Impact of Capitalization on the Profitability of Nepalese Commercial Banks

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Abstract

This study examines the impact of capitalization on the profitability of Nepalese commercial banks. Return on assets and return on equity are selected as the dependent variables. The selected independent variables are market capitalization, capital adequacy ratio, total deposit, total loan, book value per share and non-performing loans. The study is based on secondary data of 16 commercial banks with 112 observations for the study period from 2015/16 to 2021/22. 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 capitalization on the profitability of Nepalese commercial banks.

The study showed that market capitalization has a positive impact on return on assets and return on equity. It indicates that increase in market capitalization leads to increase in return on assets and return on equity. Similarly, capital adequacy ratio has a positive impact on return on assets and return on equity. It indicates that higher the capital adequacy ratio, higher would be the return on assets and return on equity. Likewise, total deposit has a positive impact on return on assets and return on equity. It indicates that increase in total deposits leads to increase in return on assets and return on equity. Further, total loan has a negative impact on return on assets and return on equity. It indicates that increase in total loans leads to decrease in return on assets and return on equity. In addition, book value per share has a positive impact on return on assets and return on equity. It indicates that higher the book value per share, higher would be the return on assets and return on equity. Moreover, non-performing loan has a negative impact on return on assets and return on equity. It indicates that higher the non-performing loan, lower would be the return on assets and return on equity.

Keywords: market capitalization, total loan, total deposit capital adequacy ratio, book value per share, non-performing loan, return on assets, return on equity

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1. Introduction

Banks play a pivotal role in the shaping up of the economy of a country. Commercial banks play important role for the development of the countries through the resource mobilization. Without sound and effective regulation, financial systems can become unstable, triggering crises that can devastate the real economy. Banks play a leading role in the financial systems of emerging countries by providing monetary payments at lower costs, mobilizing and allocating funds in the most efficient way and improving the saving and investment that are important for sustainable economic growth. Banks with larger market capitalization might have easier access to capital markets. This can be advantageous in raising funds for various purposes, such as expanding operations or making strategic investments. Better access to capital can contribute to profitability (Isnurhadi et al., 2021). Larger banks with higher market capitalization might enjoy a lower cost of capital due to their perceived lower risk. Lower borrowing costs can positively affect profitability, especially if the bank is heavily reliant on borrowing for its operations. A higher market capitalization often reflects positive investor sentiment. This can lead to a higher stock price, which might influence the bank's ability to use its stock as currency for acquisitions or mergers, potentially contributing to growth and profitability (Ding and Sickles, 2018). Larger banks may have more diversified revenue streams, which can mitigate risks associated with fluctuations in specific segments of the financial market. Diversification can contribute to more stable earnings and profitability. A bank's profitability depends on how efficiently it operates, manages risks, and controls costs. These factors can impact profitability regardless of market capitalization (Maudos et al., 2002). The increase in stock prices shows investor confidence in the company. Investors are willing to pay more to get a higher profit. High stock prices can provide a good signal to attract investors' interest in making investment decisions. Financial performance reflects the company's ability to manage and allocate its resources. Financial performance of firm has a statistically significant impact on firm value. Improved financial performance is expected to increase the firm value.

Ogboi and Unuafe (2013) examined the impact of credit risk management on capital adequacy and banks financial performance in Nigeria. The study found that capital adequacy has a positive and significant impact on financial performance. Likewise, Nguyen (2020) examined the impact of capital adequacy on bank profitability. The study concluded that capital adequacy

