# Impact of Corporate Governance and Ownership Structure on the Profitability of Nepalese Commercial Banks

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## Abstract

The study examines the impact of corporate governance and ownership structure on the profitability of Nepalese commercial banks. Return on assets and net interest margin are selected as the dependent variables. The selected independent variables are board size, leverage, gender diversity, board independence, audit committee size, and institutional ownership. The study is based on secondary data of 13 commercial banks with 104 observations for the period from 2015/16 to 2022/23. The data were collected from Banking and Financial Statistics published by Nepal Rastra Bank 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 and ownership structure on the profitability of Nepalese commercial banks.

The study showed that board size has a negative impact on return on assets and net interest margin. It indicates that higher the board size, lower would be the return on assets and net interest margin. Similarly, leverage has a negative impact on return on assets and net interest margin. It indicates that higher the leverage, lower would be the return on assets and net interest margin. However, gender diversity has a positive impact on return on assets and net interest margin. It indicates that higher the gender diversity in the boards, higher would be the return on assets and net interest margin. Likewise, board independence has a positive impact on return on assets and net interest margin. It indicates that increase in board independence leads to increase in return on assets and net interest margin. Further, audit committee size has a positive impact on return on assets and net interest margin. It indicates that higher the audit committee size, higher would be the return on assets and net interest margin. In addition, institutional ownership has a positive impact on return on assets and net interest margin. It indicates that higher the institutional ownership, higher would be the return on assets and net interest margin.

*Keywords:* board size, leverage, gender diversity, board independence, audit committee size, institutional ownership, return on assets, net interest margin

## 1. Introduction

Corporate governance is a mechanism by which stakeholder of a corporate exercise control over corporate insiders and management in such a way that their interests are protected (Low, 2003). Young and Thyil (2014) argued that corporate governance is vital because of the delegation of responsibility for production, process improvement and innovation. Furthermore, it is the internal system of rules, practices, processes, and other contractual and organizational schemes by which a firm is directed and controlled. This control mechanism is established by the board of directors to ensure managerial accountability and financial reporting reliability (Rebeiz and Salameh, 2006). Corporate governance aims at facilitating effective

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monitoring and efficient control of business. Its essence lies in fairness and transparency in operations and enhanced disclosures for protecting interest of different stakeholders (Arora and Bodhanwala, 2018). According to Darkwah *et al.* (2016), the primary goal of firms is to achieve the maximum possible profit while satisfying the interests of its stakeholders. In addition, the study stated that good governance promotes investment and generates higher profits for firms by increasing the access to capital and reducing potential risks.

Poor corporate governance of the bank can drive the market to lose confidence in the ability of a bank then it leads to economic crisis in a country and invite systematic risk (Garcia-Marco *et al.*, 2008). However, good corporate governance strengthens property rights, minimizes transaction cost and the cost of capital, and leads to capital market development (Claessens and Fan, 2002). Corporate governance is the basis that organizations should not just be managed well but run effectively and internally regulated, both formally and informally. Moreover, corporate governance is a set of process an entity's culture, policies, laws and institutional value that affects the way a corporation is directed, administered or controlled (Shleifer and Vishny, 1997). Pillai and Al-Malkawi (2017) stated that corporate governance practices are more likely to achieve broad measures of success in the future by eliminating or reducing cases of financial and administrative corruption and gaining the confidence of stakeholders. Similarly, governance also provides protection to investors through its compliance with laws and ethical responsibilities and the commitment of all employees to these ethics. Moreover, governance increases the level of confidence in firms, improves the level of transparency, and reduces the level of risk, which lead to a better business environment and stability (Alabdullah, 2016).

Dabor *et al.* (2015) examined the impact of corporate governance on firm performance. The study revealed that there is a significant but negative relationship between board qualification and return on assets and return on equity. Similarly, Berger *et al.* (2014) stated that default banks (due to excessive risk-taking) have smaller boards and fewer independent directors relative to their board size than non-default banks. Likewise, Shleifer and Vishny (1997) argued that corporate governance is the way in which suppliers of finance to corporation ensure themselves of getting are turn on their investments. Further, Lu and Whidbee (2024) revealed that bank with a large board of directors is associated with les risk-taking. In addition, Kabigting (2011) investigated the relationship between managerial ownership bank profitability. The study indicates that increased insider ownership led to a better alignment of interests between CEOs and bank performance. Such commitment by management to maintaining the bank's prosperity will keep managers steadfastly focused on their work during financial crise. Moreover, Li *et al.* (2017) analyzed the impact of corporate governance on the performance of life insurance companies in China using a questionnaire survey. The study revealed that good governance reduces the agency problem, which is reflected in the performance and profitability of firms.

