Impact of Capital Adequacy Ratio, Credit to Deposit Ratio, Dividend Policy and Ownership Structure in Financial Performance of Nepalese Commercial Banks

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Abstract

This study explores how various factors such as capital adequacy ratio, credit to deposit ratio, dividend policy, and ownership structure affect the profitability of Nepalese commercial banks. The dependent variables in this research are return on assets (ROA) and net interest margin (NIM), while the independent variables include capital adequacy ratio, credit to deposit ratio, dividend payout ratio, dividend yield ratio, foreign ownership, government ownership, and bank size. The study utilizes secondary data from 15 commercial banks, with 135 observations spanning the years 2015/16 to 2023/24. Data was gathered from the Banking and Financial Statistics published by Nepal Rastra Bank, along with annual reports and publications from respective commercial banks. Regression models and correlation coefficients were applied to assess the significance of these independent variables on the profitability of Nepalese banks. The findings indicate that factors such as capital adequacy ratio, credit to deposit ratio, dividend payout ratio, bank size, and government ownership are negatively related to the return on assets of Nepalese banks. This suggests that higher values in these variables lead to lower ROA. Conversely, foreign ownership and dividend yield have a positive impact on ROA. Additionally, the study finds a negative relationship between these factors (except government ownership) and net interest margin, meaning that higher values in these variables correspond to a lower NIM. However, government ownership was found to positively affect net interest margin.

Keywords: *Return on assets, Net interest margin, Capital adequacy ratio, Credit to deposit ratio, Dividend payout ratio, Foreign ownership, Bank size.*

1. Introduction

Banks serve as key financial intermediaries, offering a range of services crucial for economic functioning. Their efficiency in financial intermediation impacts economic growth, with profitable banking sectors better equipped to withstand shocks and maintain financial stability (Athanasoglou et al., 2005). Fama and Jensen (1983) emphasized the importance of meeting substantial capital

requirements in bank capital structures for ensuring capital adequacy. Financial management aims to maximize shareholder wealth, a key objective for firms. Alzomaia et al. (2013) noted the significance of dividend policy in the banking sector, as it influences the stability of the financial system. Dividend decisions, which determine the amount paid to shareholders for their investment and the associated risks (Reyna et al., 2017), are vital. Firms must balance dividend payouts with retaining earnings for long-term growth (Bataineh, 2021). An optimal dividend policy maximizes a firm's stock price and, by extension, shareholder wealth (Gul et al., 2012). Ownership structure plays a crucial role in corporate governance (CG) systems and firm performance. Foreign ownership, in particular, has gained attention in emerging markets for its positive impact. Khanna and Palepu (2000) argued that foreign ownership effectively monitors firm management and contributes to organizational capabilities through resources, knowledge, and financial capital. Musallam (2015) analyzed the impact of foreign and state ownership on corporate performance in Malaysia from 2000 to 2009. The study found that foreign ownership had a significant positive effect on corporate performance, while state ownership had a negative impact. The results indicated a linear relationship between both foreign and state ownership with corporate performance, suggesting that higher foreign ownership improves performance, while state ownership hinders it.

2. Literature Review

Anggari and Dana (2020) found that bank size has a positive and significant effect on profitability in banking companies on the Indonesia stock exchange (IDX). Similarly, Irawati and Maksum (2019) found that firm size has a positive and significant effect toward profitability (ROA). Aladwan (2015) found that there is a significance positive relationship of bank size with profitability. The study final concluded that size effect exists, that small and medium sized banks exhibit higher overall performance compared to large banks. Similarly, Nugraha & Octaviantika (2021) examined the effect of non-performing loans, education diversity and loan to deposit ratio on return on assets in Conventional Banking listed on the Indonesia stock exchange for the period 2015 to 2019. The results showed that the loan to deposit ratio has a significant positive effect on return on assets.Oudat & Ali (2020) found that Capital adequacy has a positive and significant relationship with the financial performance of 7 commercial banks listed in Bahrain. Similarly, Sunaryo (2020) revealed that loan to deposit ratio has a negative and significant effect on return on asset of the Commercial Banks in Southeast Asia in 2012-2018. Akani & Micah (2021) showed that dividend payout ratio has a strong positive impact on financial performance of companies listed in Nigeria stock exchange. In addition, Nguyen *et al*. (2020) revealed that foreign ownership ratio has a negative impact on the financial performance of listed firms on Vietnam’s stock market. Gazi *et al*. (2022) revealed that bank size significantly and negatively affected the ROA, ROE, and NIMR of the listed

private commercial banks in Bangladesh. Similarly, Ogboi, and Unuafe,(2013) examined Impact of Credit Risk Management and Capital Adequacy on the Financial Performance of Commercial Banks in Nigeria. Panel data model was used to estimate the relationship that exists among loan loss provisions (LLP), loans and advances (LA), non-performing loans (NPL), capital adequacy (CA) and return on asset (ROA). The Results showed that sound credit risk management and capital adequacy impacted positively on bank's financial performance with the exception of loans and advances which was found to have a negative impact on banks' profitability in the period under study. Further, Dao, B. T. T., & Nguyen, K. A. (2020) Analyzed the impact of Bank Capital Adequacy Ratio and Bank Performance in Vietnam. The results revealed that Capital Adequacy Ratio and Banks' Performance have statistically significant relationship. Dao and Nguyen (2020). Analyzed the impact of Bank Capital Adequacy Ratio and Bank Performance in Vietnam. The results reveal that Capital Adequacy Ratio and Banks' Performance have statistically significant relationship. Further, Munangi and Bongani (2020) assessed the impact of credit risk on the financial performance of South African banks. The study revealed that capital adequacy was positively related to financial performance. It means greater capital adequacy ratio may instill confidence of stakeholders in a bank, making it competitive. Teshome *et al.* (2018) analyzed the determinant of financial performance of commercial banks in Ethiopia: Special emphasis on private commercial banks. The study result showed that capital adequacy ratio and size of the bank have positive and statistically significant effect on financial performance.

