Capital Structure and Profitability of Public and Government Banks in Nepal

Sanjay Shrestha

Assistant Professor, Thakur Ram Multiple Campus, Birgunj Nepal

Abstract

The study will examine how capital structure influences Nepalese public and government bank profitability. The study's statistical analysis utilizes secondary data. Descriptive and casual comparative analysis utilizing bank website data and correlations and multiple regression models for hypothesis testing was done using software. The study sampled 6 public banks and 2 governments from the population. The capital structure and profitability were examined as a cause-and-effect connection utilizing informal comparative study. This study uses NIM as a dependent variable and leverage ratio, bank size, liquidity ratio, and capital ratio as independent variables. Mean, standard deviation, correlation, multiple regression model, and hypothesis testing are statistical methods. Excel and SPSS assess such variables. Leverage Ratio boosts Public Bank NIM but not significantly. Bank Size negatively affects NIM somewhat. NIM and Liquidity Ratio are positively correlated. Public bank NIM is little affected by capital ratio. Leverage Ratio and bank size negatively affect Nepal's government banks' NIM. NIM positively and insignificantly impacts Liquidity Ratio. Capital ratio positively affects government bank NIM. Banks should recognise other variables' importance.

Keywords

Leverage ratio, bank size, liquidity ratio and capital ratio.

Introduction

Capital structure is a word that is frequently used in financial research. The Pecking Order Theory, NOI Approach, MM Approach, and Trade-off Theory are among the capital structure theories that we cover. Other company-specific criteria, such profitability, will also be considered. Financial leverage is related to a number of capital structure characteristics, as our research showed. Several potential future trends have also been investigated based on our findings (Gupta & Khanna, 2022). An explanation for why capital structure and company performance are inversely related is the central question of this research. Accounting metrics for company success are the center of this first-of-its-kind investigation into the moderating influence of firm size on these aspects. As a result of the possibility for fluctuation (IQBAL, 2022). Previous research focused on evaluating the impact of capital structure alone on bank profitability, but we take note of multiple studies that looked at low-income emerging nations like Ethiopia to investigate the relationship between capital structure and bank profitability. While multiple studies examined the effect of non-interest revenue on profitability, our research primarily examined capital structure. The year 2021 was mentioned by Ayalew. Once again, we review previous studies that focused on emerging nations in Asia, such as Bangladesh (Rana-Al-Mosharrafa & Islam, 2021). Nevertheless, there is a lack of study regarding the interplay between capital structure, operational efficiency, and non-interest

revenue as it pertains to the profitability of the banking business (Hossain & Ahamed, 2021). The relative importance of local and foreign capital is a key component of capital structure. Foreign capital includes both short-term and long-term debt in this context. Despite using retained earnings and ownership interests as the company's own finances, the goal is to raise the market value of the business (Brigham & Eharhrdt, 2011). An essential part of any organization is its capital. Funds are essential for every organization to run. Without capital, it is impossible to launch any kind of business, from mom-and-pop shops to multinational conglomerates. It is the financial contributions of promoters, owners, or shareholders that allow every given organization to begin with a balance of zero. There need to be sufficient funds for any group to function. The majority of people's wealth comes from banks, yet those same banks also have to generate new money to keep their doors open. A bank's responsibility to the public makes its depositor capital very important. As a result, depositors' money is best protected when banks have enough capital (Patheja, 1994). The general public deposits a large quantity of money with commercial banks. Knowing that their money is securely held at a bank provides depositors with a sense of comfort and security. What would happen, though, if the bank didn't have enough capital on hand to protect itself from potential losses? Banks need sufficient capital to safeguard their counterparties' and depositors' money from issues like credit and market risk. If this weren't the case, depositors would lose money because banks would spend all of their money on themselves. The Nepal Rastra Bank (NRB), which oversees the country's banking system, has mandated that all B and C class institutions use DCGC to protect depositors' funds up to two lakhs (Paudel, 2009). Both the bank's management and its shareholders place a premium on a healthy capital structure and healthy profitability. “Nepalese commercial banks' capital structure and performance have been the subject of scant academic investigation. Nepalese Commercial Bank are generally not aware about the capital structure and profitability. So that, the following issue was raised by this research:

RQ_1: What is the impact of Leverage ratio on NIM (Public and Govt. banks)?
RQ_2: What is the impact of bank size on NIM (Public and Govt. banks)?
RQ_3: Is there any impact of impact of liquidity ratio on NIM (Public Govt. banks)?
RQ_4: Is there any impact of impact of capital ratio on NIM (Public Govt. banks)?

Review of Literature

Capital structure and bank profitability: evidence from Vietnam by Pham, Hoang, and Pham (2022). Clear and convincing This study analyzes the impact of capital structure on the profitability of Vietnamese commercial banks. This study analyzes the correlation between capital structure and profitability utilizing an unbalanced panel data set of Vietnamese commercial banks from 2012 to 2018, a pivotal era for the execution of the Prime Minister's directive (254/QD-TTg) to reform the banking industry. The authors utilize client deposits and non-deposit liabilities to illustrate the capital structures of Vietnamese commercial banks. A study of 30 Vietnamese commercial banks indicated that customer deposits adversely impact bank profitability, but non-deposit liabilities had a beneficial effect. The research indicates that Vietnamese commercial banks ought to assess assets and loans with greater rigor and impartiality prior to extending credit. To guarantee the quality of bank assets, investment projects and long-term loans require comprehensive analysis. This study investigates the influence of capital structure on the profitability of Vietnamese commercial banks, addressing a gap in the existing literature. Sahibzada (2022) analyzed the impact of capital structure on the profitability of Afghan commercial banks. This research investigates the impact of capital structure on the profitability of Afghan commercial banks. We utilized quantitative methodologies to achieve the objective. The panel data was derived from the audited financial statements of nine commercial banks for the years 2013 to 2017. The linear regression model

