

# **Impact of Macroeconomic and Bank-Specific Variables on the Profitability of Commercial Banks in Nepal**

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## **Abstract**

*The study aims to investigate how macroeconomic and bank-specific factors affect Nepalese commercial banks' profitability. The panel data were collected from 16 Nepalese commercial banks for the fiscal year 2006/07 to 2020/21. The bank's profitability is measured by net interest margin (NIM) and return on assets (ROA). The bank-specific variables considered in this study are bank size, capitalization, credit risk, deposit-to-total-assets ratio, capital adequacy ratio, and credit-to-deposit ratio. In addition, interest rate, broad money supply, inflation rate, and growth rate of the GDP are used as macroeconomic independent variables. The results of random effect model showed that the most significant bank-specific factor influencing Nepalese commercial banks' profitability is bank size. Furthermore, the results reveal that the bank-specific factors namely bank size, credit risk, deposit-to-total assets, capital adequacy ratio, and credit-to-deposit ratio significantly increase net interest margin (NIM). Regarding the macroeconomic factors, the findings have explored that interest rates, inflation, economic growth, and the size of the money supply all significantly affect NIM. However when it comes to ROA, the data demonstrate that, aside from interest rate, all macroeconomic factors significantly affect the bank's profitability as determined by ROA.*

**Keywords:** Bank Specific Variables, Macroeconomic Variables, Net Interest Margin, Profitability, Return on Assets.

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## **I. Introduction**

Any nation's economic growth is significantly influenced by the banking industry. Nepal's banking sector makes a significant contribution to the country's economic growth. Every economy depends heavily on banks for its growth (Paolucci & Menicucci, 2016). The banking industry also plays a significant role in financial intermediation and economic acceleration by converting deposits into profitable investments. In this sense, banks play a significant role as money providers, and the financial system depends on their stability. Consequently, improved profitability, a greater amount of money moving from savers to borrowers, and higher-caliber services for clients are all signs of an efficient financial system. Research on bank profitability is essential for problem-solving and mitigating financial hazards. Since its initial study, bank profitability has emerged as one of the most studied topics in banking literature. Commercial banks play an important role for the development of commerce and industry as well as the country's economy. The ratio of an organization's profit to its costs is called its profitability. In comparison to a less efficient business, which needs to spend more to make the same profit, a more efficient organization will realize a higher profit as a percentage of its expenses. Banks profitability is necessary to maintain their soundness and provide them with the capacity to cope with an unpredictable economic environment. The net result of various policies and decisions is profitability. The ratios that have been studied thus far provide helpful indicators of how well a firm is operating, but the profitability ratios also demonstrate the combined effects of debt,

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asset management, and liquidity on operating results (Brigham & Ehrhardt, 2008). According to a 2019 report by Nepal Rastra Bank, commercial banks accounted for 68.3 percent of the total financial system, with development banks occupying the 8.7 percent, microfinance companies' 5.1 percent, finance companies 2.1 percent, and other institutions holding the remaining funds. This demonstrates how commercial banks' current structures have evolved in response to the nation's financial needs. Given this backdrop, it is vital to ascertain the true nature of banking profitability and the factors influencing it in Nepali commercial banks. Thus, this study is an attempt to look at factors that influence the profitability of commercial banks.

Realizing profits is the primary goal of a bank's management, as it is a necessary precondition for conducting any kind of operations. Academic study on the banking industry in Nepal has been scarce, despite the financial deregulation program that the government and NRB of Nepal enacted to increase bank capital, facilitate mergers and acquisitions, and create an efficient financial system. A bank's ability to maintain continued operations and provide investors with strong returns depends heavily on its profitability. Some studies examining the factors influencing bank profitability have been summarized in the literature reviewed below, however, research on Nepalese commercial banks has only looked at factors influencing bank performance for instance.

Pradhan (2016) used secondary data from 22 banks with 154 observations for the very short period of 2005–06 to 2011–12 to study the macroeconomic and bank-specific factors of bank profitability. Only GDP and inflation were considered as macroeconomic variables.

In addition Bhattarai (2018) investigated how macroeconomic and bank-specific factors affected Nepal's commercial banks' performance between 2011 and 2016. The author employed a remarkably little time frame and employed a restricted set of independent variables peculiar to banks, including default risk, cost per loan asset, and capital adequacy ratio. Ranabhat (2019) used only 60 observations and bank-specific factors as independent variables to analyze the financial performance of joint venture banks. Bank profitability is also studied by Budhathoki and Rai (2020), albeit their study only includes 96 observations. Gautam and Gautam (2021) focus only top five commercial banks to examine the impact of macroeconomic indices on the financial performance of Nepali commercial banks. Gurung and Gurung (2022) analyzed 156 data to determine the determinants, external macroeconomic variables, and bank-related factors that affect the profitability of commercial banks in Nepal. Few academics in Nepal use NIM as a dependent variable and the wide money supply as an independent variable in their research papers; instead, most researchers use ROA and ROE as dependent variables. NIM is a metric that contrasts the net interest income that a financial institution receives from credit products such as mortgages and loans with the interest that it pays to service holders. NIM is a profitability metric that may be expressed as a percentage and is used to estimate the probability of a bank or investment firm being profitable in the long run (Andrew, 2022).

Previous research on factors influencing bank profitability in Nepal has predominantly focused on short observation periods and small sample sizes, leading to variations in findings across studies. As demonstrated by reviews, These studies, while informative, often fail to capture the long-term dynamics and trends within the banking sector. In contrast, this study adopts a broader temporal scope, encompassing longer periods of analysis to mitigate the effects of fluctuating volatility over time.