Siddique *et al*. (2020) conducted comparative study of performance of commercial banks in ASIAN developing and developed countries. The study revealed that there is a negative relationship of bank size with most of financial performance variables. Similarly, capital adequacy ratio has significant positive relationship both measures of financial performance (ROA and ROE) in both pools. Similarly, Al Zaidanin and Al Zaidani (2021) assessed the impact of credit risk management on the financial performance of United Arab Emirates commercial banks. The study revealed that capital adequacy ratio, liquidity ratio, and loans -to-deposits ratio all have a very weak positive relationship on the return on assets. Hunjra (2022) analyzed the effect of firm-specific risks on bank performance of commercial banks of South Asia. The purpose of the study was to examine the impact of credit, liquidity and operational risks on the financial performance The study revealed that loan-to-deposit (LTD) ratios has negatively affected the financial performance. Similarly, Kwashie (2022) Investigated the impact of credit risk on financial performance of commercial banks in Ghana. The study showed that the size of bank has a significant positive effect on financial performance measured as for return on asset. Further, Yeasin (2022) assessed the impact of credit risk management on financial performance: A study of commercial banks in Bangladesh. The study revealed that Loan to deposit ratio (LDR) had positive and statistically significant impact on

financial performance of commercial banks. Owiredu and Kwakye (2020) assessed the effect of corporate governance on financial performance of commercial banks in Ghana. The study found a statistically positive relation between foreign ownership and financial performance measured by ROA and ROE. Similarly, Gyamerah *et al.* (2020) examined the effect of Corporate governance on the financial performance of commercial banks in Ghana. The study revealed that foreign ownership negatively affects the performance of banks. In addition, Bekaert and Harvey (2000) reported that several countries have increasingly opened their markets for attractive foreigners vary across countries with different legal system and corporate governance mechanism. However, Coles *et al*. (2012) found that inside ownership has a significant linear relationship with corporate performance. Ayunku & Apiri (2020) assessed the effect of dividend policy and stock prices in the capital market in Nigerian on market value of quoted commercial banks with study range of 2004-2018.The study found that dividend payout ratio (DPR) have linear (positive) and statistically significant to Equity/Stock prices of quoted commercial in Nigeria both in short and in the long run. Rimintsiwa *et al.* (2022) assessed the consequences of dividend policy on financial performance of domestic systemically important banks in Nigeria. The result showed that the dividend payout ratio (DPR) has a positive effect on the profitability of D-SIBs as a measure of financial performance. In addition, Kanakriyah (2020) examined the nature of the association between dividend policy and a corporation's financial performance in emerging countries, as well as the main variables that may have an effect on financial performance. The results revealed a strong and positive relation between dividend payout ratio and firm performance.

Agyei (2011) analyzed the relationship between dividend policy and performance of banks in Ghana. The results found that firm’s dividend increase their performance. The result also reinforced earlier findings that leverage, size of bank and bank growth enhance the performance of banks. Similarly, Hasan (2013) evaluated the functional relationship between the dependent and independent variables in a fuzzy environment. The result indicated that there is a significant and positive relationship exists between financial performance and dividend policy. There is a significant and negative relationship between economic performance (EVA) and dividend policy. Furthermore, a significant relationship exists between controlling variable (size) and dividend policy. The result stated that there is a significant and positive relationship exists between financial performance and dividend policy. Narang (2018) investigated the impact of dividend payout ratio on financial performance of selected firms in Pharmaceutical Industry. The result indicated that dividend policy measures are not significantly correlated with earnings per share, price earnings ratio and dividend payout as dividend policy, return on equity and return on assets as firm performance measures. Uwuigbe and Jafaru (2012) examined on the relationship between the

financial performance and dividend payout among listed firms' in Nigeria. It also looks at the relationship between ownership structure, size of firms and the dividend payouts. The study found that there is a significant positive association between the performance of firms and the dividend payout of the sampled firms in Nigeria. That is, an increase in the financial wellbeing of a firm tends to positively affect the dividend payout level of firms. The study also revealed that ownership structure and firm's size have significant impact of the dividend payout of firms too. Ouma (2012) analyzed the relationship between dividend payout and firm performance among listed firms in the Nairobi Securities Exchange. The study showed that cash dividend is relevant and positively correlated with firm performance among listed firms in Kenya. Further, Kajola *et al*. (2015) examined the study on the relationship between dividend pay-out policy and financial performance non-financial firms listed on the Nigerian Stock Exchange.The study found that there is a positive and significant relationship between dividend pay-out policy (DPO) and firm performance (ROA).