was employed to analyze panel data in SPSS 22.0. This analysis indicates that the capital of Afghan commercial banks is derived from deposits. This indicates that these banks are considerably in debt. This research indicates a statistically insignificant positive correlation between the debt-to-total-assets ratio and net interest margin. Nonetheless, the loan-to-deposit and deposit-to-asset ratios significantly influence commercial banks' net interest margins, whereas asset size and growth were judiciously selected throughout the formulation of the financing structure. Ultimately, increasing bank size, reducing loans and non-deposit liabilities, enhancing equity financing, and effectively mobilizing deposits can enhance profitability and value. Ayalew (2021) Analyzed the capital structure and profitability of Ethiopian private banks utilizing panel data. The study employed panel fixed effects to analyze the empirical relationship between capital structure, measured by total and short-term debt ratios, and the profitability of private banks in Ethiopia from 2013/14 to 2018/19. The study examines 16 private banks. Regression analysis indicates that capital structure determinants and various bank-specific characteristics significantly account for the variability in bank profitability. Return on assets, net interest margin, total and short-term debt ratios, loan-to-deposit ratios, and credit risks generally escalate with profitability. Established banks exhibit more profitability than their younger counterparts. The size negatively impacts the ROA model, suggesting that Ethiopian private banks are underachieving. The coefficient estimates for the cos–income ratio and employee productivity were inconsistent. Otekunrin et al. (2020) examined the capital structure and profitability of Nigerian deposit money institutions. The profitability of eight Nigerian Deposit Money Banks was analyzed from 2003 to 2018 (16 years) to assess the impact of capital structure on profitability. This work included a descriptive research methodology and regression analysis. The study utilized secondary data from the annual reports of selected Nigerian Deposit Money Banks for the years 2003 to 2018. The research identified an inverse relationship between capital structure (debt-to-equity ratio and leverage ratio) and profitability (returns on equity). The debt-equity ratio and leverage ratio can substantially affect profitability if mismanaged. The trade-off theory and agency theory recommend determining the optimal capital structure (a combination of debt and equity) to enhance profitability, corporate and shareholder value, and agency costs. An alternative is to utilize retained earnings (internal financing). Zaman, Ullah, and Ali (2020) investigated the relationship between capital structure and profitability from a dual banking perspective. The capital structure and profitability of Islamic and conventional banks listed on the Karachi Stock Exchange were analyzed using 250 financial statements from 2006 to 2016. The study examines the correlation using regression analysis. A significant correlation was seen between the D/E ratio and ROA in conventional banks; however no such correlation was found in Islamic banks. The conventional banking system categorizes all deposits as liabilities, but Islamic banks exclusively regard current accounts as debts, elucidating the results. Deposits in Islamic banks based on Modaraba are classified as equity. This book conceptually enhances the literature on Islamic finance in Pakistan. The research suggests that Islamic banks can increase savings deposits due to their risk-free and equity-like nature. Bhatt and Jain (2020) analyzed the capital structure and performance of Nepalese commercial banks. The financial growth of a country relies on an operational banking industry. The Islamic banking sector in Pakistan has experienced significant growth in recent years. Nonetheless, it is beset with financial stability challenges. This study analyzes the impact of working capital and financial structure on the profitability of Pakistani banks. The research utilized GLS estimate technique on five Islamic banks from 2006 to 2014 and fifteen conventional banks from 2008 to 2014. The dependent variables include ROA, ROE, and NI, whereas the independent variables consist of working capital and the proportion of bank credit. Control variables encompass bank size, deposit ratio, GDP, and CPI to mitigate heterogeneity and collinearity. The research demonstrated that both Islamic and conventional banks experience a decline in profitability

when working capital increases. Financial leverage statistically enhances the profitability of Islamic banks, but it has the opposite effect on conventional banks. Noreen (2019). An analysis of the capital structure and profitability of Islamic and conventional banks in Pakistan. This study examines the impact of capital structure on the profitability of Islamic and conventional banks and investigates if their capital structures are same. A sample of ten banks was collected from 2006 to 2016. Samples autonomously a t-test was employed to compare the capital structures of Islamic and conventional banks, while regression analysis (Fixed effects model) was performed to assess the impact of capital structure on profitability. The two types of banks had similar capital structures, with the exception of significant disparities in size. The capital structures of both conventional and Islamic banks were negatively correlated with ROA. ROE shown a robust correlation with the capital structures of both conventional and Islamic banks. Furthermore, two explanatory factors had a positive correlation with EPS for both Islamic and conventional banks, while two others demonstrated a negative correlation. This study examines economies of scale and two principal capital structure theories pecking order and trade-off pertaining to conventional and Islamic banks in Pakistan. Musah (2018) Investigated the profitability and capital structure of Ghanaian commercial banks. The capital structure (short-term debt ratio, long-term debt ratio, and total debt ratio) and profitability (Return on Assets and Return on Equity) of Ghanaian commercial banks were assessed. A six-year examination of 23 banks from 2010 to 2015 utilized annual reports. The analysis included descriptive statistics, correlation, and panel regression techniques. Notwithstanding the augmentation of minimum equity capital, Ghanaian banks exhibit significant leverage, with debt financing constituting 84% of total capital, of which 77% is comprised of short-term loans. The regression analysis indicated that the profitability of Ghanaian banks is negatively connected with both short-term and long-term debt ratios. The profitability of Ghanaian banks had a positive correlation with the aggregate debt ratio. The control variables indicated a positive correlation between firm size, foreign ownership, and bank age with profitability, whereas client deposit growth had a negative association. The findings indicate that Ghanaian commercial banks have to shift their funding emphasis from deposits to alternative sources, as deposits hinder profitability. The findings indicate that businesses should utilize an appropriate mix of short-term and long-term debt to enhance bank profitability.

