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, debt to equity ratio, 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 the impact 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, debt to equity ratio has a negative impact on return on assets and positive impact on return on equity. It indicates that increase in debt to equity ratio leads to increase in return on assets and decrease return on equity. In addition, book value per share has a positive impact on return on assets and negative impact return on equity. It indicates that higher the book value per share, higher would be the return on assets and lower would be 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, debt to equity ratio, total deposit capital adequacy ratio, book value per share, non-performing loan, return on assets, return on equity

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

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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). Bank's profitability is influenced by various factors, including the current market price and the total number of shares (Jaya and Sundar, 2012). Stock market capitalization is used to measure stock market activity and plays a role in financial integration (Tan *et al.,* 2012). Likewise, market capitalization is a significant factor in economic growth and development (Kumar, 2010).

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.

Market capitalization, a measure of a company's size and value, is closely related to stock price (Pavithra and Kumar, 2022). Market capitalization is defined as the value of a company that is traded on the stock market, calculated by multiplying the total number of shares by the present share price. Market capitalization, sometimes referred to as market cap, is the total value of a publicly traded company's outstanding common shares owned by stockholders. Market capitalization is equal to the market price per common share multiplied by the number of common shares outstanding. Likewise,

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. However, 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 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. In addition, market capitalization plays a role in the estimation of Value-at-risk, with better estimates obtained when considering market capitalization, particularly during financial crisis periods (Dias, 2013).

Gul *et al.* (2011) examined there is strong influence between market capitalization and corporate financial performance. The results found a strong evidence that both internal and external factors have a strong influence on the profitability. The results of the study are of value to both academics and policy makers. Similarly, Clementina and Isu (2013) identified a positive relationship between capitalization and profitability. The study identified long run positive relationship between capitalization and profitability. The result of causality indicated that the significant relationship between capitalization and profitability is by-directional, implying that increase in capital leads to increase in profitability and vice versa of Commercial banks in Nigeria. Moreover, Khasawneh (2016) revealed that there is a positive relationship between market capitalization and profitability. The study also revealed that banks profitability and stability are determined through some bank's characteristics variables and macroeconomic variables in addition to the financial crises. Furthermore, Qurashi and Zahoor (2016) showed that there is no relationship between market capitalization and the ROA, ROE. The result showed that market capitalization has a positive relationship with ROI while negative relationship with credit risk, inflation, and year dummy for the Middle Eastern banks. Furthermore, no relationship has been observed between market capitalization and the ROA, ROE, growth and exchange rate for the Middle Eastern banks.

Almumani (2018) analyzed the effect of profitability ratios and market value ratios on market capitalization of commercial banks in Jordan. Market capitalization was measured by the number of its subscribed shares multiplied by its market closing price per share as the dependent variable. The independent

variables of the study were return on equity and return on assets as measures profitability and earning per share, price earnings ratio, and dividend payout ratio as measures of market value. The study found that there is a positive relationship between profitability ratio and market capitalization. The results of the study also revealed that return on equity and dividend payout ratio are the most influencing factors in determining market capitalization of the selected commercial banks during the study period. Similarly, Haris *et al*. (2020) found that profitability increases with an increase in capitalization up to a certain level, while beyond that level, a further increase in capitalization decreases profitability. Likewise, Oudat and Ali (2020) stated that market capitalization has an insignificant relationship with financial performance. Singhal *et al.* (2022) stated that market capitalization has a positive long-run influence on profitability.

In the context of Nepal, Humagain (2023) investigated that market capitalization has a positive impact on profitability. The study revealed that capital adequacy ratio and liquidity ratio is positively related to return on assets of Nepalese commercial banks. Similarly, 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. Likewise, 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. However, 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 impact of market capitalization on profitability of Nepalese commercial banks. Specifically,

it examines the relationship of market capitalization, capital adequacy ratio, total deposits, debt to equity ratio, book value per share and non-performing 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, DER, BVPS, NPL).

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

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

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

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

Where,

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.

DER= debt to total equity as measured by total debt divided by shareholders equity in percentage.

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

BVPS = Book value per share as measured by the total equity divided by

number of shares outstanding, Rs. per share

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

Capital adequacy ratio

Capital adequacy ratio is measured as the summation of primary and supplementary capital divided by risk weighted assets (%). Kumar *et al*. (2020) revealed that capital adequacy ratio is positively related to return on assets. Similarly, Agbeja *et al.* (2015) found that there is a significant and positive relationship between capital adequacy ratio and bank's profitability. Likewise, Silaban (2017) concluded that capital adequacy ratio has a positive and insignificant impact on return on assets. Furthermore, Hallunovi and Berdo (2018) revealed that capital adequacy has a positive relationship with return on assets and return on equity. Further, Thyovani and Manda (2022) found that the capital adequacy ratio has a positive and significant effect on returns on assets. In contrast, Al-Sharkas and Al-Sharkas (2022) concluded that ROA is negatively correlated with the capital adequacy ratios. Based on it, this study develops the following hypothesis:

H_1: There is a positive relationship between capital adequacy ratio and bank profitability.