Sathyamoorthi *et al.* (2020) evaluated the impact of financial risk management practices on the financial performance of commercial banks in Botswana. The results from regression analysis revealed that the loan deposit ratio has a negative and significant impact on return on assets and on return on equity. In addition, Rajindra *et al.* (2021) examined the effect of operating costs and income, loan to deposit ratio on the return on asset (ROA) of Public-Private Foreign Exchange Banks listed on the Indonesia Stock Exchange (IDX) during the 2015–2018 period. The results stated that all the variables of free operating expenses, operating income and the loan to deposit ratio simultaneously and significantly affect the return on assets (ROA) variable in Public-Private Foreign Exchange Banks listed on the IDX. The third hypothesis showed that the loan to deposit ratio has a positive and insignificant effect on return on assets. Moreover, Sathyamoorthi *et al.* (2020) investigated the impact of liquidity management on the financial performance of commercial banks in Botswana. The results showed that loans to deposits has a statistically significant and negative relationships with return on assets and return on equity. Further, Rifansan and Pulungan (2022) analyzed the effect of capital adequacy ratio (CAR), non-performing loan (NPL), net interest margin (NIM), loan to deposit ratio (LDR) and operating costs of operating income (BOPO) on return on assets (ROA) banks in Indonesia. The results of this study concluded that loan to deposit ratio (LDR) has a positive and significant effect on return on assets (ROA).

Phan *et al.* (2020) analyzed the factors affecting the profitability of listed commercial banks in Vietnam. Survey data for this study were collected from 10 Vietnamese listed commercial banks for the period from 2008 to 2018. The results showed that state ownership have a positive impact on profitability. Santoso & Santasyacitta (2020) examined the influence of ownership structure on the financial performance of sharia banks in Indonesia. The results showed that government ownership

has an adverse effect on bank's financial performance. In addition, Kirimi *et al.* (2022) examined the relationship between ownership structure and financial performance of commercial banks in Kenya for the period 2009–2020. The results found a negative association between state ownership and net interest margin and a negative association between foreign ownership and earnings per share. Similarly, Anvarova & Isakov (2022) analyzed the main determinants of banking profitability in the Republic of Uzbekistan. The regression results have shown that government ownership have negative and statistically significant relationship with the profitability of a bank. Moreover, Aboud & Diab (2022) assessed the relationship between two characteristics of corporate governance (concentrated and state ownership) and firm financial performance by bringing new and extensive evidence from an emerging market The study found that state ownership has a significant negative impact on firm performance. Further, Hassan and Naif (2022) investigated the dynamic association between ownership structure and financial performance of Saudi non-financial listed firms covering 2010 to 2019. The study revealed that government ownership has a positive impact the firms' financial performance.

In the context of Nepal, Bhandari and Pokharel (2012) revealed that dividend is positively and significantly related with performance of bank. Similarly, Pradhan and Manandhar (2015) found that there is a positive and significant relationship between foreign ownership and bank performance. However, government ownership is negatively significant with bank performance variables. Moreover, Pradhan *et al*. (2017) indicated that core capital ratio, risk weighted ratio, and total capital ratio have negative impact on financial performance of Nepalese commercial banks. Similarly, Gautam (2020) revealed that capital adequacy ratio has a significant positive relationship with and financial performance. Similarly, Budhathoki et al. (2020) found that loan to deposit ratio have negative effect on the bank's ROA, ROE, and NIM; however, ROE and NIM were statistically insignificant. However, Bank size have positive impact on Performance.

Previous studies show varying results on the relationship between liquidity, bank size, and profitability, with limited recent data on Nepalese banks. This study aims to address this gap by examining the impact of capital adequacy, credit to deposit ratio, dividend policy, and ownership structure on the financial performance of Nepalese commercial banks. It specifically explores how factors like capital adequacy, credit to deposit ratio, dividend payout, foreign and government ownership, bank size, net interest margin, and return on assets affect performance. The paper is structured into three sections: methodology, empirical results, and conclusions.

Research gap

While various studies have investigated factors affecting bank financial performance, limited research has assessed the combined effects of capital adequacy ratio, credit to deposit ratio, dividend policy, and ownership structure specifically in Nepalese commercial banks. Most prior research examines these factors individually or focuses on different economic settings, limiting their relevance to Nepal. Additionally, the role of specific ownership structures and the impact of recent regulatory changes have not been adequately addressed. Methodologically, many studies use simple regression techniques without correcting for issues like endogeneity. Therefore, there is a need for a more comprehensive and updated study tailored to the unique conditions of Nepal's banking sector.

