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Research Article

Impact of Capital Adequacy on Profitability of Commercial Banks in Nepal

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ABSTRACT

Purpose: *This study aims to assess the impact of capital adequacy on the profitability of selected commercial banks in Nepal. It specifically measures and evaluates the capital adequacy ratios and profitability ratios of the selected Nepalese commercial banks.*

Methods: *The research employs descriptive and casual-comparative research designs, using a sample of one government-owned bank and one private sector bank in Nepal. The study analyzes CCR, SCR, and CAR to measure capital adequacy and ROE, ROA, and NPM to measure profitability.*

Findings: *The study finds that the capital position of the commercial banks is adequate according to the capital adequacy framework 2015 and unified directives number one of NRB. However, profitability ratios of the sample Nepalese commercial banks are high but decreasing over the past 10 years. The correlation between ROE and capital adequacy variables is very weakly positive, while the correlation between NPM and capital adequacy variables is weakly positive. However, the correlation between ROA and capital adequacy variables is weakly negative. The regression analysis finds insignificant results, indicating that capital adequacy has not made any significant impact on profitability.*

Value: *The study provides insights into the impact of capital adequacy on the profitability of commercial banks in Nepal, contributing to the understanding of the banking sector in Nepal. It also highlights the decreasing trend in profitability ratios and the insignificant impact of capital adequacy on profitability.*

Keywords: *Capital adequacy, Profitability, Commercial banks, Nepal, CCR, SCR, CAR, ROE, ROA, NPM.*

Introduction

Capital Fund encompasses the primary and supplementary capital of a bank or financial institution, as defined by the regulatory authority, Rastra Bank, along with any other specified funds (BAFIA, 2073). This capital plays a crucial role in ensuring the stability and resilience of banks, acting as a buffer against potential losses and preventing bank failures. The implementation of capital adequacy regulations, based on international standards such as Basel III, is instrumental in safeguarding the financial system by setting minimum capital requirements that are sensitive to risk.

The evolution of capital regulation, reflected in the three capital accords—Basel I, Basel II, and Basel III, has been shaped by global financial crises and regulatory imperatives (Siddika and Haron, 2020). Basel III, specifically designed in response to the 2007–2008 financial crisis, aims to address regulatory gaps and systemic risks faced by banks.

Micro-prudential regulation under Basel III focuses on capital adequacy as a fundamental aspect of banking stability. The failure of a bank can have far-reaching impacts on both domestic and international economies, underscoring the critical importance of robust capital regulations. The Capital Adequacy Framework of 2007, updated in 2008, marked a significant shift in Nepalese banking regulations, emphasizing the need for quality credit assessment and overall sector development.

Ensuring that banks maintain adequate capital levels commensurate with their risk profiles is essential for safeguarding depositors, creditors, and promoting public confidence in the banking system. Currently, commercial banks and national-level development banks in Nepal adhere to the Capital Adequacy Framework of 2015, as per Directive Number One of the Unified Directives.

Profitability is another key metric in banking, reflecting the ability of banks to generate earnings efficiently and manage operational costs (Neupane, 2019). The Nepalese banking landscape comprises various institutions, including commercial banks, development banks, finance companies, microcredit development banks, and infrastructure development banks, contributing significantly to the country's economic development.

Rational of the Study

The banking sector, acting as a financial intermediary, plays a vital role in channeling funds from savers to borrowers, thereby facilitating economic growth and development (Gautam S.K., 2019). This paper delves into the intersection of capital regulation, profitability, and the broader impact of banking activities on Nepal's economy, aiming to provide insights into the challenges and opportunities within the sector.

Mishra, K., Kandel, D.R., and Aithal, P.S.'s(2021) research on profitability in commercial banks in Nepal highlights the importance of maintaining an optimal level of capital adequacy and cost-to-income ratio in shaping the profitability of commercial banks. Bank size, nonperforming loans ratio, liquidity position, cost-to-income ratio, capital adequacy, and assets quality all exhibit a positive impact on overall bank performance. Prudent management of capital adequacy and cost-to-income ratio emerges as key factors influencing profitability(Mishra& Kandel,2023).

These studies provide valuable insights into the relationship between capital adequacy and profitability in Nepal's commercial banks. However, more research is needed to fully understand the impact of capital adequacy on profitability in the Nepalese context. Further studies could explore the relationship between capital adequacy and profitability in different types of commercial banks, such as government-owned and private sector banks, and in different regions of Nepal.

