Exploring the Impact of Bank-Specific Internal Factors on the Profitability: A Study of Banking Sector of Nepal

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Abstract

The aim of this study is to investigate the impact of bank-specific internal factors on the profitability of the banks. The study, which employed an explanatory research technique, used secondary data from major sample merger commercial banks' annual reports for fiscal years 2014 to 2022. The population consists of 20 scheduled banks, with a sample of five merged banks selected purposefully. Bank size, liquidity ratio, dividend payout ratio, capital adequacy ratio and non-performing loans ratio are the five independent variables that the study uses to analyze the association between Return on asset, the dependent variable. The study used descriptive statistics, multiple regression models, and MS Excel for data analysis. The findings indicate that both BS and NPLR have a noteworthy detrimental impact on ROA, whereas LR has a considerable beneficial effect. However, the results revealed no statistical significance for CAR and DPR. The study concludes that among the internal factors analyzed, LR is the most influential factor on bank profitability. These findings provide valuable insights for regulators, bank management, and other stakeholders, highlighting areas for potential performance improvement. The inclusion of macroeconomic aspects with the potential to impact the profitability of Nepalese banks should be further examined.

Keywords: *specific internal factor, commercial banks, profitability, macroeconomic factors*

1. Introduction

The banking industry is widely recognised as the central component of the financial system, playing a crucial role in attracting deposits, providing credit to borrowers, offering various services to clients, and fostering economic growth. Financial performance is an evaluation carried out to assess the degree to which a company has effectively and accurately implemented financial practices in accordance with established regulations. Thus, banks have a crucial role in the economic growth of nations as they have significant control over the flow of money in circulation and are the primary drivers of economic progress. (Memmel & Raupach, 2010). Thus it is regarded as the fundamental pillar of a country's economy. It serves as the vital force driving global trade and e-commerce, since banks play a crucial role in providing financial resources for economic transactions. The increasing globalisation and its impact on the development and distribution of products and services globally, while also adapting to local markets, has made it imperative for multinational banks and the local banking system of developing countries like Nepal to

have an efficient banking system.

In order to grow and expand sustainably, financial institutions must turn a profit. Numerous internal (bank-specific) and external (macroeconomic) factors impact banks' profitability. Most studies divide the variables that affect commercial banks' bottom lines into two categories: those that are internal, or endogenous, and those that are external, or exogenous (Khrawish, 2011). A number of factors are considered internal variables, including capital adequacy, loans, deposits, foreign ownership, administrative costs, and off-balance sheet operations. Al-Harbi (2019) argues that variables such as GDP growth, GDP per capita, real interest rate, regulations, and financial structure are examples of external influences. The effect of bank-specific variables on the financial outcomes of five commercial banks that have recently amalgamated is examined in this study. Considerations unique to banks were included in the research, which included firm size, capital adequacy ratio, liquidity, non-performing loan ratio, and dividend payout ratio. Return on assets was used to assess the performance of banks in Nepal.

2. Literature Review

Al-Matari (2023) examined the variables that affect the profitability of banks in the GCC countries. The researchers conducted a survey of 68 financial institutions in the six GCC nations for this study. Ordinary least squares (OLS) analysis revealed a negative correlation between profitability and bank size. The profitability of GCC banks was also demonstrated to be unaffected by other bank-specific criteria, such as liquidity, asset quality, and capital level. Batten and Vo (2019) used a variety of econometric panel data methods on a sample that spanned 2006–2014 to investigate whether variables impact bank profitability in Vietnam. Operating expenditures, capital, and the size of the bank all have a significant role in determining the bank's profitability, they found. To determine the effects of macroeconomic forces and bank-specific variables on Saudi Arabian regional banks, Shamim et al. (2018) conducted a study. The findings show that operational efficiency, bank size, liquidity, and credit risk were the most important internal determinants influencing bank profitability. Menicucci and Paolucci (2016), examined 35 of Europe's most prominent banks to see which variables were associated with profitability. All of the model's factors had a substantial effect on banks' bottom lines, according to the results. The capital ratio and bank size were shown to be significantly and positively associated with profitability, nevertheless. Similarly, Rahman et al. (2015) looked at what made a difference to the profitability of Bangladeshi banks. The results indicated that the return on assets was positively and significantly affected by the size of the bank.