Conceptual framework

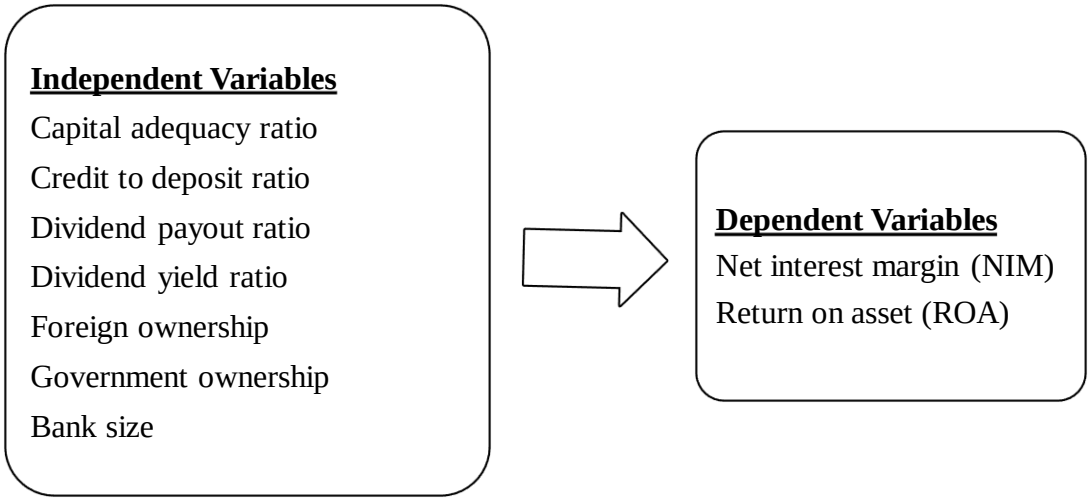

Figure 3.1: Conceptual Framework

5. Methodology

The study utilizes secondary data collected from 15 Nepalese commercial banks over the period from 2015/16 to 2023/24, resulting in a total of 135 observations. A stratified sampling method was employed for data collection. The primary data sources include the Banking and Financial Statistics published by Nepal Rastra Bank, reports from the Ministry of Finance, and the annual reports of the respective banks. This research is based on both descriptive and causal-comparative research designs. Table 1 presents a list of the selected commercial banks, along with the study period and the number of observations.

Table 1: List of Sample Commercial Banks

S. N.	Name of the banks	Study period	Observations
Public Banks			

1	Nepal Bank Limited	2015/16-2023/24	9
2	Rastriya Banijya Bank Limited	2015/16-2023/24	9
Joint Venture Banks			
3	Everest Bank Limited	2015/16-2023/24	9
4	Himalayan Bank Limited	2015/16-2023/24	9
5	Nabil Bank limited	2015/16-2023/24	9
6	NMB Bank Limited	2015/16-2023/24	9
Private Banks			
7	Citizens International Bank Limited	2015/16-2023/24	9
8	Global IME Bank Limited	2015/16-2023/24	9
9	Kumari Bank Limited	2015/16-2023/24	9
10	Machhapuchchhre Bank Limited	2015/16-2023/24	9
11	NIC Asia Bank Limited	2015/16-2023/24	9
12	Prabhu Bank Limited	2015/16-2023/24	9
13	Prime Commercial Bank Limited	2015/16-2023/24	9
14	Sanima Bank Limited	2015/16-2023/24	9
15	Siddhartha Bank Limited	2015/16-2023/24	9
Total number of observations			**135**

The model

$$ROA = \beta_0 + \beta_1 CAR_{it} + \beta_2 CDR_{it} + \beta_3 DPR_{it} + \beta_4 BS_{it} + \beta_5 FO_{it} + \beta_6 GO_{it} + \beta_7 DY_{it} + e_{it}$$

$$NIM = \beta_0 + \beta_1 CAR_{it} + \beta_2 CDR_{it} + \beta_3 DPR_{it} + \beta_4 BS_{it} + \beta_5 FO_{it} + \beta_6 GO_{it} + \beta_7 DY_{it} + e_{it}$$

Where,

NIM = Net interest margin as measured by the ratio of net interest income to total asset in percentage.

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

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

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

CDR = Credit to deposit ratio as measured by the ratio total loans to total deposits, in percentage.

DPR = Dividend payout ratio as measured by the ratio of dividend per share to earnings per share in percentage.

DY = Dividend yield ratio as measured by the ratio of dividend per share to market price per share in percentage.

FO = Foreign ownership as measured by 1 for presence of foreign ownership and 0 for absence

GO = Government ownership as measured by 1 for presence of government ownership and 0 for absence.

e = Error term

Hypothesis

Capital adequacy ratio

Ochei (2013) found that capital adequacy ratio (CAR) is positively related to bank's profitability. Likewise, Nyabaga & Wepukhulu (2020) revealed that capital adequacy ratio has a significant positive effect on financial performance of listed commercial banks in Kenya. In addition, Scott and Arias (2011) indicated that capital adequacy ratio increases the profitability of commercial banks in Saudi and Jordanian banks. Similarly, Aruwa and Musa (2014) found significant positive relationship between capital adequacy variable and financial performance of banks. Further, Torbira and Zaagha (2016) showed positive and significant relationship between capital adequacy and banks financial performance in Nigeria. Furthermore, Olalekan and Adeyinka (2013) revealed that there is a positive and significant relationship between capital adequacy and profitability of bank. The capital adequacy indicators measure the banking sector's ability to absorb sudden losses and are thus closest to the resilience to shocks concept (Gersl & Hermanek, 2006). Hence, higher capital adequacy ratio indicates financial stability for banks. Moreover, Ndoka and Islami (2016) found a negative association between capital adequacy ratio and bank performance. Based on it, this study develops the following hypothesis:

H_1: There is a positive relationship between capital adequacy ratio and financial performance.