Objectives

The study's major goal is to determine the causes and effects of capital structure on the profitability of those banks from 2069–2070 to 2078–2079 in terms of financialperformance by selecting six public and two government as a sample bank. The objectives are listed as follows:

- To examine the impact of leverage ratio on Net Interest Margin (Public and Government Banks).
- To analyze the impact of bank size on Net Interest Margin. (Public and Government Banks).
- To assess the impact of liquidity ratio on Net Interest Margin (Public and Government Banks).
- To examine the impact of capital ratio on Net Interest Margin (Public and Government Banks).

Hypothesis Formulation

According to the hypothesis, the amount of debt financing decreases as acompany becomes more successful (Frank & Goyal, 2003). The hypothesis is not supported by any

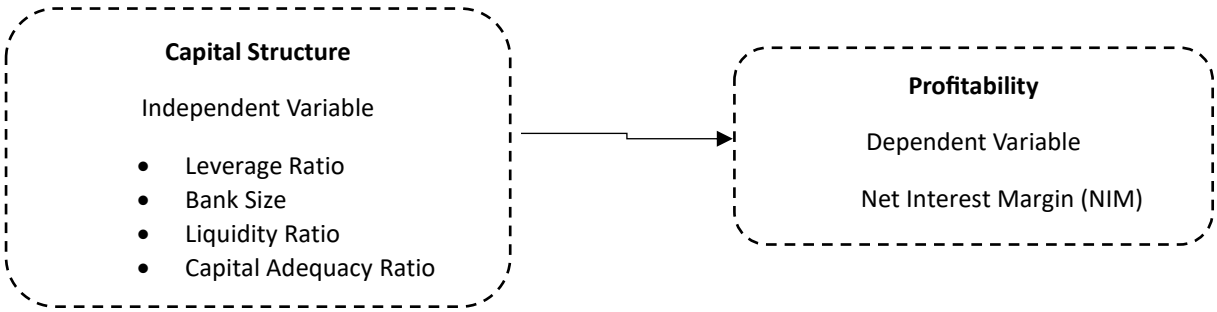
actual data. But these hypotheses have stimulated a number of academics to examine the impact of capital structure on bank profitability, and subsequently, a study has shown that debt ratio has a negative impact on profit margin inthe Ethiopian banking sector (Birru, 2016). However, Demirguç-Kunt and Huizinga (1999) found a statistically significant positive correlation between the capital structure and profitability, indicating that well capitalized banks tend to have lower defaultrates and can reduce expenses while increasing profitability. The results are in line with (Adesina et al., 2015; Anafo et al., 2015). Consequently, we can speculate that:

- H_1: There is a significant impact of Leverage ratio on Net Interest Margin (Public and Government Banks).
- H_2: There is a significant impact of Bank Size on Net Interest Margin (Public and Government Banks).
- H_3: There is a significant impact of Liquidity ratio on Net Interest Margin (Public and Government Banks).
- H_4: There is a significant impact of Capital adequacy ratio on Net Interest Margin (Public and Government Banks).

Theoretical Framework

The theoretical framework underpins a research study's theory. This means it explains the research study's hypothesis and the research challenge's origins. This section develops research theories and motivations. A research study theory will be chosen together with the theme and supporting materials. This section will focus on the research study's dependent and independent elements. Many independent elements affect the bank's profitability. However, investors' investing preferences will determine this. While short-term investors focus on technical and economic issues, long-term investors. Some of these factors are given here since economic challenges account for most of this study's variables. The following graphic shows these variables' theoretical context.

Figure 1: Conceptual Framework



*(***Source:** Mehzabin, Shahriar, Hoque, Wanke, & Azad, 2022).

NIM is the dependent variable because the research study is based on data from the financial report. Furthermore, NIM is directly impacted by other variables. Because they are unaffected by other variables, the leverage ratio, bank size, liquidity ratio, capital ratio (CAP) will also be considered independent variables of the public banks and government banks.

Research Methodology

Research methodology is a systematic way of approaching the research question. Stated in distinct ways, research methodology encompasses the methods and approaches employed

during the entirety of the study. The phrase "research methodology" describes the several steps a researcher must follow in order to analyze a topic with particular objectives in mind, as well as the rationale behind each action (Kothari, 1994:9). “Under the (Gebrayel et al., 2018; Mercier Suissa et al., 2018; Salloum et al., 2019; Salloum et al., 2015), This study's estimated model is reliable and consistent. Additionally, panel data estimations incorporate bank specific and panel-specific variables that involve in random aspects and account for persistent variability over time, resulting in an effective conclusion. Additionally, this econometric approach allows the assessment of dynamic impacts, which are usually difficult to establish by implementing cross-sectional or time series investigations (Athanasoglou et al., 2008). Research methodology refers to the entire process by which we attempt to resolve problems or provide answers to inquiries. It is based on a number of theories, notions, and procedures. It's a technique for approaching the study problem methodically. It is the process of identifying a problem's solution by the purposeful and methodical collection, assessment, and interpretation of data. It includes several kinds of research designs, population and sample, data sources, methods for gathering and processing data, and tools and approaches for analyzing data (software to be used in the research, statistical and financial instruments).” Various dependent and independent variables are also included (Arellano & Bover, 1995). The process used to collect information and data to ensure that business decisions can be made. The methodology may include published research, interviews, surveys, and other research techniques in along with current and historical data. Research technique refers to the several steps that researchers perform sequentially while analyzing a topic with certain objectives in mind. In order to prepare this thesis, a variety of data from the NRB provided balance sheet, profit and loss account, and financial statement of the Commercial Bank has been separated out, along with information from the annual report of Banking from a few books and publications. After the relevant data has been sorted, financial and statistical methods have been used to study and interpret the different financial components of Commercial banks. Basically, how the report has been put together.