Furthermore, existing literature has primarily emphasized internal variables in assessing bank profitability, overlooking the potential impact of macroeconomic factors. Despite the crucial role of the macroeconomic climate in shaping banking performance, there remains a paucity of research in this area. This study seeks to address this gap by incorporating

key macroeconomic indicators, such as net interest margin and the broad money supply, as independent variables in assessing the profitability of commercial banks.

## II. Theoretical Framework

Market power theory was replaced by efficiency theory by Demsetz (1973). Efficiency theory states that more concentration and, eventually, larger and higher profitability result from better management and scale efficiency. According to the theory, this results in more earnings and a bigger market share for managers. The efficient structure hypothesis encompasses two distinct methodologies, namely the X-efficiency and Scale-efficiency hypotheses. According to the X-efficiency technique, more successful companies are more efficient, which lowers their expenses. The scale method prioritizes economies of scale over management and differences in production technology. Large companies may be able to increase their market share as a result, which may increase their profitability and concentration. A whole new paradigm about the effects of structure on bank profitability has arisen with the application of the theories of market power and efficient structure. Increased market power leads to monopolistic profits, claims the market-power theory, also referred to as the structure-conduct-performance hypothesis. A particular instance of the market-power hypothesis, the relative-market-power hypothesis maintains that companies with substantial market shares and unique products are the only ones able to utilize their market power to create noncompetitive profits. In a similar vein, the X-efficiency form of the efficient structure hypothesis argues that increased scale efficiency and stronger management encourage greater concentration and, hence, higher profitability. Research on the profit-structure relationship in banking, including studies by Smirlock (1985) and Berger (1995), tested the two aforementioned ideas. Data demonstrating that enhanced management and expanding market share (especially for small- to medium-sized banks) boost earnings lend support to the relative theory.

According to Edirisuriya et al. (2015), the Australian banking industry's post-deregulation diversification policies have hurt its financial performance. Improved solvency, less profit volatility, and increased accounting profitability (as measured by ROA and ROE) have all held up well to bank diversification in Australia.

Khan et al. (2015) investigated the relationship between macroeconomic and bank-specific factors and bank profitability in Pakistan. For additional empirical analysis and interpretations, the Hausman test for fixed vs. random effects estimations, the Breusch and Pagan Lagrangian Multiplier test for random effects estimations, and the Pooled OLS (POLS)/random effect are utilized. The statistical results of this study showed that the ROA of Pakistan's banking industry is highly impacted by GDP, EPS, size, and capital ratio. Other factors that affect bank profitability, such as inflation, interest rates, and spread ratio, are negligible.

Kawshala and Panditharathna (2017) investigate how bank-specific characteristics affect the profitability of local commercial banks in Sri Lanka. Regression study results indicate a substantial positive relationship between bank profitability and deposit ratio, size, and capital ratio. An insignificant deciding factor is liquidity.

A comparative study of the GDP and inflation as external and internal drivers of bank performance in the Middle East and North Africa (MENA) region was carried out by Talbi and Bougatef (2018). The empirical findings demonstrate that the MENA region's GDP growth and net interest margin are significantly influenced by three bank-specific factors: capitalization, liquidity, and other earning assets.

According to Almaqtari et al. (2019), among bank-specific characteristics, ROE is significantly positively impacted by bank size, assets management ratio, assets quality ratio, and liquidity ratio. Results regarding macroeconomic issues indicated that demonization, the rate of inflation, the rate of exchange, and the rate of interest all had a substantial impact on ROA. Likewise, Jie and Ahmed (2019) examined the factors influencing the Economic Value Added (EVA) performance evaluation model for the Chinese banking sector are investigated by Jie and Ahmed (2019). The empirical results demonstrate that while credit risk, operational effectiveness, and level of innovation positively correlate with banks' EVA, capital management negatively impacts it.

Al-Matari (2021) investigated the factors influencing bank profitability in the GCC. The performance of GCC banks is heavily influenced by the bank's size and asset management. Furthermore, the relationship between capital adequacy, asset quality, and the performance of GCC banks is moderated by bank liquidity. Likewise, Chukwuogor et al. (2021) result showed that the profitability of US banks is significantly influenced by bank-specific characteristics such as net interest margin, loan loss reserves, and non-performing loans. Furthermore, the results show that the profitability of US banks is significantly impacted by macroeconomic parameters including the average mortgage rate, economic growth, and unemployment rate.

The impact of macroeconomic, industry-specific, and bank-specific factors on the profitability of domestic UK commercial banks is examined by Michael (2022). When other variables are considered, interest rates especially longer-term interest rates and the rate of inflation have a considerable impact on bank profitability, but the economic cycle has a symmetrical and negligible effect. The UK banking industry's modest profitability persistence indicates that the market is not entirely competitive.

Pradhan (2016) conducted a study on the macroeconomic and bank-specific factors that influence bank profitability. The study used a pooled cross-sectional analysis of secondary data from 22 banks, totaling 154 observations, spanning the years 2005–06. The author concludes that the main variables affecting the profitability of Nepalese commercial banks are credit to total deposit ratio and liquidity.

Bhattarai (2018) result showed that banks' profitability is significantly impacted by cost per loan assets. The lack of statistical significance in macroeconomic variables suggests that external influences do not affect bank performance.

According to Ranabhat (2019), interest rate spread significantly improves banks' ROA and ROE. Similar to this, banks' ROE is significantly impacted negatively by lending ratios and liquidity, and their ROA is significantly impacted negatively by asset size.

According to Shrestha (2020), operational effectiveness, asset quality, and managerial effectiveness significantly improve the financial performance of Nepalese commercial banks but credit risk has a negative effect.