The capacity of a bank to withstand unforeseen financial difficulties is referred to as "capital adequacy" (Kosmidou, 2008). Strict rules govern the capital structures of banks. This is because capital plays a crucial role in reducing the likelihood of bank collapses and the harm that depositors endure when such a catastrophe occurs. This is due to the fact that heavily indebted businesses are prone to taking unnecessary risks in pursuit of higher shareholder profits, which in turn hurt their lenders (Kamau, 2009). on their analysis of listed banks on the Indonesian stock exchange from 2008 to 2012, Lukas and Basuki

(2015) concluded that the capital adequacy ratio had no meaningful relationship with the performance of these institutions. Return on assets and return on equity, two measures of a bank's performance, are positively correlated with the capital adequacy ratio, according to research by Kanojia and Priya (2016), which covers the years 2008-09 to 2011-12 and involves 40 banks. From 2002–2010, Ouma (2012) used regression analysis to examine the relationship between the dividend payout ratio and the success of listed corporations in the Nairobi stock market. The researchers found a strong positive correlation, suggesting the significance of dividend policy. Fifteen banks traded on the Nigerian Stock Exchange from 2009 to 2014 were studied by Idewele and Murad (2019) to determine the impact of dividend payment ratio on return on equity. The researchers found a favourable and statistically significant correlation between the two factors. Research on deposit money banks in Nigeria found, by the use of multiple regressions and correlation analysis, that dividend payout ratio was negatively correlated with performance (Yusuf, 2015). The correlation between ROA, nonperforming loan ratio, and liquidity ratio is negative and statistically significant.

Lee and Iqbal (2018), studied that economic actions of a bank affect the economy of a country. Banking profitability affects a nation's health. The authors examined bank-specific and macroeconomic factors affecting bank activity. Data was obtained from 23 banks from 2009 to 2016. ROA and ROE were positively affected by interest margin, capital adequacy ratio, and loan to deposit ratio. Ullah, Nath, & Biswas (2020) examined how bank-specific internal variables affected five Bangladeshi state-owned commercial banks' profitability. The results found the negative correlation between ROA and NPLR. A negative association was established between return on asset (ROA) and investment deposit ratio (IDR), whereas bank size and ROA were positive. A statistically negligible link exists between debt to equity and equity to asset ratios and return on asset. The study found that among these five banks, non-performing loans, bank size, and liquidity are the most critical determinants affecting profitability. Alshatti (2016) aims to uncover the key factors that determine the profitability of banks in Jordan. The author utilizes a panel data set consisting of thirteen banks from the years 2005 to 2014.The study employed return on equity and return on assets as indicators of profitability. It discovered that capital adequacy, capital, and leverage positively influence profitability, whereas asset quality had a negative impact on profitability. Ekinci and Poyraz (2019) analyzed the data from 26 Turkish banks between 2005 and 2017 to analyze how credit risk affects bank efficiency. According to the findings, Non-Performing Loans (NPLs) have a negative relationship with Return on Assets. The findings showed that non-performing loans, the loan-to-deposit ratio, and loan loss reserves are the main bank-specific variables that substantially affect bank efficiency. Banks with greater loan-to-deposit ratios are more likely to be successful. Negative effects on efficiency are associated with both risk and the amount of non-performing loans a bank has active (Nguyen et.al., 2020).