Research Design

The term "research design" refers to the framework and plan that a researcher prepares in order to conduct their study from start to finish. The causes and effects of the capital structures and profitability of six public banks and two government are examined using a casual comparative research design. The comparative research approach has been utilized in this context due to its focus on historical occurrences. It is a process for obtaining, evaluating, verifying, and interpreting previous evidence in an orderly and objective manner with the goal of reaching a conclusion. The management of capital structures in commercial banks also takes historical data into reference. For this specific examination, a descriptive and analytical research approach has been employed. This helps in gathering sufficient facts and information in accordance with needs.

Population and Sample

The 22 commercial banks that are now in operation across the country make up the study's population. Out of 12 public banks and 3 government banks, 6 public banks and 2 government are focused of the study’s sample. In a casual comparison analysis, the researcher studied into the capital structure and profitability of Nepal's commercial banks. Only six public and two government banks have decided to use purposive sampling to provide a sample for a casual comparative study. In this manner:

Table 1 List of Sampled Banks with no. of Observations.

S.N.	Name of commercial	Abbreviations	Sample Period	No. of Observations
1	Agriculture Development Bank	ADBL	2069/70-2078/79	10
2	Nepal Bank Limited	NBL	2069/70-2078/79	10
3	NIC Asia Bank Limited	NICA	2069/70-2078/79	10
4	Siddhartha Bank Limited	SBL	2069/70-2078/79	10
5	Global IME Bank Limited	GBIME	2069/70-2078/79	10
6	Civil Bank Limited	CBL	2069/70-2078/79	10
7	Kumari Bank Limited	KBL	2069/70-2078/79	10
8	Laxmi Bank Limited	LBL	2069/70-2078/79	10

The researcher has chosen ADBL, NBL, NICA, SBL, GBIME, CBL, KBL and LBL Bank. Due to the fact that several commercial banks have been founded.

Table 2 Variable Review

Variables	Measures	References
Leverage Ratio	Computed by the ratio of total debt to total assets.	Ayalew (2021), Mkadmi et al. (2021)
Bank Size	Bank size, computed by the natural logarithm of total assets ln (TA)	Adusei (2015), Ali and Puah (2019)
Liquidity Ratio	Computed by the ratio of Current Assets to Current Liabilities.	
CAP	Capital ratio, computed by the ratio of total equity to total assets.	Rana-Al-Mosharrafa and Islam (2021),
NIM	Measure of net interest margin, Computed by ratio of investment Return minus interest expenses to Average earning assets.	Shrieves and Dahl (1992)

All independent variable and a dependent variable can be assessed with the diverse data analysis method known as multiple regression. Cohen et al. state that nonlinear relationships, quantitative or qualitative independent variables, and the influence of one or more factors with or without the influence of other variables are all acknowledged on this study. Regression analysis is a statistical technique for examining relationships between variables. There are various methods for modeling and assessing multiple variables, with the relationship between the dependent variable and one or more independent variables usually the main focus.
Profitability= f (LR, BS, CRR, CAP)

Model I will tire to find out the effect of variable with Net Interest Margin. The model is given below:

$$NIM=\beta_0 + \beta_1 LR + \beta_2 BS + \beta_3 CRR + \beta_4 CAP + \in_i \quad \text{.....(i)}$$

Whereas,
β_0= Constant term
NIM = Net Interest Margin
LR = Leverage Ratio
BS = Bank Size

CRR = Liquidity Ratio
CAP = Capital Ratio
$\beta_1, \beta_2, \beta_3, \beta_4$= regression coefficient
$\in_i$= error terms

Data Analysis

The presentation of the data provides the basic framework for classifying and organizing the data for the analysis. After data collection is complete, the data will be in raw form. The data will still be kept in early estimations, data collection forms, and note cards. Data analysis includes data organizing, tabulation, statistical analysis, and drawing conclusions. "This chapter's topics are the data collection, analysis, and presentation. NEPSE has classified the listed companies into various sectors, and samples were obtained according to these sectors. The chapter's study is divided into the sections that follow, each of that deals with the capital structure in a different way. This chapter's main objectives are data analysis and presentation. This study has attempted to analyze the collected data through a range of graphical displays in addition to financial and statistical methods. The comparative profit and loss statements are included for the years 2069–2070 and 2078–2079 as well as the comparative balance sheet.

Table 3 Descriptive statistic of Public Banks

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Leverage Ratio	60	4.27	15.56	9.2522	2.17277
Bank Size	60	23.63	26.61	25.1904	.76678
Liquidity Ratio	60	3.23%	35.14%	14.3240%	9.98245%
Capital Ratio	60	6.04%	18.97%	10.2133%	2.35149%
Net Interest Margin	60	2.37%	3.96%	3.1363%	0.37669%
Valid N (listwise)	60	-	-	-	-

Source: Calculation using SPSS version 26 under Appendix I

Table 3 shows the leverage ratio from minimum of 4.27 to maximum 15.56 leading to average of 9.25. The bank size presented by total assets of the public banks during the study period has 25.19 with the minimum of 23.63 and a maximum of 26.61. Likewise, the liquidity ratio has a minimum value of 3.23 percent and a maximum of 35.14 percent with mean 14.32 percent. The average capital ratio of the selected public banks during the study period is 10.21 percent with a minimum value of 6.04 percent and a maximum 18.97 percent. And, the NIM has a minimum value of 2.37 percent and a maximum of 3.96 percent with a mean 3.13 percent. Therefore, the maximum mean and minimum mean statisticof the sampled public banks are Bank Size from minimum of 23.63 to maximum 26.61 leading to average of 25.19 and net interest margin has a minimum and maximum mean statistic of the sampled banks is 2.37 percent and 3.96 percent with mean 3.13 percent.