The study on The Impact of Capital Adequacy on Profitability of Selected Commercial Banks in Nepal is a valuable contribution to the understanding of the relationship between capital adequacy and profitability in Nepal's commercial banks. The study highlights the importance of maintaining an optimal level of capital adequacy and cost-to-income ratio in shaping the profitability of commercial banks, and provides valuable insights into the relationship between capital adequacy and profitability in Nepal's commercial banks. However, more research is needed to fully understand the impact of capital adequacy on profitability in the Nepalese context.

Objective of the Study

The general objective of the research is to assess the impact of capital adequacy on profitability of selected commercial banks in Nepal.

Literature Review

The Capital Buffer Theory

Memeh (2014) introduced the Capital Buffer Theory, emphasizing the pivotal role of capital adequacy in lending decisions for financial institutions. This theory posits that banks maintain a capital buffer beyond the minimum required amount, allowing them to absorb adverse shocks and reduce the risk of failure (Pooder & Haque, 2016). The theory suggests that banks adjust their capital levels in response to changes in portfolio risk, with higher capital buffers leading to increased bank performance through reduced lending rates and enhanced profitability.

Trade-Off Theory

The Trade-Off Theory of capital structure, initially proposed by Kraus and Litzenberer (1973), delves into the balance between debt and equity financing based on cost-benefit analysis. It highlights the advantages of debt financing, such as tax benefits, countered by the costs of financial distress associated with high debt levels (Brealey and Myers, 2003). This theory underscores the complex interplay between capital structure, risk, and profitability, with higher capital ratios mitigating default risks but potentially increasing the cost of capital.

Theories of Economic Efficiency

Rooted in neoclassical microeconomic theory, the concept of economic efficiency emphasizes resource allocation and value creation within competitive markets (Griffiths & Wall, 2000). Efficient firms maximize profits or minimize costs while responding to consumer preferences, contributing to overall welfare improvements. Policy interventions are often evaluated based on their impact on economic efficiency and market competitiveness.

Theory of Moral Hazard

Moral hazard theory addresses the risk-taking behavior of banks in response to regulatory interventions and safety nets provided by central banks or governments (Jeitschko and Jeung, 2005). It suggests that increased capital requirements may lead to higher risk-taking, although well-capitalized banks exhibit lower moral hazard incentives. Regulators play a crucial role in balancing capital requirements to mitigate risks without stifling economic growth.

Conceptual Review

The Basel III Accord provides a regulatory framework for capital adequacy, defining tiers of capital and establishing guidelines for banks' capital structures (Apostolik, Donohue and Went, 2012). This framework ensures that banks maintain sufficient capital to absorb losses and meet minimum regulatory requirements, contributing to financial stability. Banks' profitability, measured through metrics like Return on Assets (ROA), reflects their efficiency in utilizing assets to generate income (Ejoh & Iwara, 2014).

Empirical Studies

Several empirical studies have explored the relationship between capital adequacy and bank profitability in various contexts. Olalekan & Adeyinka (2013) found a positive correlation between capital adequacy and profitability in Nigerian banks, while Gautam (2019) reported mixed results in Nepalese commercial banks, with capital adequacy showing a negative impact on profitability. Nguyen (2020) and Kharel (2020) highlighted the nuanced effects of capital adequacy on different-sized banks and their profitability, indicating the complex dynamics at play.

Additionally, Nzioki (2011) and Thakur (2019) conducted studies on capital adequacy and its impact on bank performance, underscoring the multifaceted nature of this relationship and its implications for financial stability and risk management.

In the literature review reveals a nuanced understanding of capital adequacy, profitability, and risk management within the banking sector, highlighting the interplay of theoretical frameworks, regulatory requirements, and empirical findings in shaping banking policies and practices.

Methodology

Research design

This research employs a combination of descriptive and causal-comparative research designs to investigate the relationship between capital adequacy and profitability in Nepalese commercial banks.

Descriptive Research Design

The descriptive research design is utilized to gather factual information and gain insights into the fundamental issues related to capital adequacy and profitability variables among Nepalese commercial banks. This design aims to describe the real conditions, situations, and facts pertaining to the research topic.

Causal-Comparative Research Design

The causal-comparative research design is employed to establish cause-and-effect relationships between capital adequacy and profitability. It assesses the impact of capital adequacy on the financial performance of Nepalese commercial banks, exploring potential causal links between these variables.