De Andres and Vallelado (2008) examined the corporate governance in banking: The role of the board of directors. The study found that board size, and board independence have positive impact on bank performance. Similarly, Arora (2018) showed that independent boards are better at searching for information, giving advice, and accessing needed capital. Likewise, Mwega (2011) revealed that there is a positive correlation between qualification of board of directors and profitability in banks. Further, Garcia-Meca *et al.* (2015) showed

that performance of banks measured by return on assets (ROA), and Tobin's Q are affected positively by the number of independent directors on the board of directors. In addition, Wu and Li (2015) examined the influence of independent directors on financial performance. The study showed that more independent directors have positive and significant influence on financial performance. Further, Bertoni *et al.* (2014) investigated the influence of board independence on corporate company value. The study revealed that board independence, company age and board of directors have positive and significant impact on profitability of banks. Moreover, Handriani and Robiyanto (2019) examined the institutional ownership, independent board, the board size, and firm performance: Evidence from Indonesia. The study showed a positive impact of institutional ownership, independent board, the board size on bank performance.

Petchsakulwong and Jansaku (2014) investigated the relationship between board of directors and profitability ratio of Thai non-life insurers. The study concluded that profitability is influenced by the size of the board of directors in a firm and by the percentage of external directors. Similarly, Najjar (2012) revealed that corporate governance has a significant impact on the financial performance of firms as a result of the supervision and control made by shareholders, the degree of ownership concentration, and the independence of the board. Likewise, Latif *et al*. (2014) concluded that increasing the size of the board may lead to a diversity of experiences among board members. Further, the study also found that performance and profitability of firms is influenced by mixing ownership structure to achieve different goals. In addition, Markonah *et al.* (2019) examined the effect of corporate governance and premium growth on the performance of insurance companies in Indonesia during the period from 2011 to 2017. The study concluded that there is a positive and a significant impact of corporate governance on growth of the companies. Similarly, Junaid *et al.* (2020) indicated that board composition, ownership concentration, and executive compensation are the most influential internal mechanisms for the insurers' performance. Moreover, Mehari and Aemiro (2013) found that company size, loss ratio, tangibility and leverage represent important determinants of insurers' performance, while growth of gross written premiums, age and liquidity have an insignificant statistical power. Similarly, Malik (2011) revealed that there is a positive impact of board size on return on assets. However, leverage has a negative impact on return on assets.

Nyamongo and Temesgen (2013) showed that there is a positive relationship between number of independent directors on the board and performance of commercial banks. Similarly, Adams and Mehran (2012) showed that board independence has not impact on bank performance. Likewise, Johl *et al*. (2015) showed that board independence has not significant impact on the firm performance. However, Rhoades *et al.* (2017) revealed that there is a positive and an insignificant relationship of board independence with firm performance. Moreover, Bhagat and Black (2002) found that there is a negative relationship between board independence and firm performance. Similarly, Wang *et al*. (2012) showed that independent directors on the board have a negative effect on the corporate performance. Likewise, Karim (2015) argued that a bank with large board members has more capabilities to monitor the managers and to get resources from outside sources at lower costs. Further, Fratini and Tettamanzi (2015) showed that board size has a positive and a significant relationship with firm performance which implies that larger the board size, higher would be the firm performance. Moreover, Anderson (2004) revealed that larger board size has

the ability to lower the costs of debt which leads to increase in the firm performance. In addition, Danoshana and Ravivathani (2013) revealed that the board meeting frequency has a negative and a significant relationship with profitability ratio implying that the board's longer meeting times increase the cost of management, decrease the time for managing the company management team, and decrease the profitability ratio.