has a positive impact on return on assets. Uddin (2022) investigated the effect of operating efficiency, non-performing loan, and capital adequacy ratio on profitability of commercial banks in Bangladesh. The study revealed that non-performing loan has a negative and significant effect on return on assets. Good performance of a company determines the position of the company in its market and the growth and consolidation of the market. The profitability of banking and insurance sector not only contributes in economies but also helps to maintain the stability of the financial system and enable economies to endure the external and negative financial shocks. A strong financial system plays a critical role in enabling growth and reducing vulnerability to crises among financial institutions. Stability of the financial system in an economy is an important catalyst for economic growth due to its function in facilitating exchange of value. The high level of bank capital boosts the confidence and trust of the public about the soundness of the bank. Firm value is the investor's perception of the success of a company. This is reflected in the company's share price. The increase in stock prices shows investor confidence in the company. Similarly, Saleh and Winarso (2021) found that non-performing loan has a negative and significant impact on return on assets. Likewise, Khan *et al.* (2020) analyzed the determinants of non-performing loans in the banking sector in developing state. The study concluded that there is a negative and significant relationship between non-performing loan and profitability indicators. Further, Dewi and Badira evaluated the effect of non-performing loans and operational costs and operating income on banking profitability. The study found that non-performing loan variables have negative and significant effect on return on assets. Furthermore, Anggriani and Muniarty (2020) examined the influence between non -performing loans and capital adequacy ratio on the bank profitability. The study found that there is no any relationship between the non- performing loan and return on assets. In contrast, Khalid *et al.* (2021) examined the impact of credit risk management on the financial performance of banking sector in Sudan. The study concluded that there is a positive and significant relationship between the non- performing loan and return on financial performance.

The value of the company is very important to be considered by banking management because it can affect investors' perceptions of the company. Company value not only reflects how intrinsic value is at the moment but also reflects prospects and expectations of the company's ability to increase the value of its wealth in the future. Globalization has created a business environment that causes the need for a review of the management system

used by companies to be able to survive and prosper. Therefore, companies are required to always be able to increase the value of their companies. Agustin and Citarayani (2022) analyzed the impact of capital adequacy ratio (CAR), non-performing financing ratio (NPF), and financing to deposit ratio (FDR) on Sharia banking profitability (return on assets) over the 2015–2020 timeframe. The study discovered that the non-performing financing ratio has no impact on the company's profitability. However, the capital adequacy ratio (CAR) and financing to deposit ratio (FDR) have a negative and significant impact on the company's profitability (return on assets). Ramadhanti *et al.* (2019) examined the effect of capital adequacy, liquidity and credit risk to profitability of commercial banks. The study revealed that capital adequacy ratio (CAR) has a significant positive effect on profitability. However, non-performing loan (NPL) has a negative and significant effect on profitability. Moreover, Sukmadewi (2020) investigated how the capital adequacy ratio, loan-to-deposit ratio, operating-income ratio, non-performing loans, and net interest margin influence the financial performance of the banking industry. The findings demonstrated that the return on assets is significantly and positively influenced by the capital adequacy ratio, non-performing loans, and loan to deposit ratio. However, Hadian (2021) examined the effect of non-performing loans and loan-to-deposit ratio on return on assets in the banking industry. The study revealed that non-performing loan has a negative effect on return on assets. Similarly, loan-to-deposit ratio has a positive and significant impact on return on assets. Brastama and Yadnya (2020) analyzed the effect of capital adequacy ratio and non-performing loan on banking stock prices with profitability as intervening variable. The results showed that capital adequacy ratio has a positive effect on return on assets. Similarly, the non-performing loan has a negative effect on the return on assets.

In the context of Nepal, Adhikari (2020) investigated the impact of liquidity on profitability of Nepalese commercial banks. The study revealed that capital adequacy ratio and liquidity ratio is positively related to return on assets of Nepalese commercial banks. Bhattarai (2016) revealed that there is a negative association between non-performing loans and banks performance. A bank with a strong capital adequacy is also able to absorb possible loan losses and thus avoids bank run, insolvency and failure. Koju *et al.* (2018) identified that there is a positive and significant relationship between return on assets and non-performing loans. Pandey (2023) showed that loan to deposit ratio and capital adequacy ratio have a positive impact on return on assets. However, asset growth, non-performing loans, loan loss provision and bank

size have a negative impact on return on assets. Similarly, capital adequacy ratio, loan to deposit ratio and non-performing loans and loan loss provision have a positive impact on net interest margin. In addition, Shahi (2023) concluded that loan ratio followed by capital adequacy ratio and GDP growth rate is the most influencing factor that explains the changes in the profitability in terms of return on assets. Likewise, the study also concluded that the most dominant factor that determines the return on equity is liquidity ratio followed by deposit ratio and loan ratio in the context of Nepalese commercial banks.