Population, Sample, and Sampling Design

- **Population:** The population for this research comprises all currently operating commercial banks in Nepal, totaling 27 banks as per the latest report from the Nepal Rastra Bank (NRB) as of the end of Chaitra, 2078.
- **Sample Frame:** The study focuses on government-owned and private sector banks.
- **Sample Size:** A sample of two banks is selected, including one government-owned bank and one private sector bank, to represent the population.
- **Sampling Method:** Stratified sampling is employed, dividing Nepalese commercial banks into government-owned and private sector-owned subgroups. The best-performing bank from each subgroup based on the average net profit over ten years is selected as the sample. Specifically, Rastiya Banijya Bank Limited (RBBL) from the government-owned subgroup and Nabil Bank Limited (NABIL) from the private sector-owned subgroup are chosen as the sample banks.

Nature and Sources of Data

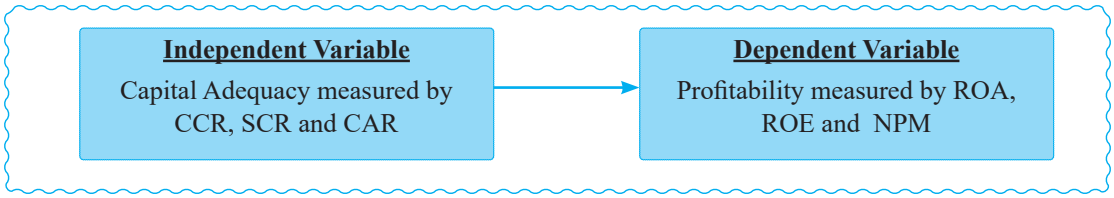
- **Data Collection:** Secondary data collection is conducted using published annual reports and Basel III disclosures for each fiscal year from 2068/069 to 2077/78 of the selected commercial banks.
- **Sources of Data:** The primary source of data is the internet and the websites of the respective commercial banks for annual reports and Basel III disclosures. Supplementary data is gathered from related books, journals, articles, reports, bulletins, and reports from the Nepal Rastra Bank (NRB) and related websites.

Data Processing Procedures and Analysis Method

Financial and statistical tools are employed for data analysis to ensure convenience, reliability, and authenticity. Microsoft Excel and GRETL Software are used for data processing and analysis, facilitating accurate calculations and robust statistical examinations of the collected data.

The following figure shows the research framework, research variable and relationship between them:

Figure 1: *Theoretical Framework of Research*



Following hypothesis are tested to seek the answer of the research question:•

H1 1.1: Capital adequacy has made a significant impact measured in terms of Return on Equity.

H1 1.2: Capital adequacy has made a significant impact measured in terms of Return on Assets.

H1 1.3: Capital adequacy has made a significant impact measured in terms of Net Profit Margin.

Results and Discussion

Data presentation and analysis is the process of developing answers to questions through the examination and interpretation of data. The basic steps in the analytic process consist of identifying issues, determining the availability of suitable data, deciding on which methods are appropriate for answering the questions of interest, applying the methods and evaluating, summarizing and communicating the results.

Analysis of Capital Adequacy

Commercial Banks were used to report their capital adequacy under Capital Adequacy Framework 2007 (in line with Basel II) from FY 2064/065 to FY 2072/73 in Nepal. However, it has been reporting under Capital Adequacy Framework 2015 (in line with Basel III) since FY 2073/074. Capital adequacy of sample banks have analyzed using following ratios.

Core Capital Ratio

Core capital is key element of capital which is consists of shareholders' equity and other permanent sources of capital. CCR is proportion of core capital to total risk weighted exposure and it measures the core capital position and strength of bank. The commercial banks are needed to maintain 6 percent CCR as per Capital Adequacy Framework 2015.

Table 1: *CCR of Commercial Bank*

FY	NABIL	RBBL	Average CAR
2068/069	11.11	-9.35	0.88
2069/070	11.55	1.89	6.72
2070/071	11.60	4.18	7.89
2071/072	10.47	9.91	10.19
2072/073	10.51	9.96	10.24
2073/074	11.21	10.48	10.85
2074/075	11.99	12.65	12.32
2075/076	11.58	12.01	11.80
2076/077	10.69	12.00	11.35
2077/078	10.82	11.90	11.36

(Source: Basel Disclosure as on end of FY 2068/069 to 2077/078 of NABIL and RBBL)

Table 1 shows the CCR position maintained by commercial banks. Average CCR of commercial banks are 0.88, 6.72, 7.89, 10.19, 10.24, 10.85, 12.32, 11.80, 11.35 and 11.36 for the period from FY 2068/069 to 2077/078 respectively. CCR of banks are more than required by regulator that is 6 percent in every FY and indicate the strong capital base of the bank. However, CCR in FY 2068/069 is just 0.88 and it is less than required by regulatory due to high negative balance of reserve of RBBL in same year.