Except for the unemployment rate, Gautam and Gautam (2021) discovered that macroeconomic factors significantly affected the estimation of the ROE of commercial banks in Nepal but not the ROA. When it comes to predicting the financial success of Nepal's commercial banks, GDP is the most important element.

Return on equity and return on assets are positively impacted by business size, premium growth, and asset tangibility, as demonstrated by Sah and Magar (2021). Additionally, return on assets is positively impacted by business age. It also has a favorable effect on return on

equity and return on assets. The liquidity ratio, however, harms return on equity and return on assets.

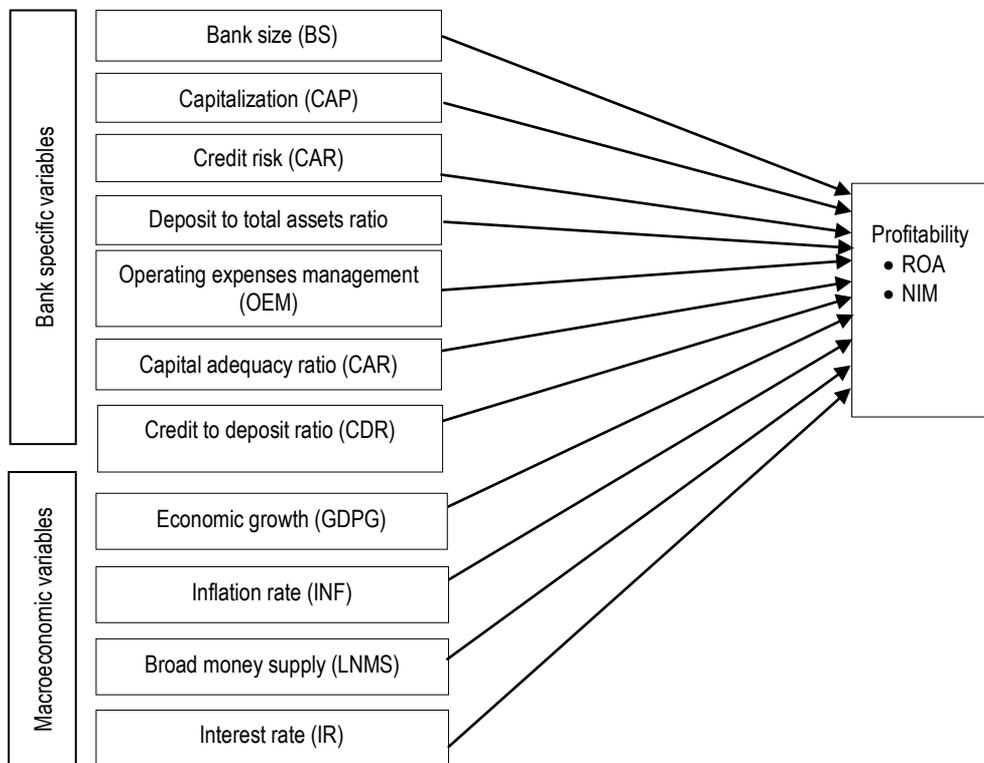
Gurung and Gurung (2022) discovered that the credit deposit ratio, also referred to as the loan-to-deposit ratio, considerably raises the ROA and NIM of commercial banks. Earnings are significantly impacted by GDP growth, a gauge of a nation’s economic health. Non-performing assets have a moderate effect on ROE but a large detrimental effect on ROA.

**Conceptual Framework**

Variety of factors influences a bank’s profitability, both individually and collectively. The relationship between bank-specific characteristics, macroeconomic indicators and bank profitability is presented in the figure1.

**Figure 1**

*Conceptual framework*



**Definition of Variables**

**Dependent variables**

ROA and NIM are used to measure financial institutions’ profitability. ROA measures how well a bank’s management uses its assets to create profits. ROA is defined as the ratio of net profit to total assets. NIM is calculated by dividing net interest income (interest income minus

interest expense by total assets.

**Independent variables**

Bank size (LNBSIZE): Size is calculated using the natural logarithm of total assets and has been used as an independent variable in numerous research. The size of the bank demonstrates economies and diseconomies of scale. Previous research has frequently employed an asset size proxy. Capitalization (CAP) refers to the ratio of equity capital to total assets. Credit Risk (CR): Non-performing loans reflect banks’ credit risk. It is one of the most important credit risk variables influencing how successfully banks operate since it results in a loss of profits when borrowers fail to pay loans within the stipulated contractual time frame. The deposits-to-total-assets (DTA) ratio indicates how funding sources affect bank profitability. Operating Expense Management (OEM) The ratio of total operating expenses to total assets is used to track variations in bank costs. It is envisaged that lower operational expenses will lead to increased profitability. The capital adequacy ratio (CAR) is defined as the ratio of total capital (core capital and supplementary capital) to risk-weighted assets of the bank. The credit-to-deposit ratio (CDR) is the ratio of total credit to total deposits. It displays the number of deposits made as loans and advances. Economic growth (GDPG) is the annual growth rate of real GDP. The inflation rate (INF) is determined using the annual change in the consumer price index. The wide money supply (LNMS) refers to the overall value of monetary assets available in an economy at any time. The central bank’s policy controls the money supply, which influences bank behavior and profitability. The interest rate (IR) is the fee charged by the lender to the borrower as a proportion of the amount borrowed. The interest rate in this study is computed using the weighted average 364-day Treasury bill rate.