Credit to deposit ratio

Loan to deposit ratio is measured as the ratio of total loan provided by the banks out of the deposit collected. Mehta & Bhavani (2017) showed that credit to deposit ratio is negatively related to return on assets and return on equity. Similarly, Chowdhury & Zaman (2018) found that credit to deposit ratio has a negative relationship with return on assets and return on equity. Likewise, Purbaningsih & Fatimah (2014) revealed that credit to deposit ratio is negatively related to return on assets. Suroso (2022) identified that loan to deposit ratio has a negative effect on profitability. However, Steven and Toni (2020) found that credit to deposit ratio has a positive relationship with profitability. Yigermal (2017) concluded that credit to deposit ratio is negatively related to profitability. Similarly, Vellanita *et al.* (2019) revealed a negative relationship between credit to deposit ratio and return on equity. Likewise, Golubeva *et al.* (2019) showed that credit to deposit ratio has a negative relationship with return on equity. Mohanty and Krishnankutty (2018) showed that return on asset has a negative and significant relationship with credit to deposit ratio. Likewise, Gurung and Gurung (2022) revealed that loan to deposit, known as credit deposit ratio, has a significant positive impact on the return on assets and net interest margin of commercial banks. Based on it, this study develops the following hypothesis:

H_2: There is a negative relationship between credit to deposit ratio and financial performance.

Dividend payout ratio

Hosain (2016) examined the determinants of dividend payout policy of the listed private commercial banks in Bangladesh. The results showed that dividend payout ratio is positively and significantly affected by liquidity. According to Hussainey *et al*. (2010), dividend is distribution of profits to shareholders and to the business as re-investment. Harada & Nguyen (2011) argued that the dividend is a sum of declared dividends for every ordinary share issued by a company for every ordinary share outstanding. Amidu (2007) argued that there is a positive impact of better dividend policy on the firm's performance in Ghana. Similarly, Pradhan (2003) concluded that Nepalese stockholders give more importance to dividend income that capital gains. Profitability has considered as the most influencing determinants of a firm's ability to pay dividends. It can be measured in different ways, using different proxies. Likewise, Zaman (2013) and Yahya and Hadi (2013) pointed out that the dividend payment pattern of a firm is affected by the ROA. Similarly, Al Kuwari (2009) stated that dividend policy is one of the main characteristics that strongly and directly influence performance. Jensen *et al.* (1992) also asserted a positive link between dividends and current profitability that can be measured by the ratio of operating income to total equity. Yiadom & Agyei (2011) showed that dividend policies have a positive and significant impact on the Performance of banks. Based on it, this study develops the following hypothesis:

H_3: There is a positive relationship between dividend payout ratio and financial performance.

Government ownership

Aljifri and Moustafa (2007) found that government ownership has a positive and significant impact on the United Arab Emirates (UAE) firm performance. Similarly, Najid and Rahman (2011) stated that government ownership has a positive and significant influence on the performance of Malaysian firms. Anvarovam and Isakov (2022) showed that government ownership has a negative and statistically significant relationship with the profitability of a bank. Aboud & Diab (2022) found that state ownership has a significant negative impact on firm performance. Ngilisho *et al.* (2022) revealed that government ownership is negatively related to financial performance. Likewise, James and David (2006) found that Singapore government-linked companies have higher valuations and better corporate governance than a control group of non-government linked companies. Further, Santoso and Santasyacitta (2020) showed that a government ownership has an adverse effect on bank's financial performance. Furthermore, Nguyen (2020) revealed that state ownership measures negative effect on bank profitability. Moreover, Kirimi *et al.* (2022) found a negative association

between state ownership and net interest margin and a negative association between foreign ownership and earnings per share. Based on it, this study develops the following hypothesis:

H_4: There is negative relationship between government ownership and financial performance.

Foreign ownership

Mangena and Tauringana (2007) found that foreign investors tend to become part of insider shareholders when they have control over the firm and react like other local investors which results in the improvement of the firm performance. Abdallah and Ismail (2017) assessed the relationship between foreign ownership with firm performance in the Gulf Cooperation Council (GCC) countries. The study found that the involvement of foreign investors in the ownership structure of a firm improves the performance of the firm. Musallam (2015) argued that foreign ownership performs an effective monitoring function of the firm management. Moreover, Jalila and Devi (2012) reported that there is a positive relationship between the level of dividends and the level of foreign ownership of shares, which at the same time may influence the performance of the firm. Similarly, Orazalin, and Mahmood (2019) found that the presence of large foreign ownership does not bring positive impact on the banks' performance. Likewise, Lensink and Naaborg (2007) showed that a rise in foreign ownership negatively affects bank performance. Aydin *et al.* (2007) revealed that the firms with foreign ownership operating in Turkey perform better than the domestic owned firms. Ferris and Park (2005) showed that increase in foreign ownership leads to improved expenditure in research and development, suggesting that foreign investors contribute to the long-term viability and competitiveness of Japanese firms. Based on it, this study develops the following hypothesis:

H_5: There is a positive relationship between foreign ownership and financial performance.