Figure 2: *Trend Line Chart of CCR of Commercial Banks*

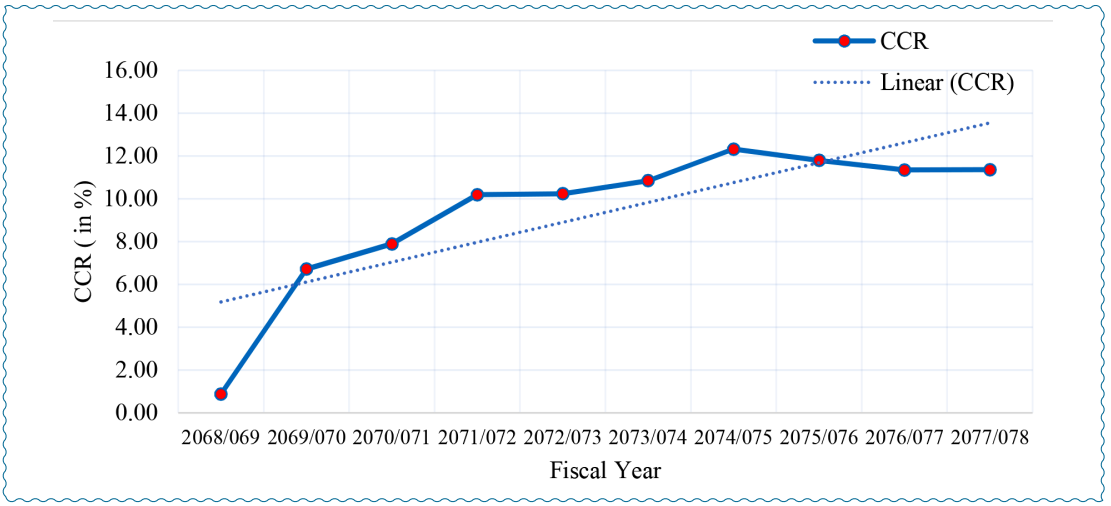


Figure 2 shows trend line chart of CCR mentioned by commercial banks on the basis of 10 year's data in from FY 2068/069 to 2077/078. CCR of commercial banks is in increasing trend over the period in linear trend line chart and it implies that capital base of the Nepalese commercial banks is strong and banks are strengthening their capital base every year.

Table 2: *SCR of Commercial Banks*

FY	NABIL	RBBL	Average CAR
FY	NABIL	RBBL	Average SCR
2068/069	1.60	NIL	0.80
2069/070	1.62	1.44	1.53
2070/071	1.58	1.42	1.50
2071/072	1.39	0.43	0.91
2072/073	1.22	1.25	1.24
2073/074	1.21	1.35	1.28
2074/075	1.19	1.37	1.28
2075/076	1.13	1.19	1.16
2076/077	2.12	1.11	1.62
2077/078	1.87	2.41	2.14

(Source: Basel Disclosure as on end of FY 2068/069 to 2077/078 of NABIL and RBBL)

Table 2 shows the SCR position maintained by commercial banks from FY 2068/069 to 2077/078. Supplementary capital is also known as Tier II capital which is comprised of less reliable and temporary source such as hybrid capital instruments, subordinated term debt, general loan loss provision, revalued reserve and so on. The SCR of Nepalese commercial banks are 0.80, 1.53, 1.50, 0.91, 1.24, 1.28, 1.28, 1.16, 1.62 and 2.14 from FY 2068/069 to 2077/078 respectively. The portion of SCR of Nepalese commercial banks in total capital fund is very low and this is strength of the banks because core capital itself is near and more than total capital required by regulator. Now the NRB has made provision to issue debenture at least 25 percent of its paid-up share capital.