In the context of Nepal, Sapkota (2020) investigated the corporate governance and financial performance of Nepalese commercial banks. The study found that board size concentration has a positive impact on banks performance measured by return on equity whereas board meeting and liquidity have negative impact on banks performance. Similarly, Pradhan *et al.* (2023) found that higher the board diversity and block shareholder, lower would be the operating performance of Nepalese enterprises. Likewise, Rajbahak *et al.* (2014) analyzed the impact of board size, foreign ownership, firm size, debt to equity, firm age, and firm growth on bank performance in Nepal. The study found a significant positive relationship between firm value and the presence of both female and minority directors. Moreover, the evidence supports that the presence of female directors in the boardroom effect more in the firm market value than as compare to the minority directors. Furthermore, the study concluded that control variables like board size, presence of independent director and firm size have positive significant effect on firm value, but leverage has significant but negative relation with the firm market value of financial intuitions in Nepal.

The above discussion shows that empirical evidences vary greatly across the studies on the impact of corporate governance and ownership structure on the profitability 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 and ownership structure on the profitability of Nepalese commercial banks. Specifically, it examines the relationship of board size, leverage, gender diversity, board independence, audit committee size, and institutional ownership with profitability 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 section draws the conclusion.

## 2. Methodological aspects

The study is based on the secondary data which were gathered from 13 Nepalese commercial banks for the period of 2015/16 to 2022/23, leading to a total of 104 observations. The study employed convenience sampling method. The main sources of data include Banking and Financial Statistics published by Nepal Rastra Bank and annual report of respective banks. Table 1 shows the list of commercial banks for the study along with the study period and number of observations.

Table 1

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

| S. N. | Name of Commercial Banks | Study time Period | Observations |
|---|---|---|---|
| 1 | Everest Bank Limited | 2015/16-2022/23 | 8 |
| 2 | Standard Chartered Bank Nepal Limited | 2015/16-2022/23 | 8 |
| 3 | Himalayan Bank Limited | 2015/16-2022/23 | 8 |
| 4 | Machhapuchhre Bank Limited | 2015/16-2022/23 | 8 |
| 5 | Agricultural Development Bank Limited | 2015/16-2022/23 | 8 |
| 6 | Rastra Banijya Bank Limited | 2015/16-2022/23 | 8 |
| 7 | Nepal Bank Limited | 2015/16-2022/23 | 8 |
| 8 | Citizens Bank International Limited | 2015/16-2022/23 | 8 |
| 9 | Sanima Development Bank Limited | 2015/16-2022/23 | 8 |
| 10 | Prime Commercial Bank Limited | 2015/16-2022/23 | 8 |
| 11 | Nepal SBI Bank Limited | 2015/16-2022/23 | 8 |
| 12 | Siddhartha Bank Limited | 2015/16-2022/23 | 8 |
| 13 | NMB Bank Limited | 2015/16-2022/23 | 8 |
| **Total number of observations** | | | **104** |

Source: Annual Reports

Thus, the study is based on 104 observations.

*The model*

The model used in this study assumes that profitability depends upon corporate governance and ownership structure. The dependent variables selected for the study are return on assets and net interest margin. Similarly, the selected independent variables are board size, leverage, gender diversity, board independence, audit committee size, and institutional ownership. Therefore, the model takes the following form:

$$ROA_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 LEV_{it} + \beta_3 GD_{it} + \beta_4 BI_{it} + \beta_5 ACS_{it} + \beta_6 IO_{it} + \varepsilon_{it}$$

$$NIM_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 LEV_{it} + \beta_3 GD_{it} + \beta_4 BI_{it} + \beta_5 ACS_{it} + \beta_6 IO_{it} + \varepsilon_{it}$$

Where,

ROA= Return on assets as measured by the ratio of net income to total assets, in percentage.

NIM = Net Interest Margin as measured by the ratio of net interest income to total assets, in percentage.

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

LEV = Leverage ratio as measured as the ratio of total debt to total assets, in percentage.

GD = Gender diversity as measured by the dummy variable which is measured as '0' if there are no female directors in the board of directors, and '1' if there are female directors in the board of directors, in numbers.

BI = Board independence is defined as the number of independent directors in the board, in numbers.

ACS = Audit committee size is defined as the number of audit committee member, in numbers.