According to Pradhan (2016), who examined 22 Nepalese commercial banks between 2005/06 and 2011/12, macroeconomic indicators like GDP and inflation didn't matter. Therefore, it cannot be concluded that external influences have an effect on the performance of banks. On the other hand, bank performance is greatly impacted by characteristics that are unique to each bank. ROA is considerably affected by bank size, liquidity, and management, but capital sufficiency is unaffected, according to Lunga (2014), who studied twelve banks in Malawi between 2009 and 2012. Similarly, earning yield is highly affected by bank size, capital sufficiency, and management effectiveness, although liquidity has a little role. Between 2010 and 2015, Yakubu (2016) used the ordinary least square approach to study five different commercial banks in Ghana. Size, liquidity, and expenditure management are three of the author's listed bank-specific characteristics that have a major impact on bank profitability.

On the other hand, academics have paid less attention to how commercial banks in Nepal's profitability is affected by internal characteristics that are specific to each bank. Thus, this study aims to provide information on the performance of internal factors (bank size, capital adequacy ratio, liquidity ratio, non-performing loan ratio and dividend payout ratio) influencing the profitability of merged commercial banks in Nepal. The study solely uses return on assets as a metric for evaluating a bank's profitability.

3. Methodology

Population and Sample Size

In the fiscal years of 2022 and 2023, Nepal will have twenty scheduled banks, as reported by the Nepal Rastra Bank, also known as the Central Bank of Nepal. These twenty financial institutions make up the study's population. The research covered a 9-year period (2014–2022) and included five merging commercial banks as a subset of this larger population. The five merging commercial banks that made up the study's sample are listed below.

S.No.	Name of the Banks
1	NIC Asia Bank Limited
2	Prabhu Bank Limited
3	Kumari Bank Limited
4	Himalayan Bank Limited
5	Prime Bank Limited

Nature and Sources of Data

This study employed secondary data exclusively and used an explanatory research design. The major source of information is audited financial statements, which are yearly reports issued by banks. The study's literature evaluation was based on an examination of pertinent papers.

Dependent and Independent Variables

Table 1: Definition and Measurement of Variables

No.	Types	Name of variables	Measurement
1	Independent variables (Internal factors)	Bank size (BS)	Natural logarithm of assets
		Capital adequacy ratio (CAR)	(Tier 1 capital + Tier 2 capital) / Risk weighted Assets
		Non-performing loans ratio	NPLs / Total Loans
		Liquidity ratio	Investment/Deposits
		Dividend payout ratio (DPR)	Dividend/Net Income
2	Dependent variable (Profitability)	Return on assets (ROA)	Net income / Assets

Model and Tools Applied

Multiple regression models, Microsoft Excel, and descriptive statistics were used in the analysis of the data presented in this study.

Model Specification

$$Y = \beta_0 + \beta_1 BS + \beta_2 CAR + \beta_3 NPLR + \beta_4 LR + \beta_5 DPR +$$

Where,

Y = Banks profitability measured by ROA,

BS = Bank size

CAR = Capital adequacy ratio

NPLR = Non- performing loan

LR = Liquidity ratio

DPR = Dividend payout ratio

β0 = Model constant

β1, β2, β3, β4, and β5 = Coefficients of five independent variables

= *Error term*

Research Period

The investigation has been carried out over the course of nine years in a row, beginning with the fiscal year 2014 and continuing until the fiscal year 2022.

Research Hypothesis

The investigation is based on five hypotheses. If the estimated coefficient is statistically significant and has the same sign as our expectation, then we may say that the hypothesis deserves to be accepted. In the event if the predicted coefficient is just slightly less than the expected value, but the sign is as anticipated, it will be somewhat reasonable. Unless this condition is met, the hypothesis will be rejected. Specifically, Hassan and Ahmed (2019).

H_1: Bank size has a significant positive impact on the banks' profitability.

H_2: Capital adequacy ratio has a significant positive impact on the banks' profitability.

$H_{3:}$ Non-performing loans has a significant negative impact on the banks' profitability.

H_4: Liquidity ratio has a significant negative impact on the banks' profitability.

H_5: Dividend payout ratio has a significant positive impact on the banks' profitability.