Figure 3: *Trend Line Chart of SCR of Commercial Banks*

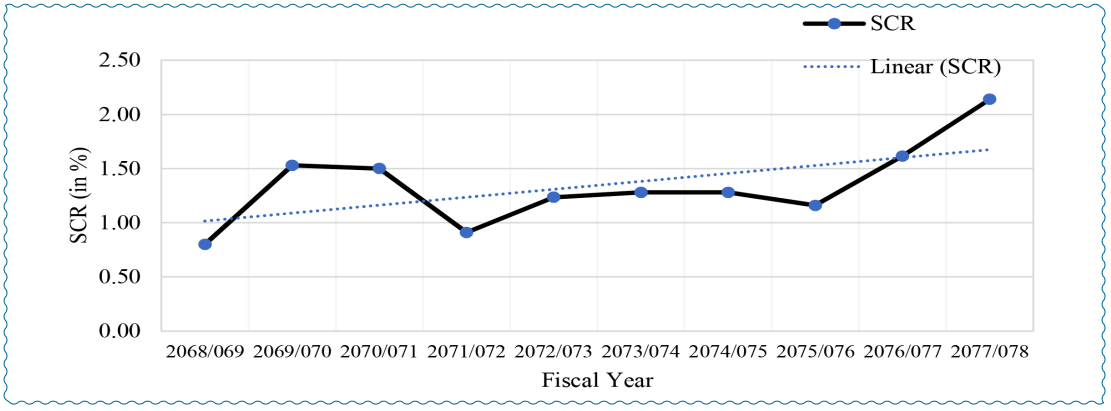


Figure 3 shows trend line chart of SCR mentioned by commercial banks on the basis of 10 year's data in from FY 2068/069 to 2077/078. SCR of commercial banks is also in increasing trend over the period in linear trend line chart and it implies that capital base of the Nepalese commercial banks is strong and banks are strengthening their capital base every year.

Capital Adequacy Ratios

Table 3: *CAR of Commercial Banks*

FY	NABIL	RBBL	Average CAR
Fiscal Year	NABIL	RBBL	Average CAR
2068/069	12.71	-9.35	1.68
2069/070	13.17	3.33	8.25
2070/071	13.18	5.60	9.39
2071/072	11.86	10.34	11.10
2072/073	11.73	11.21	11.47
2073/074	12.42	11.83	12.13
2074/075	13.18	14.02	13.60
2075/076	12.71	13.20	12.96
2076/077	12.81	12.68	12.75
2077/078	12.69	14.31	13.50

(Source: Basel Disclosure as on end of FY 2068/069 to 2077/078 of NABIL and RBBL)

Table 3 shows the CAR position maintained by commercial banks. Average CAR of commercial banks are 1.68, 8.25, 9.39, 11.10, 11.47, 12.13, 13.60, 12.96, 12.75 and 13.50 for the period from FY 2068/069 to 2077/078 respectively. CAR of banks are more than required by regulator that is 11 percent in every FY and indicate the strong capital base of the commercial bank. However, CAR in FY 2068/069 and 2069/070 are just 0.88 and 8.25 and it is less than required by regulatory due to high negative balance of reserve of RBBL in same year.

CAR is used to find out the ability to meet operational losses. It ensures the efficiency and stability of a nation's financial system by lowing the risk of banks becoming insolvent. The higher the CAR ratio, stronger the BFIs and the more will be the protection of investors. The commercial banks need to maintain 11 percent CAR including Capital Conservation Buffer of 2.5 percent as per Capital Adequacy Framework 2015.