The above discussion shows that empirical evidences vary greatly across the studies concerning the impact of market capitalization 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 effect of market capitalization on profitability of Nepalese commercial banks. Specifically, it examines the relationship of market capitalization, capital adequacy ratio, total deposits, total loans, book value per share and nonperforming loans with return on assets and return on equity 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 collected from 16 Nepalese commercial banks from 2015/16 to 2021/22, leading to a total of 112 observations. The study employed purposive sampling method. The main sources of data collected from the Bank Supervision Report published by Nepal Rastra Bank (NRB) and annual reports of the selected commercial 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	Observations
1	Agricultural Development Bank Limited	2015/16-2021/22	7
2	Nepal Bank Limited	2015/16-2021/22	7
3	Everest Bank Limited	2015/16-2021/22	7
4	Himalayan Bank Limited	2015/16-2021/22	7
5	Nabil Bank Limited	2015/16-2021/22	7
6	NMB Bank Limited	2015/16-2021/22	7
7	Machhapuchchhre Bank Limited	2015/16-2021/22	7
8	Mega Bank Nepal Limited	2015/16-2021/22	7
9	Siddhartha Bank Limited	2015/16-2021/22	7
10	Standard Chartered Bank Limited	2015/16-2021/22	7
11	Sanima Bank Limited	2015/16-2021/22	7
12	Nepal Investment Bank Limited	2015/16-2021/22	7
13	Nepal SBI Bank Limited	2015/16-2021/22	7
14	NIC ASIA Bank Limited	2015/16-2021/22	7
15	Prime Commercial Bank Limited	2015/16-2021/22	7
16	Citizens Bank International Limited	2015/16-2021/22	7
Total number of observations			112

Thus, the study is based on the 112 observations.

The model

The model used in this study assumes that the bank's profitability depends upon market capitalization and different firm specific factors. The dependent variables selected for the study are return on assets and return on equity. Similarly, the selected independent variables are market capitalization, capital adequacy ratio, total deposits, total loans, book value per share and nonperforming loans. Therefore, the model takes the following form:

ROA = f (MC, TD, CAR, TL, BVPS, NPL).

ROE = f (MC, TD, CAR, TL, BVPS, NPL).

More specifically, the given model has been segmented into the following models:

$$ROA = \beta_0 + \beta_1 MC + \beta_2 TD + \beta_3 CAR + \beta_4 TL + \beta_5 BVPS + \beta_6 NPL + e_{it}$$

$$ROE = \beta_0 + \beta_1 MC + \beta_2 TD + \beta_3 CAR + \beta_4 TL + \beta_5 BVPS + \beta_6 NPL + e_{it}$$

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

ROE = Return on equity as measured by the ratio of net income to shareholder's equity, in percentage.

MC = Market capitalization as measured by the product of price of a stock by its total number of shares outstanding Rs. in billion.

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

CAR= Capital adequacy ratio as measured by the ratio of total capital to total risk weighted exposure, in percentage.

TL = Total loan as measured by total amount borrowed by the customer, Rs. in billion.

BVPS = Book value per share as measured by the total equity divided by number of shares outstanding.

TD = Total deposit as measured by total amount deposit by customer, Rs. in billion.

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

Market capitalization

Almumani (2018) investigated the effect of profitability ratios and market value ratios on the market capitalization for Jordanian listed commercial banks. The results of the study revealed that return on equity and dividend payout ratio have significant positive effect on market capitalization of the selected commercial banks during the study period. Qurashi and Zahoor (2016) examined the impact of profitability, bank and macroeconomic factors on the market capitalization of the Middle Eastern banks. The result showed that market capitalization has a positive relationship with return on investment. Moreover, Al-Nimer and Nimer Alslihat (2015) assessed the effect of profitability ratios on market capitalization in Jordanian insurance companies listed on Amman Stock Exchange (ASE). The study showed that there is a positive and significant effect of return on asset on the market capitalization of the companies operating in the insurance sector listed in ASE. Based on it, this study develops the following hypothesis:

H_1: There is a positive relationship between market capitalization and bank profitability.

Capital adequacy ratio

Capital adequacy ratio for banks is one of the most important indicators of the financial solvency of the financial sector. Chortareas *et al.* (2012) found

positive relation between capital adequacy and the financial performance of commercial banks. In addition, Epure and Lafuente (2012) showed that capital adequacy ratio has a positive impact on the net interest margin. Agbeja *et al.* (2019) examined whether or not capital adequacy ratio affects bank profitability. The study found that capital adequacy ratio has a positive and significant relationship with bank profitability. Jadhav *et al*. (2021) found that capital adequacy ratio has a positive impact on profitability. Based on it, this study develops the following hypothesis:

H_2: There is a positive relationship between capital adequacy ratio and bank profitability.