Table 4 Descriptive Statistics of Government Banks

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Leverage Ratio	20	4.12	14.41	6.2387	2.38640
Bank Size	20	24.98	26.28	25.6125	.40780
Liquidity Ratio	20	4.06%	36.21%	20.8685%	10.55431%
Capital Ratio	20	6.49%	19.54%	14.8160%	3.39973%

Cont.

Net Interest Margin	20	2.86%	6.31%	4.5355%	1.10380%
Valid N (listwise)	20	-	-	-	-

Source: Calculation using SPSS version 26 under Appendix I

Table 4 shows the leverage ratio from minimum of 4.12 to maximum 14.41 leading to average of 6.24. The bank size presented by total assets of the government banks during the study period has 25.61 with the minimum of 24.98 and a maximum of 26.28. Likewise, the liquidity ratio has a minimum value of 4.06 percent and a maximum of 36.21 percent with mean 20.87 percent. The average capital ratio of the selected government banks during the study period is 14.81 percent with a minimum value of 6.49 percent and a maximum 19.54 percent. And, the NIM has a minimum value of 2.86 percent and a maximum of 6.31 percent with a mean 4.54 percent. Therefore, the maximum mean and minimum meanstatistic of the sampled government banks are Bank Size from minimum of 24.98 to maximum 26.28 leading to average of 25.61 and net interest margin has a minimum and maximum mean statistic of the sampled banks is 2.86 percent and 6.31 percent with mean 4.54 percent.

Table 5 Correlation of public banks

Correlations						
		Leverage Ratio	Bank Size	LiquidityRatio	Capital Ratio	Net Interest Margin
Leverage Ratio	Pearson Correlation	1	.265*	.336**	-.937**	.104
BankSize	Pearson Correlation		1	.061	-.234	-.093
LiquidityRatio	Pearson Correlation			1	-.342**	.402**
Capital Adequacy Ratio	Pearson Correlation				1	-.043
Net Interest Margin	Pearson Correlation					1
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: Calculation using SPSS version 26 under Appendix I

The Pearson Correlation Coefficient between the independent variable Leverage Ratio and dependent variable Net Interest Margin are .104. Which implies that there is a positive correlation of leverage ratio with NIM of the public banks. It indicates that large NIM results in higher the leverage ratio. This can be concluded that NIM has positively correlated with LE at 1 percent significant level i.e. ($r = .104$, $p=0.00<0.01$) of the public banks. The Pearson Correlation Coefficient between the independent variable Bank Size and dependent variable NIM are -.093. Which implies that there is a negative correlation with NIM of the public banks. It indicates that large NIM results in lower the bank size. This can be concluded that NIM is negatively correlated with BS at 1 percent significant level i.e. ($r = -.093$, $p=0.00>0.01$). The Pearson Correlation Coefficient between the independent variable Liquidity Ratio and dependent variable NIM are .402. Which implies that there is a positive correlation of liquidity ratio with NIM of the public banks. It indicates that large NIM results in higher the liquidity ratio. This can be concluded that NIM has positively correlated with liquidity ratio at 1 percent significant level i.e. ($r = .402$ $p=0.00 <0.01$). The Pearson Correlation Coefficient between the independent variable Capital Ratio and dependent variable are -043. Which implies that there is a negative correlation with NIM of the public banks. It indicates that large NIM results in lower the Capital ratio. This can be concluded that NIM has negatively correlated with CAP

at 1 percent significant level i.e. (r = -.043, p=0.00>0.01) of the public banks.

Table 6 Correlation of Government Banks

	LeverageRatio		BankSize	Liquidity Ratio	Capital Ratio	Net Interest Margin
Leverage Ratio	Pearson Correlation	1	-.263	-.230	-.940**	-.170
BankSize	Pearson Correlation		1	-.106	.205	-.595*
LiquidityRatio	Pearson Correlation			1	.302	.453*
Capital Adequacy Ratio	Pearson Correlation				1	.349
Net Interest Margin	Pearson Correlation					1

Source: Calculation using SPSS version 26 under Appendix I

The Pearson Correlation Coefficient between the independent variable Leverage Ratio and dependent variable NIM are -.170. Which implies that there is a negative correlation of leverage ratio with NIM of the government banks. NIM results in lower the leverage ratio. This can be concluded that NIM is negatively correlated with LE at 1 percent significant level i.e. (r = = -.170, p=0.00 >0.01). The Pearson Correlation Coefficient between the independent variable Bank Size and dependent variable is -.595. Which implies that there is a negative correlation with NIM of the government banks. It indicates that large NIM results in lower Bank Size. This can be concluded that NIM is negatively correlated with Bank Size at 1 percent significant level i.e. (r = -.595, p=0.00 >0.01). The Pearson Correlation Coefficient between the independent variable Liquidity Ratio and dependent variable NIM is .453. Which implies that there is a positive correlation with NIM of the government banks. It indicates that large NIM results in higher liquidity ratio. This can be concluded that NIM is positively correlated with liquidity ratio at 1 percent significant level i.e. (r = .453, p=0.00<0.01)." The Pearson Correlation Coefficient between the independent variable Capital Ratio and dependent variable NIM is .349. Which implies that there is a positive correlation of Capital Ratio with NIM. It indicates that large NIM results in higher the Capital ratio. This can be concluded that NIM is positively correlated with CAP at 1 percent significant level i.e. r = .349, p=0.00 <0.01 of the government bank.