Bank size

Bank size is defined as the size of an individual firm which is calculated as the log of total assets of a bank. A sound, large and profitable bank is able to face negative shocks and the banking system will contribute to the stability of the financial system (Demirgu, & Huizinga, 2001). The size of a bank is one of the major determinants of bank profitability (Musah, 2017). Similarly, Berger *et al.* (1987) concluded that few cost savings can be achieved by increasing the size of a banking firm, especially as markets develop. Likewise, Kosmidou (2008) found that bank size is positively related to bank profitability. Further, Mule *et al*. (2015) concluded that there is a positive significant relationship between firm size and profitability.

Hirindu (2017) proved that bank size is positive and it is statistically highly significant determinants of profitability for ROA models. Similarly, Rudhani *et al.* (2016) asserted that bank size has a positive correlation with profitability. Likewise, Maina *et al.* (2019) showed that firm size as measured by customer deposits and loans advanced have a positive relationship with profitability of commercial banks in Kenya. Further, Furthermore, Kapaya and Raphael (2016) assessed the effects of bank-specific, industry-specific and macroeconomic determinants on banks profitability. The study argued that bank size has a positive impact on profitability measured by net interest margin and return on assets. Shahu (2019) showed that the firm size has a positive and significant effect on Z-score which indicates less probability of a firm going bankrupt. Aladwan (2015) found that there is a significant difference in the probability between the banks with different bank size. Likewise, Al-Sahafi *et al.* (2015) revealed that bank size has a significant positive relationship with banks' financial performance. Based on it, this study develops the following hypothesis:

H_6: There is a positive relationship between bank size and financial performance.

Dividend yield

Dividend yield of a stock signifies how much a company pays dividend in relation to its stock price. It is derived by dividing dividend per share with market value per share. Kothari & Shanken (1997) found that there is a positive relationship between dividend yield and stock return. Lamont (1998) found that dividend yield has predictive power for time series excess return. Jiang and Lee (2007) showed that there is a linear positive relationship between dividend yield and stock return. Asghar *et al*. (2011) considered dividend yield as an important variable and found significantly positive effect of dividend policy on stock market prices. Hussain *et al.* (2012) revealed that there is positive relation between dividend yield and stock price changes. Christie (1990) revealed that dividend yield has a positive impact on return of stock of individual firms. Aras and Yilmaz (2008) showed that the dividend yield revealed significant results in terms of predicting stock returns. Based on it, this study develops the following hypothesis:

H_7: There is a positive relationship between dividend yield and financial performance.

6. Results and Discussion

Descriptive statistics

Table 2: Descriptive Statistics

Variables	Minimum	Maximum	Mean	Std. Deviation
ROA	0.47	2.57	1.52	0.43
NIM	0.20	4.79	2.89	0.56

CAR	10.20	17.01	13.07	1.32
CDR	63.76	97.16	86.02	6.60
DPR	0.17	182.68	29.09	36.77
BS	42.72	491.81	181.59	89.93
FO	0.00	1.00	0.27	0.44
GO	0.00	1.00	0.13	0.34
DY	0.00	10.22	3.70	2.55

(Source: SPSS output)

Table 2 provides descriptive statistics for various financial variables, showing their range (minimum and maximum), average (mean), and variability (standard deviation). Return on Assets (ROA) has a mean of 1.52, with a standard deviation of 0.43, indicating moderate variability, and a range from 0.47 to 2.57. Net Interest Margin has an average value of 2.89, with a standard deviation of 0.56, indicating some variability, ranging from 0.20 to 4.79. Capital Adequacy Ratio shows a mean of 13.07 and a standard deviation of 1.32, reflecting moderate variation in capital adequacy across the sample, with values between 10.20 and 17.01. The Credit Deposit Ratio has an average of 86.02 and a relatively high standard deviation of 6.60, with values ranging from 63.76 to 97.16. Dividend Payout Ratio has a high mean of 29.09 but a very large standard deviation of 36.77, showing significant variation, with a wide range from 0.17 to 182.68. Bank Size averages at 181.59, with a high standard deviation of 89.93, suggesting significant variation in the size of banks, ranging from 42.72 to 491.81. Foreign Ownership has a mean of 0.27 with a standard deviation of 0.44, indicating that foreign ownership is relatively low across the sample, with values either being 0 or 1. Similarly, Government Ownership has a mean of 0.13 and a standard deviation of 0.34, indicating minimal government ownership. Finally, Dividend Yield has an average of 3.70 and a standard deviation of 2.55, suggesting considerable variation, with values ranging from 0.00 to 10.22. Overall, these statistics highlight the variability and central tendency of key financial indicators across the dataset.

Correlation Analysis

Table 3: Pearson's Correlation Coefficients Matrix

Variables	ROA	NIM	CAR	CDR	DPR	BS	FO	GO	DY
ROA	1								
NIM	0.298**	1							
CAR	-0.057	-0.067	1						
CDR	-0.248**	-0.462**	0.188*	1					
DPR	-0.115	-0.051	0.091	0.113	1				

BS	-0.157	-0.315**	0.022	0.185*	-0.183*	1			
FO	0.203*	-0.125	-0.007	-0.066	-0.078	0.108	1		
GO	-0.067	0.352**	0.084	-0.442**	-0.226**	0.225**	-0.237**	1	
DY	0.194*	-0.082	0.249**	0.327**	0.095	-0.327**	0.088	-0.336**	1