Total deposit

Gul *et al*. (2011) showed that assets growth and total deposit have positive relationship with the bank profitability in Pakistan. Demirguc-Kunt and Maksimovic (1998) identified a positive relationship between size and profitability. The study found that higher the funds can easily meet their rigid capitals so that they can have extra funds for giving loans to borrowers and thereby increase their profits and earning levels. Similarly, Ozgur and Gorus (2016) examined the determinants of deposit bank profitability in Turkey. The study found a positive relationship of capital ratio, total assets and total deposit with bank profitability. Kundid *et al*. (2011) analyzed the determinants of bank profitability in Croatia. The study revealed that total deposit growth and total assets growth significantly and positively influence the bank profitability. Based on it, this study develops the following hypothesis:

H_3: There is a negative relationship between total deposit and bank profitability.

Total loans

Gul *et al*. (2011) examined the relationship between bank-specific and macro-economic characteristics over bank profitability by using data of top fifteen Pakistani commercial banks over the period 2005-2009. Using Pooled Ordinary Least Square (POLS) method, the study found a negative correlation between total loan ratio and bank profitability. Kadioglu and Ocal (2017) found that non-performing loans and loan ratio negatively affect the bank's profitability in Turkey. Lucky and Nwosi (2015) assessed the asset quality and profitability of commercial banks in Nigeria. The study concluded that there is inverse relationship between total loan and the profitability of the commercial banks. Based on it, this study develops the following hypothesis:

H_4: There is a negative relationship between total loans and bank profitability.

Non-performing loan

Non-performing loan (NPL) is defined as a sum of borrowed money upon which the debtor has not made his or her scheduled payments for at least 90 days. Collaku and Aliu (2021) examined the impact of non-performing loans on bank's profitability in Kosovo. The study showed a significant negative relationship between non-performing loan and profitability as measured by return on assets. Likewise, Patwary and Tasneem (2019) determined the effect of non-performing loan on profitability of banks in Bangladesh. The study found a negative relationship between non-performing loan and bank profitability. In addition, Kadioglu and Ocal (2017) investigated whether non-performing loans affect the bank's profitability in Turkey. The study found that non-performing loan has a negative relationship with return on asset and return on equity. Similarly, Islam *et al.* (2018) evaluated the loan loss provisioning for non-performing loans and its impact on the profitability of commercial banks in Bangladesh. The study revealed a significant negative relationship between non-performing loan and profitability of banks in Bangladesh. Based on it, this study develops the following hypothesis:

H_5: There is a negative relationship between non-performing loan and bank profitability.

Book value per share

Akbar (2021) assessed the effect of return on assets and return on equity on price to book value on banking companies listed on the Indonesia Stock Exchange. The study showed a positive relationship between return on assets, return on equity and price to book value on banking companies listed on the Indonesia Stock Exchange. Peni and Vahamaa (2012) also found a positive association between book value of share, stock price and firm performance during the financial crisis. In addition, Abuzayed et al. (2009) found a positive connection between Market value, book value and earnings. Based on it, this study develops the following hypothesis:

H_6: There is a positive relationship between book value per share and bank profitability.

2. Results and discussion

Descriptive statistics

Table 2 presents the descriptive statistics of the 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 16 Nepalese commercial banks for the study period from 2015/16 to 2021/22. The dependent variables are ROA (Return on assets as measured by the ratio of net income to total assets, in percentage) and ROE (Return on equity as measured by the ratio of net income to total equity, in percentage). The independent variables are MC (Market capitalization as measured by the product of price of a stock by its total number of shares outstanding Rs. in billion), CAR (Capital adequacy ratio as measured by the ratio of total capital to total risk weighted assets, in percentage), TD (Total deposit as measured by total amount deposit by customer, Rs. in billion), TL (Total loan as measured by total amount borrowed by the customer, Rs. in billion), BVPS (Book value per share as measured by the total equity divided by number of shares outstanding), and NPL (Non-performing loan ratio as measured by the ratio of non-performing loans to total loans, in percentage).