IO = Institutional ownership is defined as shares held by entities, in percentage.

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

*Board size*

Abbadi *et al.* (2021) revealed that there is a significant but negative association between firm size and profitability. Similarly, Gill and Mathur (2011) concluded that larger board size (large number of directors) has a negative impact on profitability. Likewise, Drakos and Bekiris (2010) stated that there is an inverse relationship between board size and firm performance. Further, Pathan *et al.* (2007) found that a board size is negatively related to return on equity. Small boards are considered effective and value additive because of their nimbleness and cohesiveness together with the perception that they require less communication and less costs spent on coordination (Hermalin and Weisbach, 2003). Moreover, Alabdullah *et al.* (2021) revealed that there is a negative association between board of directors' size and profitability. Based on it, this study develops the following hypothesis:

$H_1$: There is a negative relationship between board size and bank's profitability.

*Leverage*

Leverage measures how much debt the company has used to finance its total assets, in comparison to the equity involved. Similarly, Robb and Robinson (2009) found a positive and significant relationship between leverage ratio and firm performance. Similarly, Ruland and Zhou (2005) concluded that leverage has a positive impact on firm performance. Likewise, Margaritis and Psillaki (2010) investigated the relationship between capital structure, ownership structure and firm performance using a sample of French manufacturing firms. The study showed that higher leverage is associated with improved efficiency. In addition, Tripathy and Shaik (2020) examined the association between financial performance and leverage for 56 food processing firms listed in BSE over the period 2000-2018 using pooled OLS, fixed effects, and random effects models. The results indicated that leverage is significantly and positively associated with the firm performance. Further, Pirzada *et al.* (2015) found a significant relationship between firms' performance and leverage. Based on it, this study develops the following hypothesis:

$H_2$: There is a positive relationship between leverage and bank's profitability.

*Gender diversity*

The presence of women on the board of directors is becoming important due to the active role of women in monitoring business activities. Women make a better understanding in decision making process rather than men to promote the transparency of financial reports (Baldry, 1987). Singh *et al.* (2008) investigated the human capital profiles of haring women on board of directors and found that they are more probable to bring international diversity. Similarly, Alqatamin (2018) reported that gender diversity has a significant and positive impact on firm's performance of non-financial companies listed on the Amman Stock Exchange (ASE). Likewise, Campbell and Minguez Vera (2010) revealed that gender-diversified boards are positively correlated to the firm performance. Further, Erhardt *et al.* (2003) analyzed the board of director diversity and firm financial performance. The study indicated that board diversity is positively associated with financial indicators of firm performance. In addition,

Carter *et al.* (2003) revealed that presence of female directors on the board is positively correlated to firm performance. Based on it, this study develops the following hypothesis:

$H_3$: There is a positive relationship between gender diversity and bank's profitability.

*Board independence*

Proportion of independent directors has been calculated as the percentage of independent directors in the board. Brickley *et al.* (1994) found a statistically significant and positive relationship between stock-market reaction to the adoption of poison pills and the fraction of outside directors on the board. Similarly, Dharmadasa *et al.* (2014) showed that there is a positive relationship between board independence and firm profitability. Likewise, Yanthi *et al.* (2021) found that independent director has a significant positive impact on profitability. Further, Huang (2010) found that outside directors in Taiwanese banks correlated positively with the banks' financial performance. Furthermore, Luan and Tang (2007) reported that outside independent directors of listed electronic companies in Taiwan correlated positively with firm performance. In addition, Bonn (2004) pointed out that outside independent directors in Australian companies are effective indicators of Australian boards and correlated positively with the company's return on assets. Moreover, Pahuja and Bhatia (2011) concluded that board independence has positive impact on firm's profitability. Likewise, Harris and Raviv (2008) revealed a positive and significant relationship between independent directors and firm performance. Based on it, this study develops the following hypothesis:

$H_4$: There is a positive relationship between board independence and bank's profitability.