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

Table 3 shows that there is a negative relationship between capital adequacy ratio and return on asset. It indicates that higher the capital adequacy ratio, lower would be the return on asset. Similarly, there is a negative relationship between credit to deposit ratio and return on asset. It indicates that increase the credit to deposit ratio leads to decrease in return on asset. Furthermore, there is a negative relationship between dividend payout ratio and return on asset. It indicates that higher the dividend payout ratio, lower would be the return on asset. Moreover, there is a negative relationship between bank size and return on asset. It indicates that higher the bank size, lower would be the return on asset. However, there is a positive relationship between foreign ownership and return on asset. It indicates that the presence of foreign ownership leads to increase in return on asset. Furthermore, there is a negative relationship between government ownership and return on asset. It indicates that increase in government ownership leads to decrease in return on asset. Similarly, there is positive relationship between dividend yield and return on asset. It indicates that increase in dividend yield to increase in return on asset. Similarly, the result also shows that there is a negative relationship between capital adequacy ratio and net interest margin. It indicates that higher the capital adequacy ratio, lower would be the net interest margin. However, there is a negative relationship between credit to deposit ratio and net interest margin. It indicates that increase in credit to deposit ratio leads to decrease in net interest margin. Likewise, there is a negative relationship between dividend payout ratio and net interest margin. It indicates that higher the dividend payout ratio, lower would be the net interest margin. Furthermore, there is a negative relationship between bank size and net interest margin. It indicates that larger the bank size, lower would be the net interest margin. Likewise, there is a negative relationship between foreign ownership and net interest margin. It indicates presence of foreign ownership leads to decrease in net interest margin. Similarly, there is a positive relationship between government ownership and net interest margin. It indicates that presence of government ownership leads to increase in net interest margin. Furthermore, there is a negative relationship between dividend yield and net interest margin. It indicates that higher the dividend yield, lower would be the net interest margin.

Regression Analysis

Table 4: Estimated regression results of capital adequacy ratio, credit to deposit ratio, dividend payout ratio, bank size, foreign ownership, government ownership, and dividend yield with return on asset

Model	Intercept	Regression coefficients							Adj. R_bar^2	SEE	F-value
		CAR	CDR	DPR	BS	FO	GO	DY			
1	1.762 (4.710)**	-0.019 (0.661)							0.004	0.434	0.437
2	2.913 (6.129)**		-0.016 (2.948)**						0.054	0.421	8.690
3	1.557 (32.634)**			-0.001 (1.329)					0.006	0.433	1.765
4	1.653 (19.806)**				-0.001 (1.833)*				0.017	0.429	3.360
5	1.463 (34.218)**					0.198 (2.389)*			0.034	0.425	5.707
6	1.527 (38.106)**						-0.085 (0.773)		0.003	0.433	0.598
7	1.394 (21.511)**							0.033 (2.281)*	0.030	0.426	5.203
8	2.948 (5.340)**	-0.004 (0.128)	-0.016 (2.860)**						0.047	0.422	4.321
9	2.893 (5.210)**	-0.001 (0.031)	-0.016 (2.735)*	-0.001 (1.029)					0.047	0.421	3.202
10	2.863 (5.180)**	-0.001 (0.031)	-0.041 (2.368)*	-0.001 (1.338)	-0.001 (1.564)				0.058	0.421	3.039
11	2.745 (5.034)**	-0.002 (0.063)	-0.013 (2.210)*	-0.001 (1.250)	-0.001 (1.850)*	0.193 (2.362)*			0.090	0.414	3.634
12	3.115 (5.176)**	0.008 (0.277)	-0.018 (2.635)*	-0.002 (1.497)	-0.001 (1.172)	0.144 (1.642)	-0.205 (1.427)		0.097	0.412	3.392
13	3.621 (5.926)**	-0.011 (0.399)	-0.024 (3.450)**	-0.001 (1.388)	5.340 (0.011)	0.110 (1.270)	-0.171 (1.222)	0.048 (2.878)**	0.146	0.401	4.258

Notes: ***Figures in parenthesis are t-values.***

The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively. Return on asset is the dependent variable.

Table 4 shows that the beta coefficients for capital adequacy ratio are positive with return on asset. It indicates that the capital adequacy ratio has a negative impact on return on asset. This finding is contrast to the findings of Oudat and Ali (2020). Likewise, the beta coefficients for credit to deposit ratio are negative with return on asset. It indicates that credit to deposit ratio has a negative impact on return on asset. This finding is consistent with the findings of Sathyamoorthi *et al.* (2020). Similarly, the beta coefficients for dividend payout ratio are negative with return on asset. It indicates that dividend payout ratio has a negative impact on return on asset. This finding is similar to the findings of Adiputra and Hermawan (2020). Similarly, the beta coefficients for bank size are negative with return on asset. It indicates that bank size have negative impact on return on asset. This finding is consistent with the findings of Thi and Phan (2020). However, the beta coefficients for foreign ownership are positive with return on asset. It indicates that foreign ownership has a

positive impact on return on asset. This finding is similar to the findings of Ahmed *et al.* (2020). Despite of it, the beta coefficients for government ownership are negative with return on asset. It indicates that government ownership has a negative impact return on asset. This finding is consistent with the findings of Phan *et al.* (2020). Likewise, the beta coefficients for dividend yield are positive with return on asset. It indicates that dividend yield has a positive impact return on asset. This finding is consistent with the findings of Kajola *et al.* (2015).