Variables	Minimum	Maximum	Mean	S.D.
ROA	0.7	2.77	1.64	0.44
ROE	6.26	25.61	14.7	3.94
MC	16.16	288.41	52.64	46.24
CAR	10.2	97.92	16.93	10.99
TD	32.22	329.58	118.08	52.67
TL	27.68	1400.02	132.47	166.51
BVPS	103.85	370.83	193.43	52.7
NPL	0.01	4.6	1.14	0.97

Source: SPSS output

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 16 Nepalese commercial banks for the study period of 2015/16 to 2021/22. The dependent variables are ROA (Return on assets as measured by the ratio of net income to total assets, in percentage) and ROE (Return on equity as measured by the ratio of net income to total equity, in percentage). The independent variables are MC (Market capitalization as measured by the product of price of a stock by its total number of shares outstanding Rs. in billion), CAR (Capital adequacy ratio as measured by the ratio of total capital to total risk weighted assets, in percentage) TD (Total deposit as measured by total amount deposit by customer, Rs. in billion), TL (Total loan as measured by total amount borrowed by the customer, Rs. in billion), BVPS (Book value per share as measured by the total equity divided by number of shares outstanding), and NPL (Non-performing loan ratio as measured by the

ratio of non-performing loans to total loans, in percentage).

Variables	ROA	ROE	MC	CAR	TD	TL	BVPS	NPL
ROA	1							
ROE	0.298	1						
MC	0.252**	0.026	1					
CAR	0.041	0.022	0.256**	1				
TD	0.203*	0.230*	0.182	0.032	1			
TL	-0.087	-0.191*	0.093	0.115	0.315**	1		
BVPS	0.068	0.018	-0.390**	-0.206*	0.195*	0.13	1	
NPL	-0.244**	-0.024	-0.160	-0.219*	-0.013	-0.362**	0.552**	1

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

Table 3 shows that market capitalization has a positive relationship with return on assets. It indicates that increase in market capitalization leads to increase in return on assets. Similarly, capital adequacy ratio has a positive relationship with return on assets. It indicates that higher the capital adequacy ratio, higher would be the return on assets. Likewise, total deposit has a positive relationship with return on assets. It indicates that increase in total deposit leads to increase in return on assets. Further, total loan has a negative relationship with return on assets. It indicates that increase in total loan leads to decrease in return on assets. In addition, book value per share has a positive relationship with return on assets. It indicates that higher the book value per share, higher would be the return on assets. Moreover, non-performing loan has a negative relationship with return on assets. It indicates that higher the non-performing loan, lower would be the return on assets.

Similarly, market capitalization has a positive relationship with return on equity. It indicates that increase in market capitalization leads to increase in return on equity. Similarly, capital adequacy ratio has a positive relationship with return on equity. It indicates that higher the capital adequacy ratio, higher would be the return on equity. Likewise, total deposit has a positive relationship with return on equity. It indicates that increase in total deposit leads to increase in return on equity. Further, total loan has a negative relationship with return on equity. It indicates that increase in total loan leads to decrease in return on equity. In addition, book value per share has a positive relationship with return on equity. It indicates that higher the book value per share, higher would be the return on equity. Moreover, non-performing loan has a negative relationship with return on equity. It indicates that higher the non-performing loan, lower would be the return on equity.

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 market capitalization, capital

adequacy ratio, total deposits, total loans, book value per share, and nonperforming loans with return on equity of Nepalese commercial banks.

Table 4

Estimated regression result of market capitalization, capital adequacy ratio, total loan, total deposit, book value per share, non- performing loan on return on assets

The results are based on panel data of 16 commercial banks with 112 observations for the period of 2015/16 to 2021/2022 by using the linear regression model and the model is $ROA_{it} = \beta_0 + \beta_1 MC_{it} + \beta_2 CAR_{it} + \beta_3 TD_{it} + \beta_4 TL_{it} + \beta_5 BVPS_{it} + \beta_6 NPL_{it} + e_{it}$ 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 MC (Market capitalization as measured by the product of price of a stock by its total number of shares outstanding Rs. in billion), CAR (Capital adequacy ratio as measured by the ratio of total capital to total risk weighted assets, in percentage) TD (Total deposit as measured by total amount deposit by customer, Rs. in billion), TL (Total loan as measured by total amount borrowed by the customer, Rs. in billion), BVPS (Book value per share as measured by the total equity divided by number of shares outstanding), and NPL (Non-performing loan ratio as measured by the ratio of non-performing loans to total loans, in percentage).