**III. Research Methodology**

Study follows causal comparative research design. This study examines a panel dataset of 16 commercial banks from 2006/07 to 2020/2021. For the analysis, 240 observations from 16 commercial banks with 15 fiscal years’ financial reports available on the website are used as samples. Thus, this judgmental sampling strategy is utilized to choose samples from populations. The study relies on quantitative data. The relevant data were gathered from the Nepal Rastra Bank (NRB) website and commercial bank annual reports.

The acquired data were statistically examined using E-views software. We conducted Pearson correlation coefficient and multiple regression analysis.

The two models developed in equation (1) and (2) estimate.

The effect of bank specific and micro economic variables on banks profitability.

$$ROA_{it} = \beta_0 + \beta_1 LNBS_{it} + \beta_2 CAP_{it} + \beta_3 CR_{it} + \beta_4 DTA_{it} + \beta_5 OEM_{it} + \beta_6 CAR_{it} + \beta_7 CDR_{it} + \beta_8 GDPG_{it} + \beta_9 INF_{it} + \beta_{10} LNMS_{it} + \beta_{11} IR_{it} + \epsilon_{it} \dots\dots\dots (1)$$

$$NIM_{it} = \beta_0 + \beta_1 LNBS_{it} + \beta_2 CAP_{it} + \beta_3 CR_{it} + \beta_4 DTA_{it} + \beta_5 OEM_{it} + \beta_6 CAR_{it} + \beta_7 CDR_{it} + \beta_8 GDPG_{it} + \beta_9 INF_{it} + \beta_{10} LNMS_{it} + \beta_{11} IR_{it} + \epsilon_{it} \dots\dots\dots (2)$$

## IV. Results and Conclusion

### Results

#### Test of Correlation Coefficient

The study comprises thirteen variables, including two dependent and eleven independent variables. The correlation coefficients are presented in a table.

**Table1**

*Correlation coefficient matrix*

Var.	ROA	NIM	LNBS	CAP	CR	DTA	OEM	CAR	CDR	GDPG	INF	LNMS	IR
ROA	1	-	-	-	-	-	-	-	-	-	-	-	-
NIM	0.6447	1	-	-	-	-	-	-	-	-	-	-	-
LNBS	0.2628	1	-	-	-	-	-	-	-	-	-	-	-
CAP	-0.1461	-0.0642	-0.0195	1	-	-	-	-	-	-	-	-	-
CR	0.1152	0.1231	-0.0558	-0.5376	1	-	-	-	-	-	-	-	-
DTA	0.1964	0.3437	0.0397	-0.2902	0.3635	1	-	-	-	-	-	-	-
OEM	0.0813	0.1937	0.1285	-0.1123	0.0176	0.1802	1	-	-	-	-	-	-
CAR	-0.2185	-0.1392	-0.0766	0.7084	-0.7665	-0.5187	-0.1620	1	-	-	-	-	-
CDR	-0.3627	-0.2754	-0.0861	0.3487	-0.3047	-0.5873	-0.1612	-0.4347	1	-	-	-	-
GDPG	0.1073	0.0581	-0.0621	0.0258	-0.0004	-0.0371	-0.0137	-0.0217	0.0423	1	-	-	-
INF	0.0979	0.1654	0.2666	0.0123	-0.1453	-0.1215	-0.0554	0.1233	-0.1904	-0.5274	1	-	-
LNMS	0.0607	0.0851	0.8604	0.1970	-0.2149	-0.1428	-0.0353	0.1265	0.1788	-0.0769	0.3240	1	-
IR	-0.0210	0.0688	-0.3280	-0.0764	0.0323	-0.0635	0.1958	-0.1537	0.0978	0.0440	-0.3467	-0.4131	1

*Note.*\*\* represents significant level at 1% and \*represent significant at 5%

Table 1 shows a correlation matrix and multicollinearity diagnostics for profitability metrics, as well as bank-specific and macroeconomic data. In terms of bank-specific variables, the findings show that LNBS, CR, DTA, and OEM all have a positive relationship with ROA and NIM, whilst CAP, CAR, and CDR have a negative relationship with both. In terms of macroeconomic variables, the findings show that GDPG, INF, and LNMS all have a positive relationship with ROA and NIM, whereas IR has a negative link with ROA but a positive relationship with NIM.

Gujarati (2007) stated that the problem of multicollinearity emerges when the correlation between independent variables exceeds 0.8. Except for the connection between LNBS and LNMS, all independent variable correlation coefficients are less than 0.8. This perception indicates that multicollinearity concerns are absent. Thus, the independent variables specified for the model are most suited for regression analysis.

#### Estimation Method

Panel data analysis is used in the study because it is more effective at identifying and quantifying effects. It include pooled ordinary least squares, fixed effects, and random affects methods. The pooled ordinary least squares approach is just an ordinary least squares method.

This method ignores the dataset's panel structure because it does not reflect differences between populations over time. Furthermore, due to heterogeneity between error terms and independent factors, estimates obtained using this measure are substantially skewed. Fixed and random effects models are useful since pooled traditional least squares cannot properly explain the dataset's panel character. The Breusch-Pagan test determines which approach is utilized between OLS and fixed/random effects, while the Hausman test determines if fixed or random effects are appropriate. The alternative hypothesis is that the fixed effect model is more appropriate than the random effect model. In a random effect model, we apply generalized least squares (GLS). GLS is OLS applied to altered variables that satisfy the basic least squares assumptions.

