0.177	0.068	12.209
10	0.855 (52.558)**		0.047 (3.508)**		-0.091 (3.200)**		-0.041 (3.223)**	0.197	0.068	12.209

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. Credit to deposit ratio is the dependent variable.

Table 5 shows that the beta coefficients for board size are positive with credit to deposit ratio. It indicates that board size has a positive impact on credit to deposit ratio. This finding is inconsistent with the findings of Tarchouna et al. (2017). Likewise, the beta coefficients for board meetings are negative impact on credit to deposit ratio. It reveals that board meetings have a negative impact on credit to deposit ratio. This finding is similar to the finding of Ben Saada (2018). Likewise, the beta coefficients for board independence are positive with credit to deposit ratio. It indicates that board independence has a positive impact on credit to deposit ratio. This finding is inconsistent with the findings of Erkens et al. (2007). The beta coefficients for audit committee size are negative with credit to deposit ratio. It reveals that of audit committee size has a negative effect on credit to deposit ratio. This finding is similar to the findings of Akter et al. (2021). Similarly, the beta coefficients for institutional ownership are negative with credit to deposit ratio. It indicates that institutional ownership has a negative impact on credit to deposit ratio. This finding inconsistent with the findings of Creary et al. (2019). Moreover, the beta coefficients for board diversity are positive with credit to deposit ratio. It indicates that board diversity has a positive impact on credit to deposit ratio. This finding is similar to the findings of Luckerath-Rovers (2013).

4. Summary and conclusion

Corporate governance is the system by which business corporations are directed and controlled by distributing the rights and responsibilities among different participants, such as the board, managers, shareholders, and other stakeholders, and spells out the rules and procedures for decision on corporate affairs. Corporate governance denotes the processes and structure that are responsible for the decision which has a very long term influence on the composition of management team, on capital structure, and on taking of important risks for the owners of the company.

The study attempts to examine the effect of board characteristics and ownership structure on non-performing loan and credit deposit ratio of Nepalese commercial banks. This study is based on secondary data of 15 commercial banks in Nepal for the study period from 2015/16 to 2021/22, leading to a total of 105 observations.

The study showed that board size, board diversity, institutional ownership and board diversity have positive impact on nonperforming loan. Similarly, independent directors and audit committee have a negative impact on nonperforming loan. Moreover, the study showed that board size, independent directors and board diversity have positive impact on credit to deposit ratio. Similarly, institutional ownership, board diversity and audit committee have a negative impact on credit to deposit ratio. The study concluded that board meeting is the most influencing factor that explains the changes in nonperforming loan of Nepalese commercial banks. The study also concluded that board diversity is the most influencing factor that explains the changes in credit to deposit ratio of Nepalese commercial banks.

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