*Audit committee size*

Audit committees are an integral part of the required corporate governance system to overview the financial reporting process. Lin *et al.* (2006) showed a negative association between size of audit committees and the occurrence of earnings restatement. Similarly, Aldamen *et al.* (2012) concluded that number of audit committee members have negative impact on firm performance. Likewise, Al-Matari *et al.* (2012) found that there is a negative relationship between audit committee size and firm performance. In addition, Gupta and Mahakud (2021) found that audit committee size is negatively correlated to all measures of firm financial performance. Further, Hsu and Petchsakulwong (2010) pointed that audit committee size has a negative impact on efficiency performance of public non-life insurance companies. Further, Afza and Nazir (2014) indicated that there is a significant but negative relationship between audit committee size and firm performance. Moreover, Salehi *et al.* (2018) analyzed the effect of characteristics of audit committee and board on corporate profitability. The study concluded that audit committee size and profitability are negatively correlation to each other. Based on it, this study develops the following hypothesis:

$H_5$: There is a negative relationship between audit committee size and bank's profitability.

*Institutional ownership*

Institutional ownership can oversee all company activities by utilizing information held by institutions so that the company has good performance. It can be concluded that the higher the institutional ownership, higher the company value (Purba and Africa, 2019). Amanda *et al.* (2020) found that there is a mixed-effect between concentrated ownership

and profitability in the case of Indonesian banks. Likewise, Yuwono and Aurelia (2021) demonstrated that institutional ownership has a positive impact on profitability. Based on it, this study develops the following hypothesis:

$H_6$: There is a positive relationship between institutional ownership and bank's profitability.

## 3. Results and discussion

*Descriptive statistics*

Table 2 presents the descriptive statistics of selected dependent and independent variables during the period of 2015/16 to 2022/23.

Table 2

**Descriptive statistics**

This table shows the descriptive statistics of dependent and independent variables of 13 Nepalese commercial banks for the study period of 2015/16 to 2022/23. The dependent variables are ROA (Return on assets as measured by the ratio of net income to total assets, in percentage) and NIM (Net Interest Margin as measured by the ratio of net interest income to total assets, in percentage). The independent variables are BS (Board size as measured by the total number of directors on the board, in numbers), LEV (Leverage ratio as measured as the ratio of total debt to total assets, in percentage), GD (Gender diversity as measured by the dummy variable which is measured as '0' if there are no female directors in the board of directors, and '1' if there are female directors in the board of directors, in numbers), BI (Board independence is defined as the number of independent directors in the board, in numbers), ACS (Audit committee size is defined as the number of audit committee member, in numbers), and IO (Institutional ownership is defined as shares held by entities, in percentage).

| Variables | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| **ROA** | 0.47 | 2.79 | 1.528 | 0.521 |
| **NIM** | 0.00 | 33.83 | 4.646 | 6.788 |
| **BS** | 5.00 | 11.00 | 6.981 | 1.174 |
| **LEV** | 20.80 | 59.00 | 87.770 | 11.782 |
| **BI** | 0.00 | 2.00 | 0.952 | 0.256 |
| **ACS** | 2.00 | 5.00 | 3.144 | 0.450 |
| **IO** | 30.00 | 100.00 | 64.029 | 18.715 |
| **GD** | 0.00 | 2.00 | 0.769 | 0.467 |

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 coefficients matrix**

This table shows the correlation coefficients of dependent and independent variables of 13 Nepalese commercial banks for the study period of 2015/16 to 2022/23. The dependent variables are ROA (Return on assets as measured by the ratio of net income to total assets, in percentage) and NIM (Net Interest Margin as measured by the ratio of net interest income to total assets, in percentage). The independent variables are BS (Board size as measured by the total number of directors on the board, in numbers), LEV (Leverage ratio as measured as the ratio of total debt to total assets, in percentage), GD (Gender diversity as measured by the dummy variable which is measured as '0' if there are no female directors in the board of directors, and '1' if there are female directors in the board of directors,

in numbers), BI (Board independence is defined as the number of independent directors in the board, in numbers), ACS (Audit committee size is defined as the number of audit committee member, in numbers), and IO (Institutional ownership is defined as shares held by entities, in percentage).