Market capitalization

Market capitalization is defined as the value of a company that is traded on the stock market, calculated by multiplying the total number of shares by the present share price. Market capitalization, sometimes referred to as market cap, is the total value of a publicly traded company's outstanding common shares owned by stockholders. Market capitalization is equal to the market price per common share multiplied by the number of common shares outstanding. Almumani (2018) 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. Moreover, Qurashi and Zahoor (2016) showed that market capitalization has a positive relationship with return on investment. Moreover, Al-Nimer and Alslihat (2015) assessed 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_2: There is a positive relationship between market capitalization 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. Similarly, Demirguc-Kunt and Maksimovic (1998) 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. Likewise, Ozgur and Gorus (2016) found a positive relationship of capital ratio, total assets and total deposit with bank profitability. Kundid *et al*. (2011) revealed that total deposit growth and total assets growth significantly and positively influence the bank profitability. Moreover, Haddawee, and Flayyih (2020) found that there is a significant relation between deposits and the indicators of profitability. In addition, Le Quang *et.al*. (2023) determined that total deposit has a positive and significant impact on profitability. Rokhmat *et al.* (2023) concluded total deposit have a significant effect on profitability. However, Ozgurand Gorus (2016) found that total deposit have significant impact over return on assets. Based on it, this study develops the following hypothesis:

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

Non-performing loan

Non-performing loan is measured as the percentage of non-performing loans to total loans. The level of a credit crunch is usually proxies by the ratio of bank's non - performing loans (NPL). Kadioglu and Ocal (2017) found that non-performing loan has a negative relationship with return on asset and return on equity. Similarly, Vinh (2017) concluded that the nonperforming loan has a statistically significant negative effect on Vietnamese commercial banks profitability. Likewise, Kingu *et al.* (2018) found that non-performing loan has a negative and significant impact on return on assets. Furthermore, Alshebmi *et al.* (2020) revealed that non-performing loans have a negative and weak relationship with ROA. Moreover, Saleh and Winarso (2021) found that the nonperforming loan has a statistically significant and negative effect on commercial banks profitability. In contrast, Afriyie and Akotey (2012) found a positive relationship between non-performing loans and bank profitability. Based on it, this study develops the following hypothesis:

H_4: There is a negative relationship between non-performing loan and bank

profitability.

Book value per share

Akbar (2021) 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) 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. Ulzanah and Murtaqi (2015) assessed that book value per share has a positive significant impact towards profitability (ROA). Indriawati (2018) determined that book value per share do not have influence on the profitability. Sumantri (2021) determined that earning per share, debt to equity ratio and price to book value significantly influence return on equity. Sihotang and Munir (2021) found that the price to book value (PBV) ratio variable partially has a significant effect on profitability. Based on it, this study develops the following hypothesis:

H_5: There is a positive relationship between book value per share and bank profitability.

Debt to equity ratio

Qamara *et al.* (2020) stated that debt to equity has a negative relationship between profitability of banks performance. Debt equity ratio has a positive and significant effect on profitability (Sasongko, 2019). Similarly, Ulzanah and Murtaqi (2015) concluded that debt to equity ratio have significant impact towards profitability (ROA). Further, Hertina and Saudi (2019) showed debt to equity ratio has a significant influence on profitability. Lusy *et al*. (2018) concluded that current ratio and debt-to-equity ratio has a significant effect on return on equity and return on asset. In addition, Hertina (2021) investigated that debt to equity ratio has an effect on profitability. Based on it, this study develops the following hypothesis:

H_6:There is a negative relationship between debt to equity 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), DER (debt to total equity as measured by total debt divided by shareholders equity), 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	Std. Deviation
ROA	0.470	2.770	1.610	0.460
ROE	6.670	25.610	14.580	3.640
MC	16.160	288.410	51.250	44.060
CAR	10.200	97.920	16.830	11.000
TD	32.220	329.580	117.400	52.890
DER	4.120	15.560	7.580	2.120
BVPS	10.150	470.000	45.890	80.900
NPL	0.020	4.600	1.160	0.990