Regression Analysis

The multivariate statistics statistical principle, on which regression is based, calls for the simultaneous observation and examination of several statistical outcome variables. The method is applied in the design and analysis of trade studies in several dimensions, accounting for the impacts of each variable on the important responses. In statistics, the coefficient of determination, or R2, is used to describe statistical models whose main objective is the prediction of future outcomes based on other relevant data. The degree to which a regression line fits a set of data is indicated by its R2 value, which ordinarily varies from 0 to 1. If the R2 is close to 1, then a regression line fits the data well; if the R2 is close to 0, then the regression line does not fit the data well. Adjusted R2 is used to take into consideration the addition of new variables to the model. Adding extra independent variables expands the regression model. Unadjusted R2 will never go down, but it will nearly always climb. This will occur even if the extra components don't have a significant impact on the dependent variable's explanation. To compensate for this, adjusted R2 is connected with the number of independent variables in the model. The result is an adjusted R2, which varies based on whether the introduction of a new

variable increases or decreases the model's ability to explain phenomena. Corrected R2 is always going to be less than unadjusted. The results of the analysis are presented in an ANOVA table. The column declares in this table are "Source," "SS or Sum of Squares," "df" for degrees of freedom, "MS" for mean square, "F" for ratio of F, and "P, Probe, Probability, sig, or sig. of F." The t-test allows us to determine if a difference between two groups is "significant". A statistical technique called analysis of variance (ANOVA) is used to identify meaningful differences between means. "1%," "5%," and "10%" are frequently used to indicate significant quantities.

Table 7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.661[a]	.413	.355	.003461

a. Predictors: (Constant), Capital Ratio, Bank Size, Liquidity Ratio, Leverage Ratio
Source: Calculation using SPSS version 26 under Appendix I

R represents the multiple correlation coefficient with a range lies between -1 and +1. Base on table 7 the R value has remained 0.661 of the pubic banks. It means net interest margin had a positive relationship with leverage ratio, bank size, liquidity ratio and capital ratio. R square represents the coefficient of determination and ranges between 0 and 1. Since R square value was .413, it means 41.3% of the variation in net interest margin was caused by leverage ratio, bank size, liquidity ratio and capital ratio of the public banks.

Table 8 Anova Test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.000	4	.000	3.715	.010[b]
	Residual	.001	55	.000		
	Total	.001	60			

a. Dependent Variable: Net Interest Margin
b. Predictors: (Constant), Capital Ratio, Bank Size, Liquidity Ratio, Leverage Ratio
Source: Calculation using SPSS version 26 under Appendix I

The dependent variable net interest margin was regressed on predicting variable of leverage ratio, bank size, liquidity ratio and capital ratio. The independent variables significantly predict net interest margin $F(4, 55) = 3.715$, $P<0.01$, which indicates that the four factors under study have a significant impact on net interest margin of public banks.

Table 9 Multiple Regression Analysis (Public Bank, NIM)

Coefficients						
		Unstandardized Coeffi-clients		StandardizedCoefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.027	.018		1.508	.137
	Leverage Ra-tio	.001	.001	.514	1.483	.091
	Bank Size	-.001	.001	-.126	-1.013	.076
	Liquidity Ra-Tio	.016	.005	.427	3.347	.001
	Capital Adequacy Ratio	.089	.055	.555	1.612	.053
a. Dependent Variable: Net Interest Margin						

Source: Calculation using SPSS version 26 under Appendix I

Table 9 shows that liquidity ratio has positive relation with the dependent variable of the public bank. It indicates statistically significant, because the p valuefor this variable is lower than 0.05. This indicates that when the liquidity ratio of the public banks increase, it 's results to increase the net interest margin of the banks. Leverage Ratio, Bank Size and Capital Ratio has negative relation with the dependent variable. It indicates statistically insignificant because the p value for this variable is higher than 0.05. This indicates that when the leverage ratio, bank size and capital ratio of the public banks increase, which results to decrease the net interest margin of the banks.

Table 10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.856[a]	.734	.662	.0064131

a. Predictors: (Constant), Capital Ratio, Bank Size, Liquidity Ratio, Leverage Ratio

Source: Calculation using SPSS version 26 under Appendix I

R-square represents the multiple correlation coefficient with a range lies between -1 and +1. Base on table 10 the R value has remained 0.856, it means net interest margin had a positive relationship with leverage ratio, bank size, liquidity ratio and capital ratio. R square represents the coefficient of determination and ranges between 0 and 1. Since R square value was 0.734, it means 73.4% of the variation in net interest margin has caused by leverage ratio, bank size, liquidity ratio and capital ratio of the government banks.

Table 11 Anova Test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.002	4	.000	10.321	.000[b]
	Residual	.001	15	.000		
	Total	.002	20			

a. Dependent Variable: Net Interest Margin

b. Predictors: (Constant), Capital Ratio, Bank Size, Liquidity Ratio, Leverage Ratio

Source: Calculation using SPSS version 26 under Appendix I

The dependent variable net interest margin was regressed on predicting variable of leverage ratio, bank size, liquidity ratio and capital ratio. The independent variables significantly predict net interest margin. F (4, 15) = 10.321, P<0.01, which indicates that the four factors under study have a significant impact on net interest margin.