4. Results and Discussion

In Table 2, descriptive statistics of six variables: dividend payout ratio, bank size, non-performing loan ratio, liquidity ratio, capital adequacy ratio, and return on assets. Mean bank size is 25.4529, reflecting a 25.45 average. Low variability is shown by 0.74044 standard deviation. Skewness of -0.135 and kurtosis of -0.714 imply a minor left skew and lighter tails than a normal distribution. CAR's mean is 12.5524 and standard deviation is 1.22203, showing substantial variability. Skewness of -0.460 suggests a moderate left skew, while kurtosis of 1.041 implies a near-normal distribution with larger tails. NPLR is very variable with a mean of 2.3831 and a standard deviation of 3.75499. The right skewness of 4.864 and the hefty tails of 27.294 imply outliers. The mean of LR is 15.9398, with a large standard deviation of 9.63557. Skewness of 0.355 and kurtosis of -1.203 show a minor right skew and lighter tails than average. LR is very variable with a mean of 4.0299 and a standard deviation of 6.59052. A substantial right skewness of 2.395 and hefty tails (kurtosis of 6.593) imply outliers. ROA has a mean of 1.3836 and a modest SD of 0.59360. This data has a substantial left skewness of -2.349 and a very heavy tails of 10.743, indicating outliers. This descriptive approach explains varied central tendency, dispersion, and distribution shape.

Table 2: Descriptive statistics (N = 45)

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
BS	23.78	26.66	25.4529	0.74044	-0.135	-0.714
CAR	8.68	14.89	12.5524	1.22203	-0.460	1.041
NPLR	0.06	24.29	2.3831	3.75499	4.864	27.294
LR	3.67	37.52	15.9398	9.63557	0.355	-1.203
DPR	0.00	31.60	4.0299	6.59052	2.395	6.593
ROA	-1.44	2.21	1.3836	0.59360	-2.349	10.743

Table 3 summarizes the results of the regression analysis, showing how well the model described the variation in the dependent variable. A little over 60% of the variation in ROA can be explained by the independent variables in the model, as indicated by the R-squared value of 0.601. The modified R-squared value, 0.274, is somewhat lower than the original value, reflecting the complexity of the model and the necessity for a more conservative estimate of the explained variance. According to the Durbin-Watson statistic, which is rather close to the ideal value of 2, there does not seem to be a significant amount of autocorrelation in the regression model's residuals.

Tale 3: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.775[a]	0.601	0.550	0.39822	1.421

In Table 4, the results of the ANOVA are shown. There is a statistically significant difference at the 0.01 level, as shown by the significance level (Sig.) being given as 0.000. A further piece of evidence demonstrating that the predictor variables have a significant combined influence on the dependent variable is provided by this finding.

Table 4: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.319	5	1.864	11.753	.000[b]
Residual	6.185	39	0.159		
Total	15.504	44			

Dependent variable: ROA

Table 5 displays the results of a regression study that found many relevant factors that predicted ROA. The constant term has a coefficient of 11.167 with a standard error of 2.482, and it is statistically significant (t = 4.499, p = 0.000). Bank Size has a negative coefficient of -0.338 and a significant impact (t = -3.927, p = 0.000) with a coefficient (Beta) of -0.422, indicating a strong negative relationship, which is similar to findings of Al-Matari (2021), which states that bank size had a negative impact on profitability.