Model	Intercept	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		MC	CAR	TD	TL	BVPS	NPL			
1	2.025 (21.231)**			0.003 (4.437)**				0.144	0.409	19.688
2	1.711 (32.498)**				-0.004 (2.211)*			0.034	0.435	4.887
3	1.321 (8.391)**					0.002 (2.086)*		0.029	0.436	4.352
4	1.571 (24.37)**						-0.059 (1.371)	0.008	0.441	1.881
5	1.983 (20.442)**	0.002 (1.973)*		0.004 (4.847)**				0.166	0.404	12.053
6	1.674 (23.965)**	0.001 (0.813)			-0.001 (2.239)*			0.031	0.435	2.767
7	1.316 (8.278)**	0.001 (0.304)				0.002 (1.972)*		0.021	0.438	2.203
8	1.527 (18.40)**	0.001 (0.835)					-0.062 (1.437)	0.005	0.441	1.287
9	2.006 (17.93)**		0.001 (0.323)	0.003 (4.426)**				0.137	0.411	9.816
10	1.961 (17.37)**	0.002 (1.968)**	0.001 (0.341	0.004 (4.835)**				0.159	0.406	8.007
11	1.387 (8.849)**				-0.001 (2.421)*	0.001 (1.763)	-0.046 (1.046)	0.067	0.427	3.668
12	1.639 (10.53)**	0.001 (1.738)	0.098 (0.065)	0.004 (4.968)**	-0.078 (1.379)	0.002 (2.126)*	-0.061 (1.436)	0.226	0.389	6.391

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. Return on asset is the dependent variable.

Table 4 shows that the beta coefficients for market capitalization are positive with return on asset. It indicates that market capitalization has a positive impact on return on asset. This finding is similar to the findings of Qurashi and Zahoor (2016). Similarly, the beta coefficients for book value per share are positive with return on asset. It indicates that book value per share has a positive impact on return on asset. This finding is consistent with the findings of Peni and Vahamaa (2012). Similarly, the beta coefficients for capital adequacy ratio are positive with return on asset. It indicates that capital adequacy ratio has a positive impact on return on asset. This finding is similar to the findings of Chortareas *et al.* (2012). On the other hand, the beta coefficients for total loans are negative with return on asset. It indicates that total loan has a negative impact on return on asset. This finding is consistent with the findings of Ozgur and Gorus (2016). Similarly, the beta coefficients for total deposits are positive with return on asset. It indicates that total deposit has a positive impact on return on asset. This finding is consistent with the findings of Gul *et al*. (2011). Furthermore, the beta coefficients for non-performing loan are negative with return on asset. It indicates that non-performing loan has a negative impact on return on asset. This finding is similar to the findings of Islam *et al.* (2018).

Table 5 shows the estimated regression results of market capitalization, capital adequacy ratio, total loan, total deposit, book value per share and non-performing loan on return on equity in Nepalese commercial banks.

Table 5

Estimated regression result of market capitalization, capital adequacy, total loan, total deposit, book value per share and non-performing loan on return on equity

The results are based on panel data of 16 commercial banks with 112 observations for the period of 2015/16 to 2021/2022 by using the linear regression model and the model is $ROE_{it} = \beta_0 + \beta_1 MC_{it} + \beta_2 CAR_{it} + \beta_3 TD_{it} + \beta_4 TL_{it} + \beta_5 BVPS_{it} + \beta_6 NPL_{it} + e_{it}$ where the dependent variable is ROE (Return on equity as measured by the ratio of net income to total equity, in percentage). The independent variables are MC (Market capitalization as measured by the product of price of a stock by its total number of shares outstanding Rs. in billion), CAR (Capital adequacy ratio as measured by the ratio of total capital to total risk weighted assets, in percentage) TD (Total deposit as measured by total amount deposit by customer, Rs. in billion), TL (Total loan as measured by total amount borrowed by the customer, Rs. in billion), BVPS (Book value per share as measured by the total equity divided by number of shares outstanding), and NPL (Non-performing loan ratio as measured by the ratio of non-performing loans to total loans, in percentage).