| Variables | ROA | NIM | BS | LEV | BI | ACS | IO | GD |
|---|---|---|---|---|---|---|---|---|
| **ROA** | 1 | | | | | | | |
| **NIM** | 0.175 | 1 | | | | | | |
| **BS** | -0.066 | -0.09 | 1 | | | | | |
| **LEV** | -0.023 | -0.068 | 0.124 | 1 | | | | |
| **BI** | 0.027 | 0.206* | 0.126 | -0.098 | 1 | | | |
| **ACS** | 0.119 | 0.254** | 0.116 | -0.036 | -0.023 | 1 | | |
| **IO** | 0.036 | 0.033 | -0.129 | -0.004 | 0.288** | -0.279** | 1 | |
| **GD** | 0.023 | 0.023 | 0.027 | -0.101 | 0.312** | 0.068 | -0.140 | 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 negative relationship with return on assets. It indicates that higher the board size, lower would be the return on assets. Similarly, leverage has a negative relationship with return on assets. It indicates that increase in leverage leads to decrease in return on assets. However, board independence has a positive relationship with return on assets. It indicates that increase in number of independent directors on the board leads to increase in return on assets. In addition, audit committee size has a positive relationship with return on assets. It indicates that increase in audit committee members in the boards lead to increase in return on assets. Further, institutional ownership has a positive relationship with return on assets. It indicates that higher the number of meetings, lower would be the return on assets. Moreover, institutional ownership has a positive relationship with return on assets. It indicates that higher shares held by entities, higher would be the return on assets. Similarly, gender diversity has a positive relationship with return on assets. It indicates that higher the gender diversity in the board, higher would be the return on assets.

Similarly, board size has a negative relationship with net interest margin. It indicates that higher the board size, lower would be the net interest margin. Similarly, leverage has a negative relationship with net interest margin. It indicates that increase in leverage leads to decrease in net interest margin. In contrast, board independence has a positive relationship with net interest margin. It indicates that increase in number of independent directors on the board leads to increase in net interest margin. In addition, audit committee size has a positive relationship with net interest margin. It indicates that increase in audit committee members in the boards lead to increase in net interest margin. Further, institutional ownership has a positive relationship with net interest margin. It indicates that higher the number of meetings, lower would be the net interest margin. Moreover, institutional ownership has a positive relationship with net interest margin. It indicates that higher shares held by entities, higher would be the net interest margin. Similarly, gender diversity has a positive relationship with net interest margin. It indicates that higher the gender diversity in the board, higher would be the net interest margin.

*Regression analysis*

Having analyzed the Pearson's correlation coefficients, the regression analysis

has been carried out and the results are presented in Table 4. More specifically, it presents the regression results of board size, leverage, gender diversity, board independence, audit committee size, and institutional ownership on return on assets of Nepalese commercial banks.

Table 4

**Estimated regression results of board size, leverage, gender diversity, board independence, audit committee size, and institutional ownership on return on assets**

The results are based on panel data of 13 Nepalese commercial banks with 104 observations for the period of 2015/16 to 2022/23 by using the linear regression model and the model is $ROA_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 LEV_{it} + \beta_3 GD_{it} + \beta_4 BI_{it} + \beta_5 ACS_{it} + \beta_6 IO_{it} + \varepsilon_{it}$ where, the dependent variable is ROA (Return on assets as measured by the ratio of net income to total assets, in percentage). The independent variables are BS (Board size as measured by the total number of directors on the board, in numbers), LEV (Leverage ratio as measured as the ratio of total debt to total assets, in percentage), GD (Gender diversity as measured by the dummy variable which is measured as '0' if there are no female directors in the board of directors, and '1' if there are female directors in the board of directors, in numbers), BI (Board independence is defined as the number of independent directors in the board, in numbers), ACS (Audit committee size is defined as the number of audit committee member, in numbers), and IO (Institutional ownership is defined as shares held by entities, in percentage).