Table 12 Multiple Regression Analysis (Gov. Bank, NIM)

Coefficients						
	Unstandardized Coefficients			Standardized Coefficients		
Model	B	Std. Error		Beta	t	Sig.
1	(Constant)	.365	.106		3.426	.004
	Leverage Ratio	.004	.002	.896	2.219	.042
	Bank Size	-.016	.004	-.591	-4.194	.001
	Liquidity Ratio	.023	.015	.220	1.535	.091
	Capital Ratio	.405	.132	1.246	3.064	.008
a. Dependent Variable: Net Interest Margin						

Source: Calculation using SPSS version 26 under Appendix I

Table 12 shows that leverage ratio, bank size and capital ratio have positive relation with the

dependent variable of the government bank. It indicates statistically significant, because the p value for this variable is lower than 0.05. This indicates that when the leverage ratio, bank size and capital ratio of the government banks increases, which results to increase the net interest margin of the banks. Liquidity Ratio has negative relation with the dependent variable. It indicates statistically insignificant because the p value for this variable is higher than 0.05." This indicates that when the liquidity ratio of the government banks increase, its results to decrease the net interest margin of the banks.

Discussion

Leverage Ratio has remained insignificantly positive with NIM of public banks, which has remained similar with Leverage Ratio increasing the profitability of the bank (Mehzabin, Shahriar, Hoque, Wanke, & Azad, 2022). Additionally, the result reveals that the Leverage Ratio has remained similar with Leverage Ratio. There is no substantial negative link between the size of the bank and the net interest margin of public banks. As a result, this suggests that it is distinct from in some sense. The reason for this is that Mehzabin, Shahriar, Hoque, Wanke, and Azad (2022) explain that the size of the bank increases the profitability. Research that was quite similar to this one found that the Liquidity Ratio of public banks continued to have a substantial positive link with NIM. According to Berger (1995), Bourke (1989), and Hassan and Bashir (2003), it indicates that it creates comparable effects with lower expected bankruptcy costs, which decrease the cost of finance and risk exposures. This resulted in more money being available to support more revenue-generating enterprises, which ultimately led to an increase in profitability. The capital ratio continues to have a correlation with the net interest margin (NIM) of public banks that is insignificantly negative. It gives the impression that the effects are not comparable to those that Doku, Kpekpena, and Boateng (2019) encountered. Both the capital structure and the performance of businesses. Increasing the capital to asset ratio of a bank is good for riskier institutions in terms of decreasing expected bankruptcy costs and interest expenditures, according to Berger (1995), who found a positive and statistically significant correlation between the ratio of a bank's capital to its assets and the profitability of the bank. Furthermore, the findings indicate that the leverage ratio has maintained a substantial negative association with the net interest margin (NIM) of government banks. This link has remained distinct with the fact that the leverage ratio has been shown to boost the profitability of banks (Mehzabin, Shahriar, Hoque, Wanke, & Azad, 2022). The size of the bank has continued to have a considerable negative link with the net interest margin of government banks. As a result, this suggests that it is distinct from in some sense. The reason for this is that Mehzabin, Shahriar, Hoque, Wanke, and Azad (2022) explain that the size of the bank increases the profitability. In research that was quite comparable to this one, the Liquidity Ratio was found to have a strong positive link with the Net Interest Margin of government banks. This indicates that it results in a dissimilarity with According to Berger (1995), Bourke (1989), and Hassan and Bashir (2003), a decrease in the expected costs of bankruptcy makes it possible to lower the cost of finance and risk exposures, which in turn enables a bigger amount of money to support a higher number of revenue-generating enterprises, hence boosting profitability. It is still the case that the capital ratio maintains a considerable and positive relationship with the net interest margin of the government banks. Consequently, it suggests that the effects are comparable to those that Doku, Kpekpena, and Boateng (2019) encountered.

Conclusion

The purpose of this research is to investigate the extent to which the capital structure influences

the profitability of the banking industry. The leverage ratio has maintained an insignificant positive link with the NIM of the public banks. Deposits and lending increase, nonperforming loans decline, reserves increase, bonus dividends fall, investment opportunities expand, growth rate increases, and interest rates reduce. There is an insignificant negative association between bank size and NIM of Public Banks. Its repercussions include a drop in deposits, lending, nonperforming loans, reserves, growth rates, bonus dividends, investment opportunities, and interest rates. The liquidity ratio has maintained a considerable positive link with the NIM of the public banks. It has an influence on increased investment opportunities, increased net income, and decreased interest rates for public banks. Capital Ratio has maintained an insignificant negative link with NIM of public banks. It has an influence on public banks' deposit, lending, nonperforming loan, reserve, growth rate, bonus dividend, investment opportunity, and interest rates. Leverage ratio and bank size have a considerable negative association with the NIM of government banks. It has an impact on deposit and lending reductions, nonperforming loan increases, growth rate reductions, bonus dividend increases, and decreased investment opportunities. There is an insignificant positive association between the liquidity ratio and NIM of government banks. Deposits and lending increase, non-performing loans decline, reserves increase, growth rates increase, bonus dividends increase, investment opportunities expand, interest-earning assets decrease, and net interest income increases. Capital Ratio has maintained a considerable positive association with NIM of government banks. This has an impact on deposit and lending increases, nonperforming loan decreases, net interest income increases, reserve decreases, growth rate increases, bonus dividend increases, and increased investment opportunities in government banks. The decision is influenced by leading bank standards, tax legislation, the CSER Committee's participation, and the presence of foreign directors. Despite the fact that data on bank size, liquidity, and capital were limited in this study, we recommend that analogous analyses be undertaken in future studies that include all of the country's institutions. This study provided a framework for understanding Nepalese banks' usage of leveraged borrowing.

References

Adesina, J.B., Nwidobie, B.M., & Adesina, O.O. (2015). Capital structure and financial performance in Nigeria. *International Journal of Business and Social Re- search, 5*(2), 21-31.