The Capital Adequacy Ratio has a coefficient of -0.091 and is not statistically significant (t = -1.384, p = 0.174), which is consistent with Lukas and Basuki (2015), say that capital adequacy ratio did not affect Indonesian stock exchange-listed banks' performance between 2008 and 2012.The Non-Performing Loan Ratio shows a significant negative effect with a coefficient of -0.118 (t = -5.533, p = 0.000) and a Beta of -0.749, indicating a very strong negative influence. This aligns with the findings of Nguyen et al. (2020), which indicate that both risk and the volume of non-performing loans negatively impact bank efficiency. Liquidity Ratio has a positive coefficient of 0.020 and is significant (t = 2.568, p = 0.014) with a Beta of 0.318, suggesting a positive relationship. This aligns with the findings of

Yakubu (2016) which indicate bank-specific factors (bank size, liquidity, and expense management) significantly affect banks' profitability. Lastly, the Dividend Payout Ratio has a negative coefficient of -0.016 and is not significant (t = -1.452, p = 0.154). This is found to be inconsistent with the findings of Idewele and Murad (2019) which revealed positive significant relationship between dividend payout ratio and financial performance of banks. Overall, BS and NPLR have significant negative effects, while LR has a significant positive effect on the dependent variable.

Table 5: Coefficient

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	11.167	2.482		4.499	0.000
BS	-0.338	0.086	-0.422	-3.927	0.000
CAR	-0.091	0.066	-0.188	-1.384	0.174
NPLR	-0.118	0.021	-0.749	-5.533	0.000
LR	0.020	0.008	0.318	2.568	0.014
DPR	-0.016	0.011	-0.179	-1.452	0.154

Table 6: Acceptance or rejection of hypotheses based on multiple regression models

Hypothesis	Determinants	Statistical significance	Expected effects	Estimated effects	Results
H1	BS	Significant	Positive	Negative	Rejected
H2	CAR	Insignificant	Positive	Negative	Rejected
H3	NPLR	Significant	Negative	Negative	Accepted
H4	LR	Significant	Negative	Positive	Rejected
H5	DPR	Insignificant	Positive	Negative	Rejected

Table 7 displays the VIF test. The purpose of this analysis is to measure the extent to which the predictor variables (internal characteristics particular to banks) in the research exhibit multicollinearity. The threshold value for the VIF and tolerance statistics is 10.0, while the threshold value for tolerance statistics is 0.10 (Suganya & Kengatharan, 2018). The Tolerance level for Bank Size (BS) is 0.888 with a corresponding VIF of 1.127, suggesting very low multicollinearity. The CAR has a Tolerance level of 0.553 and a VIF of 1.808, indicating moderate multicollinearity, but still within acceptable limits. The NPLR shows a Tolerance level of 0.558 and a VIF of 1.791, which also points to moderate multicollinearity. The LR has a Tolerance level of 0.666 and a VIF of 1.501, indicating low multicollinearity. Lastly, the DPR has a Tolerance level of 0.675 and a VIF of 1.482,

reflecting low multicollinearity. Overall, the VIF values for all variables are well below the threshold of 3, confirming that multicollinearity is not a significant issue in this dataset.

Table 7: Variance Inflation Factor and Tolerance Level

Variables	Tolerance level (1/VIF)	VIF
BS	0.888	1.127
CAR	0.553	1.808
NPLR	0.558	1.791
LR	0.666	1.501
DPR	0.675	1.482

5. Conclusion

The study aims to determine the impact of internal bank-specific factors on the performance of five merged commercial banks in Nepal. This research examined five Nepalese commercial banks' performance from 2014 to 2022. The analysis looks at five internal criteria particular to banks: bank size, capital adequacy ratio, liquidity ratio, non-performing loan ratio, and dividend payout ratio. The research used multiple regression model analysis to investigate the influence of profitability and those possible internal elements that are unique to banks. The findings indicate that BS and ROA, as well as NPLR and ROA, have a substantial and unfavorable association. LR and ROA, on the other hand, have a strong positive correlation. Nonetheless, the link between ROA, CAR, and DPR is statistically negligible. The liquidity ratio (LR), therefore, is considered the most significant factor influencing bank profitability out of the five internal variables unique to each bank. Any macroeconomic variables that may affect commercial banks' profitability were not included in the study. Consequently, more study on Nepal's commercial banks is required. However, the author believes that this study will enhance performance by providing regulators, managers, depositors, and others with valuable knowledge into the profitability of integrated commercial banks.

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