| Model | Intercept | Regression coefficients of | | | | | | Adj. R_bar2 | SEE | F-value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BS | LEV | BI | ACS | IO | GD | | | |
| 1 | 1.733 (5.586)** | -0.029 (0.672) | | | | | | 0.005 | 0.522 | 0.452 |
| 2 | 1.618 (4.173)** | | -0.001 (0.234) | | | | | 0.009 | 0.523 | 0.055 |
| 3 | 1.580 (7.965)** | | | 0.550 (0.273) | | | | 0.009 | 0.523 | 0.075 |
| 4 | 1.961 (7.965)** | | | | 0.138 (1.210) | | | 0.004 | 0.519 | 1.463 |
| 5 | 1.463 (17.034)** | | | | | 0.001 (0.366) | | 0.008 | 0.523 | 0.134 |
| 6 | 1.547 (15.591)** | | | | | | 0.001 (0.366) | 0.009 | 0.523 | 0.054 |
| 7 | 1.786 (3.812)** | -0.027 (0.607) | -0.001 (0.015) | | | | | 0.015 | 0.052 | 0.235 |
| 8 | 1.827 (3.579)** | -0.027 (0.607) | -0.001 (0.017) | 0.043 (0.207) | | | | 0.025 | 0.527 | 0.170 |
| 9 | 2.236 (3.593)** | -0.021 (0.458) | -0.001 (0.238) | 0.057 (0.264) | 0.0133 (1.144) | | | 0.022 | 0.526 | 0.455 |
| 10 | 2.219 (3.263)** | -0.021 (0.444) | -0.001 (0.239) | 0.057 (0.264) | 0.131 (1.081) | 0.005 (0.061) | | 0.032 | 0.529 | 0.361 |
| 11 | 2.227 (3.222)** | -0.021 (0.444) | -0.001 (0.242) | 0.051 (0.217) | 0.131 (1.074) | 0.002 (0.041) | 0.009 (0.073) | 0.043 | 0.531 | 0.299 |

Notes:

i. Figures in parenthesis are t-value
ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.
iii. Return on assets is the dependent variable.

Table 4 shows that the beta coefficients for board size are negative with return on assets. It indicates that board size has a negative impact on return on assets. This finding is consistent with the findings of Abbadi *et al.* (2021). Similarly, the beta coefficients for leverage are negative with return on assets. It indicates that leverage has a negative impact on return on assets. This finding is not consistent with the findings of Ruland and Zhou (2005). However, the beta coefficients for board independence are positive with return on assets. It indicates that board independence has a positive impact on return on assets. This finding is consistent with the findings of Dharmadasa *et al.* (2014). Likewise, the beta coefficients for

audit committee size are positive with return on assets. It indicates that audit committee size has a positive impact on return on assets. This finding is not consistent with the findings of Al-Matari *et al.* (2012). Further, the beta coefficients for institutional ownership are positive with return on assets. It indicates that institutional ownership has a positive impact on return on assets. This finding is similar to the findings of Yuwono and Aurelia (2021). In addition, the beta coefficients for gender diversity are positive with return on assets. It indicates that gender diversity has a positive impact on return on assets. This finding is similar to the findings of Alqatamin (2018).

Table 5 shows the regression results of board size, leverage, gender diversity, board independence, audit committee size, and institutional ownership on net interest margin of Nepalese commercial banks.

Table 5

**Estimated regression results of board size, leverage, gender diversity, board independence, audit committee size, and institutional ownership on net interest margin**

The results are based on panel data of 13 Nepalese commercial banks with 104 observations for the period of 2015/16 to 2022/23 by using the linear regression model and the model is $NIM_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 LEV_{it} + \beta_3 GD_{it} + \beta_4 BI_{it} + \beta_5 ACS_{it} + \beta_6 IO_{it} + \varepsilon_{it}$ where, the dependent variable is NIM (Net Interest Margin as measured by the ratio of net interest income to total assets, in percentage). The independent variables are BS (Board size as measured by the total number of directors on the board, in numbers), LEV (Leverage ratio as measured as the ratio of total debt to total assets, in percentage), GD (Gender diversity as measured by the dummy variable which is measured as '0' if there are no female directors in the board of directors, and '1' if there are female directors in the board of directors, in numbers), BI (Board independence is defined as the number of independent directors in the board, in numbers), ACS (Audit committee size is defined as the number of audit committee member, in numbers), and IO (Institutional ownership is defined as shares held by entities, in percentage).