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), DER (debt to total equity as measured by total debt divided by shareholders equity), 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 negative relationship with return on assets. It indicates that increase in total deposit leads to decrease in return on assets. Further, debt to equity has a negative relationship with return on assets. It indicates that increase in debt to equity 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 positive relationship with return on assets. It indicates that higher the non-performing loan, higher 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, debt to equity has a positive relationship with return on equity. It indicates that increase in debt to equity leads to increase in return on equity. In addition, book value per share has a negative relationship with return on equity. It indicates that higher the book value per share, lower 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, debt to equity ratio, 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, debt to equity ratio, 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 $ROA_{it} = \beta_0 + \beta_1 MC_{it} + \beta_2 CAR_{it} + \beta_3 TD_{it} + \beta_4 DER_{it} + \beta_5 BVPS_{it} + \beta_6 NPL_{it} + e_{it}$ 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), DER (debt to total equity as measured by total debt divided by shareholders equity), 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	DER	BVPS	NPL			
1	2.003 (20.265)**			0.003 (4.368)**				0.140	0.428	19.076
2	2.279 (15.244)**				-0.088 (4.647)**			0.156	0.424	21.593
3	1.582 (31.538)**					0.001 (1.123)		0.002	0.461	1.262
4	1.542 (22.856)**						-0.058 (1.317)	0.007	0.460	1.734
5	2.436 (16.171)**			0.003 (3.333)**	-0.070 (3.667)**			0.227	0.405	17.342
6	1.948 (19.128)**	0.002 (1.937)*		0.004 (4.728)**				0.161	0.422	11.654
7	1.978 (17.063)**		0.002 (0.429)	0.003 (0.385)				0.134	0.429	9.559
8	1.539 (22.730)**					0.000 (0.630)	-0.045 (0.928)	0.001	0.461	1.061
9	1.485 (16.989)**	0.001 (1.020)					0.062 (1.403)	0.007	0.4600	1.388
10	1.978 (17.063)**		0.002 (0.429)	0.003 (4.362)				0.134	0.429	9.559
11	2.361 (12.023)**				-0.094 (4.415)**	0.000 (0.385)	-0.039 (0.798)	0.146	0.4266	7.325
12	2.283 (11.083)**	0.002 (2.272)*	0.002 (0.552)	0.003 (3.376)**	-0.640 (2.929)**	0.000 (0.597)	-0.016 (0.334)	0.240	0.4025	6.5369

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 Clementina and Isu (2013). 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 Silaban (2017). 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 Rokhmat *et al.* (2023). On the other hand, the beta coefficients for debt to equity ratio 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 Maritoand Sjarif (2020). 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 Nugroho (2020). 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 Alshebmi *et al.* (2020).

Table 5 shows the estimated regression results of market capitalization, capital adequacy ratio, book value per share, debt to equity ratio 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, debt to equity ratio, 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 $ROE_{it} = \beta_0 + \beta_1 MC_{it} + \beta_2 CAR_{it} + \beta_3 TD_{it} + \beta_4 DER_{it} + \beta_5 BVPS_{it} + \beta_6 NPL_{it} + e_{it}$ 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), DER (debt to total equity as measured by total debt divided by shareholders equity), 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	DER	BVPS	NPL			
1	13.402 (25.99)**	0.023 (2.998)**						0.068	3.516	8.986
2	15.782 (18.869)**			0.010 (1.582)				0.014	3.617	2.503
3	10.918 (8.782)**				0.483 (3.057)**			0.071	3.510	9.343
4	14.968 (37.930)**					-0.008 (1.998)*		0.027	3.593	3.990
5	16.014 (31.627)**						-1.240 (3.730)**	0.106	3.444	13.913
6	13.772 (18.982)**	0.023 (3.000)**	0.022 (0.725)					0.064	3.524	4.736
7	11.986 (9.446)**			0.018 (2.57)**	0.613 (3.818)**			0.124	3.409	8.698
8	16.031 (31.51)**					-0.003 (0.567)	-1.152 (3.135)**	0.100	3.455	7.074
9	15.284 (15.932)**	0.027 (3.495)**	0.020 (0.666)	0.015 (2.346)*				0.102	3.452	5.126
10	13.629 (8.604)**				0.276 (1.600)	-.002 (0.4623)	-.905 (2.287)*	0.113	3.430	.113
11	14.865 (23.314)**	0.020 (2.824)**					-1.158 (3.580)**	0.160	3.338	11.394
12	13.682 (8.266)**	0.024 (3.312)**	0.032 (1.117)	0.018 (2.715)**	0.411 (2.318)*	-0.001 (0.253)	-0.678 (1.716)	0.217	3.223	6.035

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 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 Hallunovi and Berdo (2018). 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 LeQuangm *et al.* (2023). Further, the beta coefficient for debt to equity has a positive relationship with return on equity. It indicates that increase in debt to equity leads to increase in return on equity. This finding is similar to the findings of Sasongko (2019). 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 Ulzanah, and Murtaqi (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 Vinh (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 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 market capitalization, capital adequacy ratio total deposit and book value per share has a positive impact on return on assets. It indicates that increase in market capitalization, capital adequacy ratio total deposit and book value per share leads to increase the return on assets. However, the non-performing loan, book value per share has the negative impact on return on assets. It shows that increase in the non-performing loan, book value per share and ratio leads to decrease the return of assets. Likewise, market capitalization, capital adequacy ratio, total deposit and debt to equity has a positive impact on return on equity. It indicates that increase in market capitalization, capital adequacy ratio, total deposit and debt to equity to increase the return on equity. However, the non-performing loan, book value per share has a negative impact on return on equity. It shows that increase in the non-performing loan, book value per share leads to decrease the return of equity of the commercial bank. Likewise, the study concluded that total deposit followed by book value per share is the most influencing factor that explains the changes in the return on assets of Nepalese commercial bank. Similarly, the study also concluded that market capitalization followed by the debt to equity is the most dominant factor that explains the changes in the return on equity of Nepalese commercial bank.

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