### Regression Analysis

The purpose of using a regression model is to predict and estimate the effect of the independent variables on a dependent variable. The effect of *Bank Specific Variables, Macroeconomic Variables, and ROA is explained by model 1. The result of the effect analysis is reported in table 2.*

The regression equation of model 1 is mentioned below:

$$ROA = \beta_0 + \beta_1 LNBS + \beta_2 CAP + \beta_3 CR + \beta_4 DTA + \beta_5 OEM + \beta_6 CAR + \beta_7 CDR + \beta_8 GDPG + \beta_9 INF + \beta_{10} LNMS + \beta_{11} IR + \varepsilon \dots \dots \dots (1)$$

The first Breusch-Pagan test is undertaken for equation (1). The findings show Zero p-value (for cross-section and both), which is less than the 0.05 level of significance, rejecting the null hypothesis and indicating that the pooled OLS method is not appropriate. Thus, either a fixed or random effect is appropriate. To compare the outcomes of fixed and random effect techniques, the Hausman specification test is utilized to choose an appropriate model for equation (1). The Hausman test yielded a p-value greater than 0.05, indicating that the random effect strategy is appropriate. Thus, the random effect strategy is employed to solve the equation.

Table 2 display the result of random effect model and depicts only bank size has a statistically significant impact on ROA. Except for interest rates, macroeconomic variables such as economic growth, inflation, and the broad money supply have statistically significant effects on ROA. Bank size has a 1% impact (p-value=0.0002 < 0.01). The coefficient of bank size was found to be positive, indicating a statistically significant positive impact on ROA. Economic growth, inflation, and the broad money supply all have a large influence at 1% because their p-values are less than 0.01. The coefficients of economic growth and inflation were found to be positive, indicating a statistically significant positive impact on ROA. However, the coefficient of wide money supply was found to be negative, indicating a statistically significant negative impact on ROA. Capitalization, credit risk, deposit to total assets, operating expense management, capital adequacy ratio, and credit to deposit ratio all have p-values greater than 0.05, indicating that they are not statistically significant. The R-squared for regression is 0.1733, indicating that explanatory variables in this study can explain 17.33% of differences in profitability and ROA. Other factors not included in the model can account for the remaining 82.66 percent of variances in profitability across commercial banks under examination. Furthermore, the model's p-value (0.0000) is less than 1%, suggesting that the estimated model is statistically significant, which increases the model's reliability and validity.

#### *Bank Specific Variables, Macroeconomic Variables, and NIM*

The regression equation is

$$NIM = \beta_0 + \beta_1 LNBS + \beta_2 CAP + \beta_3 CR + \beta_4 DTA + \beta_5 OEM + \beta_6 CAR + \beta_7 CDR + \beta_8 GDPG + \beta_9 INF + \beta_{10} LNMS + \beta_{11} IR + \epsilon \dots \dots \dots (2)$$

The first Breusch-Pagan test is performed on equation (2), and the results reveal that the p-value is 0.0 (for cross-section, time, and both), which is less than the 0.05 level of significance, rejecting the null hypothesis and implying that the pooled OLS method is not appropriate. Thus, either a fixed or random effect is appropriate. To compare the outcomes of fixed and random effect techniques, the Hausman specification test is used to determine the best model for equation (2). The Hausman test p-value is greater than 0.05, indicating that the random effect strategy is appropriate. Thus, the random effect strategy is employed to solve this equation.

**Table 2**

*Panel regression results in ROA*

Variables	Beta Coefficients	Std. Error	t-Statistics	Prob.
C	-4.2920	1.6255	-2.6404	0.0089
LNBS	0.4968	0.1296	3.8331	0.0002
CAP	0.0019	0.0043	0.4394	0.6608
CR	-0.1085	0.0186	-0.5816	0.5614
DTA	0.0021	0.0062	0.3418	0.7328
OEM	-0.1150	0.0277	-0.4145	0.6789
CAR	-0.1571	0.0103	-1.5264	0.1283
CDR	0.0028	0.0057	0.4866	0.6270
GDPG	0.0607	0.0166	3.6504	0.0003
INF	0.0932	0.0296	3.1503	0.0018
LNMS	-0.5233	0.1710	-3.0600	0.0025
IR	0.1905	0.0197	0.6625	0.5083
<b>Model Summary</b>				
R-squared	0.1733			
Adjusted R-squared	0.1334			
S.E. of regression	0.5698			
F-statistic	4.3449			
Prob (F-statistic)	0.0000			
D-W Test	1.4655			

*Note.* Author’s calculations from Eviews 12 SV, 2023

The random effect model in Table 3 for NIM shows that among bank-specific factors, LNBS, CR, DTA, CAR, and CDR have a statistically significant impact on NIM. LNBS, DTA, and CDR have a significant impact at the 1% level (p-value < 0.01), whereas CR and CAR have a significant impact at the 5% level (p-value < 0.05). The coefficients for all LNBS, CR, DTA, CAR, and CDR are positive, indicating that they have a statistically significant beneficial impact on NIM. Regarding macroeconomic variables, GDPG, INF, LNMS, and IR have a substantial impact at a level of 1% because the p-value is less than 0.01.