| Model | Intercept | Regression coefficients of | | | | | | Adj. R_bar2 | SEE | F-value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BS | LEV | BI | ACS | IO | GD | | | |
| 1 | 8.269 (2.049)* | -0.519 (0.910) | | | | | | -0.002 | 6.79340 | 0.829 |
| 2 | 1.219 (0.242) | | -0.039 (0.686) | | | | | -0.005 | 6.80525 | 0.471 |
| 3 | 0.546 (0.216) | | | 5.454 (2.124)* | | | | 0.033 | 6.67486 | 4.513 |
| 4 | 7.430 (1.619) | | | | 3.841 (2.658)** | | | 0.056 | 6.59636 | 7.063 |
| 5 | 3.881 (1.621) | | | | | 0.012 (0.333) | | -0.009 | 6.81723 | 0.111 |
| 6 | 4.386 (3.392)** | | | | | | 0.338 (0.235) | -0.009 | 6.81909 | 0.055 |
| 7 | 4.618 (0.760) | -0.576 (1.002) | -0.046 (0.805) | | | | | -0.005 | 6.80515 | 0.737 |
| 8 | 1.301 (0.202) | -0.766 (1.347) | -0.062 (1.092) | 6.174 (2.377)* | | | | 0.039 | 6.65364 | 2.398 |
| 9 | 14.454 (1.912) | -0.956 (1.708) | -0.062 (1.092) | 6.515 (2.607)** | 4.290 (3.034)** | | | 0.112 | 6.39644 | 4.274 |
| 10 | 15.227 (1.843) | -0.956 (1.708) | -0.070 (1.289) | 6.935 (2.432)* | 4.384 (2.973)** | 0.009 (0.238) | | 0.103 | 6.42714 | 3.376 |
| 11 | 14.515 (1.733) | -0.973 (1.730) | -0.068 (1.245) | 6.935 (2.432)* | 4.392 (2.968)** | 4.392 (2.968)** | 0.876 (0.589) | 0.097 | 6.44865 | 2.835 |

Notes:

i. Figures in parenthesis are t-value
ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.
iii. Net interest margin is the dependent variable.

Table 5 shows that the beta coefficients for board size are negative with net interest margin. It indicates that board size has a negative impact on net interest margin. This finding is consistent with the findings of Gill and Mathur (2011). Similarly, the beta coefficients for leverage are negative with net interest margin. It indicates that leverage has a negative impact on net interest margin. This finding is not consistent with the findings of Tripathy and Shaik (2020). However, the beta coefficients for board independence are positive with net interest margin. It indicates that board independence has a positive impact on net interest margin. This finding is consistent with the findings of Harris and Raviv (2008). Likewise, the beta coefficients for audit committee size are positive with net interest margin. It indicates that audit committee size has a positive impact on net interest margin. This finding is not consistent with the findings of Hsu and Petchsakulwong (2010). Further, the beta coefficients for institutional ownership are positive with net interest margin. It indicates that institutional ownership has a positive impact on net interest margin. This finding is similar to the findings of Amanda *et al.* (2020). In addition, the beta coefficients for gender diversity are positive with net interest margin. It indicates that gender diversity has a positive impact on net interest margin. This finding is similar to the findings of Erhardt *et al.* (2003).

## 4. Summary and conclusion

Corporate governance is a set of process an entity's culture, policies, laws and institutional value that affects way a corporation is directed, administered or controlled. Good corporate governance leads to ethical business practices, which leads to financial viability. Strong and effective corporate governance helps to cultivate a company culture of integrity, leading to positive performance and a sustainable business overall. There are different corporate governance variables among them board size, board meeting, board independence, audit committee size, female director, firm age and firm size play crucial role in determining profitability of insurance companies.

This study attempts to examine the impact of corporate governance and ownership structure on the profitability of Nepalese commercial banks. This study is based on the secondary data of 13 Nepalese commercial banks, leading to a total of 104 observations.

The major conclusion of this study is that board size and leverage have negative impact on return on assets and net interest margin. It indicates that higher the board size and leverage, lower would be the return on assets and net interest margin. However, gender diversity, board independence, audit committee size, and institutional ownership have positive impact on return on assets and net interest margin. It indicates that higher the gender diversity, board independence, audit committee size, and institutional ownership, higher would be the return on assets and net interest margin. Similarly, the study also concluded that board independence followed by audit committee size is the most dominants factor that explains the changes in the return on assets and net interest margin in the context of Nepalese commercial banks.

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