Table 5: Estimated regression results of capital adequacy ratio, credit to deposit ratio, dividend payout ratio, bank size, foreign ownership, government ownership, and dividend yield with net interest margin

Model	Intercept	Regression coefficients							Adj. R_bar^2	SEE	F-value
		CAR	CDR	DPR	BS	FO	GO	DY			
1	3.261 (6.746)**	-0.028 (0.770)							0.003	0.561	0.593
2	6.260 (11.126)**		-0.039 (6.006)**						0.207	0.498	36.068
3	2.916 (47.035)**			-0.001 (0.591)					0.005	0.562	0.349
4	3.247 (31.302)**				-0.002 (3.825)**				0.092	0.533	14.634
5	2.933 (52.347)**					-0.157 (1.448)			0.008	0.557	2.096
6	2.814 (57.871)**						0.577 (4.331)**		0.117	0.526	18.758
7	2.958 (34.741)**							-0.018 (0.952)	0.001	0.560	0.906
8	6.172 (9.445)**	0.009 (0.268)	-0.040 (5.928)**						0.202	0.500	17.944
9	6.159 (9.337)**	0.010 (0.295)	-0.039 (5.860)**	-1.307 (0.011)					0.196	0.503	11.790
10	6.087 (9.532)**	0.010 (0.303)	-0.035 (5.278)**	-0.001 (0.665)	-0.002 (3.137)**				0.247	0.487	11.905
11	6.191 (9.735)**	0.011 (0.329)	-0.036 (5.450)**	-0.001 (0.754)	-0.001 (2.940)**	-0.170 (1.787)			0.260	0.483	10.325
12	5.193 (7.676)**	-0.015 (0.482)	-0.021 (2.643)*	0.000 (0.136)	-0.002 (4.138)**	-0.040 (0.401)	0.553 (3.428)**		0.317	0.463	11.285
13	5.218 (7.357)**	-0.016 (0.495)	-0.021 (2.548)*	0.000 (0.129)	-0.002 (3.749)**	-0.041 (0.413)	0.554 (3.413)**	0.002 (0.122)	0.312	0.465	9.600

Notes: Figures in parenthesis are t-values.

The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively. Net interest margin is the dependent variable.

Table 5 shows that the beta coefficients for capital adequacy ratio are negative with net interest margin. It indicates that the capital adequacy ratio has a negative impact on net interest margin. This finding is contrast to the findings of Uddin (2022). Likewise, the beta coefficients for credit to

deposit ratio are negative with net interest margin. It indicates that credit to deposit ratio has a negative impact on net interest margin. This finding is consistent with the findings of Yeasin (2022). Similarly, the beta coefficients for dividend payout ratio are negative with net interest margin. It indicates that dividend payout ratio has a negative impact on net interest margin. This finding is similar to the findings of Musa *et al.* (2020). Futhermore, the beta coefficients for bank size are negative with net interest margin. It indicates that bank size has negative impact on net interest margin. This finding is consistent with the findings of Gazi *et al.* (2022). In addition, the beta coefficients for foreign ownership are negative with net interest margin. It indicates that foreign ownership has a negative impact on net interest margin. This finding is like the findings of Kirimi *et al.* (2022). However, the beta coefficients for government ownership are positive with net interest margin. It indicates that government ownership has a positive impact net interest margin. This finding is inconsistent with the findings of Hassan and Naif (2022). Similarly, the beta coefficients for dividend yield are negative with net interest margin. It indicates that dividend yield has a negative impact on net interest margin. This finding is inconsistent with the findings of Adediran and Alade (2013).

7. Conclusion

Capital adequacy ratio is a ratio that is used to measure the capital adequacy which supports bank owned assets that could have risks such as credits given. Similarly, dividend refers to the ability of the business organization provide profit to the shareholder's year after year. The importance of bank dividend can be assessed at both the micro and macro levels of the economy when it comes to the banking sector. Moreover, Ownership structure is recognized as having the most significant impact on CG systems as well as firm performance. There is an increased recognition on the importance of foreign ownership in emerging markets to improve financial performance. This study attempts to analyze the impact on capital adequacy ratio, credit to deposit ratio. Dividend policy and ownership structure on the profitability of Nepalese commercial banks. The study is based on secondary data of 15 commercial banks with 135 observations for the period from 2015/16 to 2023/24. The study showed that the capital adequacy ratio, credit to deposit ratio, dividend payout ratio, bank size and government ownership are negative factors that affect return on asset of commercial banks in Nepal. However, foreign ownership and dividend yield are positive factors that affect return on asset of commercial banks in Nepal. Further, the study also showed that the capital adequacy ratio, credit to deposit ratio, dividend payout ratio, bank size, foreign ownership, and dividend yield are negative factors that affect net interest margin of commercial banks in Nepal. Furthermore, government ownership is positive factors that affect net interest margin. However, Finally, the study concluded that credit to deposit ratio followed by bank size, foreign ownership and dividend yields are 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 profitability in terms of net interest margin are followed by credit to deposit ratio followed by bank size and government ownership in the context of Nepalese commercial banks.

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