**Table 3***Panel regression results in NIM*

Variables	Beta Coefficients	Std. Error	t-Statistics	Prob.
C	-7.2577	1.4253	-5.0920	0.0000
LNBS	0.4887	0.1133	4.3150	0.0000
CAP	0.0015	0.0038	0.4042	0.6864
CR	0.0414	0.0164	2.5256	0.0122
DTA	0.0276	0.0054	5.0666	0.0000
OEM	0.3947	0.0242	1.3622	0.1040
CAR	0.0221	0.0090	2.4418	0.0154
CDR	0.0174	0.0050	3.4793	0.0006
GDPG	0.0615	0.0146	4.2049	0.0000
INF	0.1422	0.0260	5.4588	0.0000
LNMS	-0.5111	0.1496	-3.4164	0.0008
IR	0.0550	0.0173	3.1783	0.0017
Model Summary				
R-squared	0.2808			
Adjusted R-squared	0.2461			
S.E. of regression	0.5060			
F-statistic	8.0922			
Prob (F-statistic)	0.0000			
D-W Test	1.2353			

Note. Author's calculations from Eviews 12 SV, 2023

GDPG, INF, and IR coefficients were all positive, indicating a statistically significant positive influence on NIM. However, the LNMS coefficient was found to be negative, indicating that it has a statistically significant negative impact on NIM. CAP and OEM have p-values greater than 0.05, indicating that they are statistically insignificant. The R-squared for regression is 0.2808, indicating that explanatory variables in the current study can explain 28.08 percent of variations in profitability (NIM). Other factors not included in the model can account for the remaining 71.92 percent of variances in profitability across commercial banks under examination. Furthermore, the model's p-value ( 0.0000) is less than 1%, showing that the estimated model is statistically significant, which increases the model's dependability and validity.

## Discussion

It has been established that a country's economic health is directly proportional to the performance of its banking sector. As a result, the performance of a country's banking business is critical to its whole economy. The study's findings demonstrate that the explanatory variable bank size is statistically significant at a 1% significance level and has a positive association with bank profitability as evaluated by ROA and NIM. The positive impact of bank size shows scale efficiency, implying that earnings may improve as the size of these banks

grows. This finding is consistent with those of Husain and Abdullah (2008); Paolucci and Menicucci (2016); Hashem (2016); Kawshala and Panditharathna (2017); Yahya et al. (2017); Shamim et al. (2018); Almaqtari et al. (2019); Jadah et al. (2020); Kosumi and Kosumi (2021); and Abdulazeez (2022). The explanatory variable credit risk was shown to be statistically significant at a 5% significance level, and it had a positive association with bank profitability as evaluated by NIM. Antonio (2012) and Chukwuogor et al. (2021) have shown a favorable association between credit risk and profitability. The deposit-to-total assets ratio was found to be statistically significant at a 99% confidence level, and it had a positive association with bank profitability as measured by NIM. The deposit to total assets ratio has a positive influence, indicating that the bank's ability to mobilize large amounts of deposits leads to better profits. Antonio (2012); Pradhan (2016); Paolucci and Menicucci (2016) discovered a strong positive association between deposits to total assets and bank profitability.

The capital adequacy ratio was determined to be statistically significant at a 99% confidence level, and it had a positive association with bank profitability as assessed by NIM. Better capitalized banks with a greater capital adequacy ratio can more easily meet regulatory capital rules, allowing extra cash to be lent out and used to boost profitability. Abdulazeez (2022) also agrees with this finding. The credit-to-deposit ratio was found to be statistically significant at the 1% significance level and had a positive association with bank profitability as assessed by NIM. Banks with a higher lending ratio than deposits might earn more net interest income because lending is the primary source of revenue for banks. The explanatory variable economic growth is statistically significant at the 99% confidence level and has a positive connection with bank profitability as evaluated by ROA and NIM. This is congruent with empirical research conducted by Antonio (2012); Khan et al. (2015); Ebenezer et al. (2017); Yahya et al. (2017); Jadah et al. (2020); Buzayehu et al. (2020); Ebrahimi et al. (2021); and Abdulazeez (2022). Inflation was determined to be statistically significant at the 99% confidence level and had a positive link with bank profitability as evaluated by ROA and NIM. This finding is consistent with earlier empirical investigations by Athanasoglou et al. (2008); Antonio (2012); Khan et al. (2015); Yahya et al. (2017); Maria and Maria (2019); Buzayehu et al. (2020); Chukwuogor et al. (2021); and Abdulazeez (2022). Broad money supply was shown to be statistically significant at a 1% level of significance and had a negative association with bank profitability as evaluated by ROA and NIM. The study of Buzayehu et al. (2020) showed a negative significant link between the broad money supply and bank profitability. Interest was determined to be statistically significant at the 99% confidence level and showed a positive association with bank profitability as evaluated by NIM; these findings are similar to Abdulazeez (2022). The regression results indicate that the calculated models are statistically significant. The explanatory variables capitalization and operating expense management are statistically negligible predictors of bank profitability as evaluated by the NIM under consideration. These conclusions are based on a 5% statistical significance level. On the other hand, profitability, as assessed by ROA, is found to be statistically insignificant with explanatory variables capitalization, credit risk, deposit to total assets, operating expense management, capital adequacy ratio, credit to deposit ratio, and interest rate.

## Conclusion and Implication

Following the empirical analysis undertaken in this study, it was found that both bank-specific and macroeconomic variables are significant predictors of commercial bank profitability in Nepal. This finding is consistent with previous studies in various other multinational banking industries.

Bank size, credit risk, deposit to total assets, capital adequacy ratio, and credit to deposit ratio are all statistically significant predictors of Nepalese commercial bank profitability as

measured by NIM, but only bank size is statistically significant in terms of ROA. Bank-specific characteristics such as capitalization and operating expense management are not statistically significant. All bank-specific significant variables are found to be positively correlated with profitability.

In terms of macroeconomic variables, economic growth, inflation, broad money supply, and interest rates were found to be statistically significant predictors of Nepalese commercial bank profitability. However, the interest rate has a statistically minimal impact on profitability as assessed by ROA. Economic growth, inflation, and interest rates all correlated positively with bank profitability. The broad money supply exhibits a negative association with bank profitability. Based on the preceding discussion and statistical evidence, this study finds that bank-specific and macroeconomic variables have a considerable impact on the profitability of Nepalese commercial banks.