Anafo, S.A., Amponteng, E., & Yin, L. (2015). The impact of capital structure on profitability of banks listed on the Ghana stock exchange. *Research Journal ofFinance and Accounting, 6*(16), 26-34.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of errorcomponents models. *Journal of Econometrics, 68(*1), 29-51.

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.

Ayalew, Z. A. (2021). Capital structure and profitability: Panel data evidence of private banks in Ethiopia. Cogent Economics & Finance, 9(1), 1953736.

Ayalew, Z.A. (2021). Capital structure and profitability: Panel data evidence of private banks in Ethiopia. Cogent Economics and Finance, Retrieved from: https://doi.org/10.1080/23322039.2021.1953736

Berger, A. N. (1995). The relationship between capital and earnings in banking. *Journal of Money, Credit, and Banking*, *27* (2), 432–56.

Bhatt, S., & Jain, S. (2020). Capital structure and profitability of commercial banks in Nepal. Account and Financial Management Journal, 5(5), 2165-2173.

Birru, M.W. (2016). The impact of capital structure on financial performance of commercial banks in Ethiopia. Global Journal of Management and Business Research, 17(3), 67-86.

Bourke, P. (1989). Concentration and other determinants of bank profitability in Europe, North America, and Australia. *Journal of Banking & Finance*, *13* (1), 65–79.

Brigham, E. F., & Ehrhard, T. (2011). *Financial management theory and practice* (11th ed.). Ohio: South Western Cengage Learning.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the*

behavioral sciences. Routledge. third edition. New York University.
Demirgüç-Kunt, A. & Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: some international evidence. The World Bank Economic Review, 13(2), 379-408.
Doku, J. N., Kpekpena, F. A., & Boateng, P. Y. (2019). Capital structure and bank performance: Empirical evidence from Ghana. *African Development Review*, *31*(1), 15-27.
Frank, M.Z., & Goyal, V.K. (2003). Testing the pecking order theory of capital structure. Journal of Financial Economics, 67(2), 217-248.
Gebrayel, E., Jarrar, H., Salloum, C., & Lefebvre, Q. (2018). Effective association between audit committees and the internal audit function and its impact on financial reporting quality: Empirical evidence from Omani listed firms. *Inter-national Journal of Auditing*, *22*(2), 197-213.
Gupta, T., & Khanna, K. (2022). A Systematic Literature Review Analysis of the Capital Structure Theories & Its Determinants: An Estimation of the Future Trends. *Journal of Pharmaceutical Negative Results*, 7417-7425. DOI: https://doi.org/10.47750/pnr.2022.13.S07.893
Hassan, M. K., & Bashir, A. H. M. (2003). *Determinants of Islamic banking profitability* (10th ed). Morocco: ERF Annual Conference, *7*(1), 2-31).
Hossain, S., & Ahamed, F. (2021). *Comprehensive analysis on determinants of bankprofitability in Bangladesh*, Retrieved from: https://doi.org/10.48550/arXiv.2105.14198
IQBAL, M. M. (2022). The relationship between capital structure and firm performance: new evidence from Pakistan. The Journal of Asian Finance, Economics and Business, 9(2), 81-92.
Kothari, C. R. (1994). *Research methodology.* New Delhi: Methods and Techniques Vikash Publication House Pvt. Ltd.
Mehzabin, S., Shahriar, A., Hoque, M. N., Wanke, P., & Azad, M. A. K. (2022). Theeffect of capital structure, operating efficiency and non-interest income on bank profitability: New evidence from Asia. *Asian Journal of Economics andBanking*, Retrieved from: https://doi.org/10.1108/AJEB-03-2022-0036
Musah, A. (2018). The impact of capital structure on profitability of commercial banks in Ghana. Asian Journal of Economic Modelling, 6(1), 21-36.
Musah, A. (2018). The impact of capital structure on profitability of commercial banks in Ghana. Asian Journal of Economic Modelling, 6(1), 21-36.
Musah, A. (2018). The impact of capital structure on profitability of commercial banks in Ghana. Asian Journal of Economic Modelling, 6(1), 21-36.
Noreen, U. (2019) Conducted research on Impact of capital structure on profitability: A comparative study of Islamic and conventional banks of Pakistan. The Journal of Asian Finance, Economics and Business, 6(4), 65-74.
Otekunrin, A. O., Nwanji, T. I., Eluyela, D., Olowookere, J. K., & Fagboro, D. G. (2020). Capital structure and profitability: the case of Nigerian deposit money banks. Banks and Bank Systems, 15(4), 221-228.
Pham, N. H., Hoang, T. M., & Pham, N. T. H. (2022). The impact of capital structure on bank profitability: evidence from Vietnam. Cogent Business & Management, 9(1), 2096263.
Rana-Al-Mosharrafa & Islam, M.S. (2021). What drives bank profitability? A panel data analysis of commercial banks in Bangladesh. International Journal of Finance and Banking Studies, 10(2), 96-110.
Sahibzada, M. H. (2022). The Impact of Capital Structure on Profitability of Commercial Banks in Afghanistan. Journal of Humanities Insights, 6(3).
Salloum, C., Bouri, E., Salloum, L., & Azzi, T. (2019). Gouvernanceet performances financieres des entreprises familiales. *La Revue des Sciences de Gestion*, *29*(3), 45-54.
Salloum, L., Salloum, C., Jarrar, H., Sassine, M., Gebrayel, E. & Chaanine, N. (2015).Corporate governance and audit committee. *International Journal of Mana- gerial and Financial Accounting*, *7*(4), 198-216.
Zaman, M., Ullah, S., & Ali, A. (2020). Relationship between Capital Structure and Profitability: Dual Banking Perspective. NICE Research Journal, 181-191.