Model	Intercept	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		MC	CAR	TD	TL	BVPS	NPL			
1	13.603 (24.710)**	0.021 (2.636)**						0.050	3.841	6.949
2	16.105 (17.7183)**			0.012 (1.696)				0.017	3.924	2.878
3	15.383 (32.962)**				-0.005 (2.359)*			0.039	3.863	5.563
4	16.368 (30.389)**						-1.462 (4.074)**	0.123	3.698	16.583
5	13.455 (17.0490)**	0.021 (2.625)**	0.009 (0.262)					0.043	3.854	3.482
6	15.42 (17.190)**	0.026 (3.250)**		3.251 (2.529)*				0.095	3.742	6.844
7	14.281 (23.81)**	0.022 (2.802)**			-0.005 (2.543)*			0.096	3.746	6.881
8	14.479 (10.376)**	0.022 (2.714)**				0.005 (0.683)		0.046	3.845	3.691
9	15.324 (22.617)**	0.018 (2.451)*					-1.387 (3.935)**	0.161	3.612	11.673
10	15.241 (14.581)**	0.026 (3.239)**	0.011 (0.337)	0.018 (2.527)*				0.088	3.769	4.564
11	15.381 (11.568)**				-0.004 (2.043)*	0.008 (1.216)	-1.522 (4.063)**	0.151	3.638	7.603
12	16.13 (11.4697)**	0.02 (2.649)**	0.023 (0.708)	0.012 (1.801)	-0.004 (1.712)	0.007 (1.014)	-1.422 (3.676)**	0.199	3.521	5.614

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. Return on equity is the dependent variable.

Table 5 shows that the beta coefficients for market capitalization are positive with return on equity. It indicates that market capitalization has a positive impact on return on equity. This finding is similar to the findings of Almumani (2018). Similarly, the beta coefficients for book value per share are positive with return on equity. It indicates that book value per share has a positive impact on return on equity. This finding is consistent with the findings of Abuzayed et al. (2009). Similarly, the beta coefficients for capital adequacy ratio are positive with return on equity. It indicates that capital adequacy ratio has a positive impact on return on equity. This finding is similar to the findings of Jadhav *et al*. (2021). On the other hand, the beta coefficients for total loans are negative with return on equity. It indicates that total loan has a negative impact on return on equity. This finding is consistent with the findings of Kadioglu and Ocal (2017). Similarly, the beta coefficients for total deposits are positive with return on equity. It indicates that total deposit has a positive impact on return on equity. This finding is consistent with the findings of Petria et al. (2015). Furthermore, the beta coefficients for non-performing

loan are negative with return on equity. It indicates that non-performing loan has a negative impact on return on equity. This finding is similar to the findings of Kadioglu and Ocal (2017).

4. Summary and conclusion

The banking sector is the driving force for a country's economy. Bank performance greatly affects the level of public trust, so it is important for banks to maintain good performance. Poor bank performance will lead to failure and lead to financial crises that will have negative consequences for economic development. Profit is one of the main goals of the banking industry. Profitability is the company's ability to earn profits or a measure of the effectiveness of company management. A high level of profitability indicate that the bank is working efficiently. A high level of profitability can also illustrate that the productivity of the bank is getting better, and can show the development of the bank itself. Therefore, profitability is very important both for the bank itself and for the customers.

This study attempts to analyze the examine the effect of market capitalization on profitability of Nepalese commercial banks. The study is based on secondary data of 18 commercial banks with 112 observations for the period from 2015/16 to 2021/22.

The study showed that market capitalization, capital adequacy ratio, total deposit and book value per share have a negative impact on return on equity. Similarly, the study showed that total loan and non-performing loan have negative impact on return on equity. Moreover, the study also showed that market capitalization, capital adequacy ratio, total deposit and book value per share have positive impact on return on assets. Likewise, the study revealed that total loan and non-performing loan have a negative impact on return on assets. The study concluded that a higher market capitalization can signal to investors and stakeholders that a bank is stable and well-managed. This can instill greater trust and confidence in the institution, potentially leading to more deposits and business, which could positively impact profitability of Nepalese commercial banks. Similarly, the study also concluded that total deposit is the most influencing factor that explains the changes in the return on assets in context of selected Nepalese commercial banks.

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