The current study's purpose is to provide new empirical evidence to fill a gap in the existing banking literature by examining bank-specific and macroeconomic variables that influence the profitability of Nepalese commercial banks. The current study considerably contributes to the body of literature by thoroughly studying and evaluating the profitability of Nepalese commercial banks. It is recommended that regulators and policymakers study macroeconomic factors to improve the profitability of Nepalese commercial banks. Bankers, bank managers, and other professionals must pay more attention to bank-specific characteristics to efficiently use bank resources and improve the profitability of Nepalese commercial banks. This study focused on bank-specific and macroeconomic variables, excluding industry-specific aspects. Further research might be performed to identify how industry-specific factors affect Nepalese bank profitability. It is also critical to examine the macroeconomic and bank-specific factors that influence bank profitability in Nepal's private, joint-venture, and public sector banks. Furthermore, future research could use an alternative metric of bank profitability, such as economic value added(EVA), to investigate profit determinants for Nepalese commercial banks.

## References

- Abdulazeez, Y. H. S. A. (2022). Determinants of bank profitability: Evidence from 47 Asian countries. *Journal of Economic Studies*, 49(1), 44–60. <https://doi.org/10.1108/JES-05-2020-0215>
- Abel, S., & Le Roux, P. (2016). Determinants of banking sector profitability in Zimbabwe. *International Journal of Economics and Financial Issues*, 6(3), 845–854.
- Almaqatari, F. A., Al-Homaidi, E. A., Tabash, M. I., & Farhan, N. H. (2019). The determinants of profitability of Indian commercial banks: A panel data approach. *International Journal of Finance & Economics*, 24(1), 168–185.
- Al-Matari, E. M. (2021). The Determinants of bank profitability of GCC: The role of bank liquidity as a moderating variable. *International Journal of Finance and Economics*, 1–13. <https://doi.org/10.1002/ijfe.2485>
- Antonio, T. P. (2012). What determines the profitability of banks? Evidence from Spain. *Accounting and Finance*, 53(2), 561–586. <https://doi.org/10.1111/j.1467-629X.2011.00466.x>
- Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific, and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18(2), 121–136. <https://doi.org/10.1016/j.intfin.2006.07.001>
- Berger, A. N. (1995). The profit-structure relationship in banking—tests of market-power and efficient-structure hypotheses. *Journal of Money, Credit and Banking*, 27(2), 404–431. <https://doi.org/10.2307/2077876>
- Bhattarai, B. P. (2018). Impact of bank specific and macroeconomic variables on performance of Nepalese

- commercial banks. *Global Review of Accounting and Finance*, 9(1), 35–53.
- Brigham, E. F., & Ehrhardt, M. C. (2008). *Financial management: Theory and practice*. Twelfth Edition. Thomson Higher Education.
- Budhathoki, P. B., & Rai, C. K. (2020). The effect of specific factors on bank profitability: Evidence from Nepalese banks. *Journal of Economics and Business*, 3(1), 82–89. <https://doi.org/10.31014/aior.1992.03.01.179>
- Buzayehu, A. L., Mathews, K. R., & Million, G. (2020). Macroeconomic and bank-specific determinants of commercial bank profitability in Ethiopia. *International Journal of Commerce and Finance*, 6(2), 198–206.
- Chukwuogor, C., Anoruo, E., & Ndu, I. (2021). An empirical analysis of the determinants of the U.S. Banks' profitability. *Banks and Bank Systems*, 16(4), 209–217. <https://doi.org/10.21511/bbs>.
- Demsetz, H. (1973). Industry structure, market rivalry, and public policy. *The Journal of Law and Economics*, 16(1), 1-9.
- Ebenezer, O. O., Omar, W. A. W. Bin, & Kamil, S. (2017). Bank specific and macroeconomic determinants of commercial bank profitability: empirical evidence from Nigeria. *Journal of Finance & Banking Studies*, 6(1), 25–38. <https://doi.org/10.20525/ijfbs.v6i1.627>
- Ebrahimi, P., Maria, F. F., Bouzari, P., & Magda, R. (2021). Financial performance of Iranian Banks from 2013 to 2019: A panel data approach. *Journal of Risk and Financial Management*, 14(257), 1–15. <https://doi.org/10.3390/jrfm14060257>
- Edirisuriya, P., Gunasekarage, A., & Dempsey, M. (2015). Australian-specific bank features and the impact of income diversification on bank performance and risk. *Australian Economic Papers*, 54(2), 63–87. <https://doi.org/10.1111/1467-8454.12043>
- Gautam, P. K., & Gautam, T. (2021). Role of macroeconomic factors predicting the financial performance of commercial banks in Nepal. *International Research Journal of Management Science*, 6(1), 39–52. <https://doi.org/10.3126/irjms.v6i1.42337>
- Gujarati, D.N. (2007). *Basic Econometrics*. United States: McGraw-Hill
- Gurung, J. B., & Gurung, N. (2022). Factors determining profitability of commercial banks: evidence from Nepali banking sector. *Prithvi Academic Journal*, 100–113. <https://doi.org/10.3126/paj.v5i1.45044>
- Hashem, H. Y. (2016). Determinants of Egyptian banking sector profitability: Time-series analysis from 2004-2014. *International Journal of Business and Economic Sciences Applied Research*, 9(2), 73–78.
- Husain, A. O., & Abdullah, A. M. (2008). Bank-specific determinants of profitability: the case of Kuwait. *Economic & Administrative Sciences*, 24(2), 20–34.
- Jadah, H. M., Alghanimi, M. H. A., Al-Dahaan, N. S. H., & Al-Husainy, N. H. M. (2020). Internal and external determinants of Iraqi bank profitability. *banks and bank systems*, 15(2), 79–93. [https://doi.org/10.21511/bbs.15\(2\).2020.08](https://doi.org/10.21511/bbs.15(2).2020.08)
- Jie, Z., & Ahmed, A. (2019). Determinants of economic value added (EVA) in Chinese listed banks. *Asian Review of Accounting*, 27(4), 595–613. <https://doi.org/10.1108/ARA-11-2018-0216>
- Kawshala, H., & Panditharathna, K. (2017). The factors effecting on bank profitability. *International Journal of Scientific and Research Publications*, 7(2), 212–216.
- Khan, I., Tahir, M., & Umer, N. (2015). Determinants of commercial banks' performance: Evidence from emerging economies. *Growing Science Accounting*, 1, 17–28. <https://doi.org/10.5267/j.ac.2015.11.001>
- Khan, Q. M., Kauser, R., & Abbas, U. (2015). Impact of bank specific and macroeconomic factors on banks profitability: A Study on Banking Sector of Pakistan. *Journal of Accounting and Finance in Emerging*

*Economies*, 1(2), 99–110. <https://doi.org/10.26710/jafee.v1i2.100>

- Kosumi, A., & Kosumi, A. (2021). Banks specific factor that determinate the profitability of commercial banks in the Republic of North Macedonia. *Acta Universitatis Danubius*, 17(3), 140–151.
- Maria, T. M. G., & Maria, J. T. (2019). Determinants of banks' profitability in Angola. *African Journal of Economic and Management Studies*, 10(1), 116–128. <https://doi.org/10.1108/AJEMS-06-2018-0161>
- Michael, O. (2022). Bank-specific, industry-specific and macroeconomic determinants of bank profitability: evidence from the UK. *Studies in Economics and Finance*. <https://doi.org/10.1108/SEF-10-2021-0413>
- Mohanty, B. K., & Krishnankutty, R. (2018). Determinants of profitability in Indian banks in the Changing Scenario. *International Journal of Economics and Financial Issues*, 8(3), 235–240. <http://www.econjournals.com>
- Muhammad, S., & Siti, Z. (2019). The impact of bank-specific and macroeconomic variables on profitability of Islamic rural bank in Indonesia. *Jurnal Ilmiah Ekonomi Islam*, 5(3), 317–325. <https://doi.org/10.29040/jiei.v5i3.635>
- Nepal Rastra Bank. (2013). *Bank supervision report 2012*.
- Nepal Rastra Bank. (2019). *Banking & Financial Statistics*
- Nepal Rastra Bank. (2022). Banking & Financial Statistics (Monthly). Retrieve from [https://www.nrb.org.np/contents/uploads/2022/03/Magh2078\\_NFRS\\_Publish-1.pdf](https://www.nrb.org.np/contents/uploads/2022/03/Magh2078_NFRS_Publish-1.pdf)
- Paolucci, E., & Menicucci, G. (2016). The determinants of bank profitability: Empirical evidence from the European banking sector. *Journal of Financial Reporting and Accounting*, 14. <http://dx.doi.org/10.1108/JFRA-05-2015-0060>
- Pradhan, R. S. (2016). Bank-specific and macroeconomic determinants of bank profitability: A case of Nepal. <https://doi.org/https://dx.doi.org/10.2139/ssrn.2793484>
- Ranabhat, D. (2019). Effects of internal factors on financial performance of joint venture banks in Nepal. *Journal of Nepalese Business Studies*, 12(1), 87–99.
- Sah, L. K., & Magar, M. R. (2021). Factors affecting the profitability of Nepalese insurance companies. *Nepalese Journal of Insurance and Social Security*, 4(1), 87–99. <https://doi.org/10.3126/njiss.v4i1.42363>
- Serwadda, I. (2018). Determinants of commercial banks' profitability. Evidence from Hungary. *Acta Universitatis Agriculturae et Silviculturae Madelaine Brunini's*, 66(5), 1325–1335. <https://doi.org/10.11118/actaun201866051325>
- Shamim, F., Aktan, B., Abdulla, M. A., & Sakhi, N. M. Y. (2018). Bank-specific vs. Macro-economic factors: What drives the profitability of commercial banks in Saudi Arabia. *Banks and Bank Systems*, 13(1), 139–149. [https://doi.org/10.21511/bbs.13\(1\).2018.13](https://doi.org/10.21511/bbs.13(1).2018.13)
- Shrestha, P. M. (2020). Determinants of financial performance of Nepalese commercial banks: Evidence from Panel Data Approach. *NRB Economic Review*, 32(2), 45–59. <https://doi.org/10.3126/nrber.v32i2.35300>
- Smirlock, M. (1985). Evidence on the (Non) Relationship between Concentration and Profitability in Banking. *Journal of Money, Credit and Banking*, 17(1), 69–83. <https://doi.org/10.2307/1992507>
- Talbi, D., & Bougateg, K. (2018). The internal and external determinants of the intermediation margin of banks across MENA countries. *Euro-Med Journal of Business*, 13(3), 280–290. <https://doi.org/10.1108/EMJB-02-2018-0013>
- Yahya, A. T., Akhtar, A., & Tabash, M. I. (2017). The impact of political instability, macroeconomic and bank-specific factors on the profitability of Islamic banks: An empirical evidence. *Investment Management and Financial Innovations*, 14(4), 30–39. [https://doi.org/10.21511/imfi.14\(4\).2017.04ws](https://doi.org/10.21511/imfi.14(4).2017.04ws)

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