Figure 4: *Trend Line Chart of CAR of Commercial Banks*

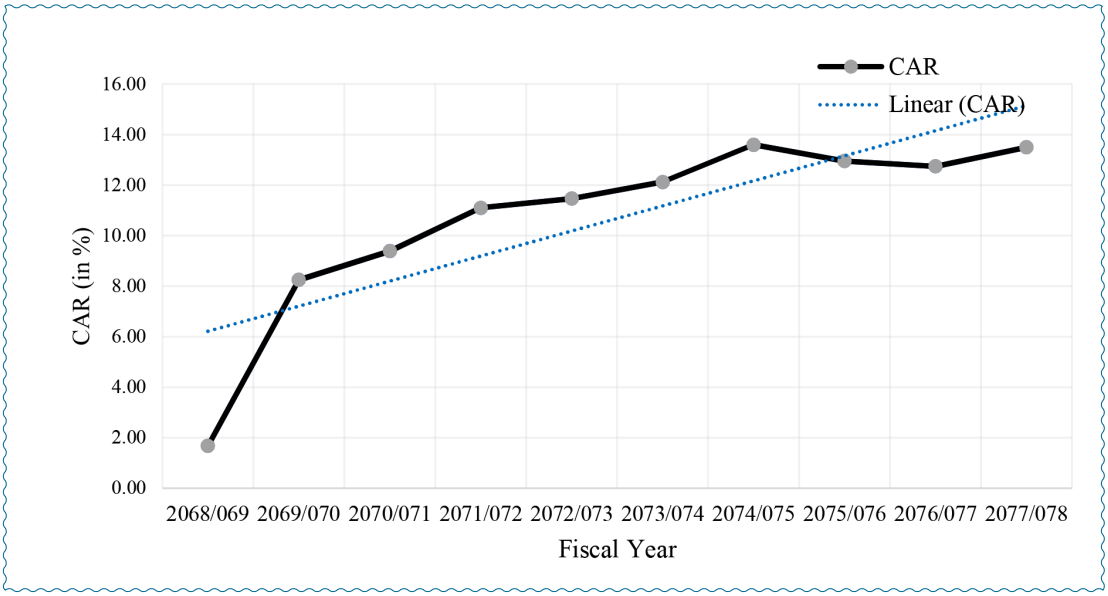


Figure 4 shows trend line chart of CAR mentioned by commercial banks on the basis of 10 year's data in from FY 2068/069 to 2077/078. CCR of commercial banks is in increasing trend over the period in linear trend line chart and it implies that capital base of the Nepalese commercial banks is strong and banks are strengthening their capital base every year.

Analysis of Profitability Position

Profitability analysis is to measure and evaluate ability of a company to generate income relative to revenue, shareholders' equity, size of the balance sheet during a specific period of time. Earning capacity shows the joint effect of liquidity, leverage and assets management on the firm's profitability. It determines the ability of the bank to earn consistently and explain the growth of earnings in future. Though different indicators can be used to measure the earning capacity. For the purpose of this research following ratios are used.

Return on Equity

ROE is measured to provide investor insight into how efficiently company's management is handling the money that the shareholders have contributed. The higher ROE, the more efficient a company's management is at generating income and growth from its earning.

Figure 5: *Trend Line Chart of ROE of Commercial Banks*

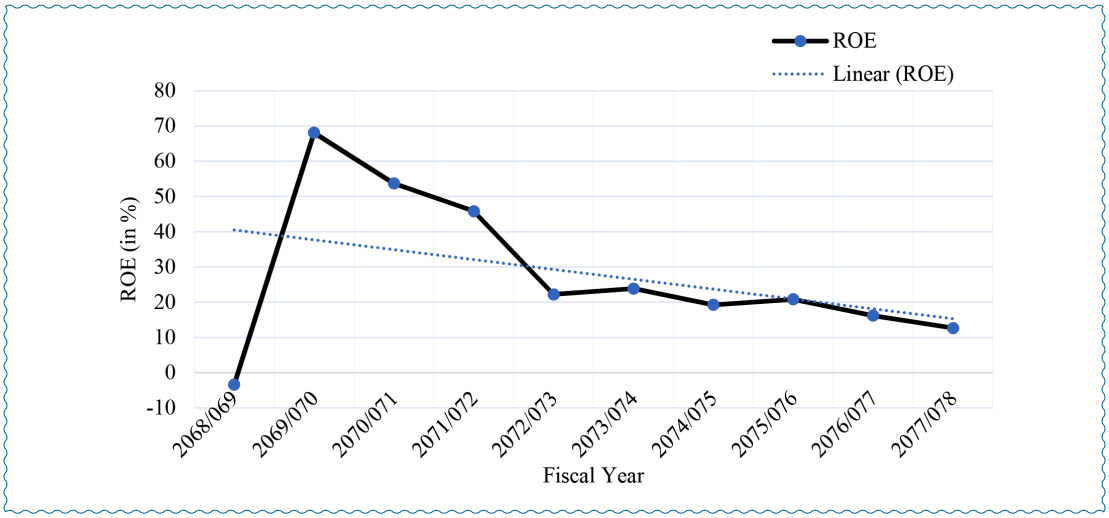


Figure 5 shows the trend line charts of ROE of commercial banks in Nepal on the basis of 10 year's data from FY 2068/069 to FY 2077/078. Linear trend line in figure shows ROE of commercial banks is in decreasing trend. This is due to mandatory requirement of increase in paid up capital as imposed by the NRB by implementing Basel II and then Basel III. Higher ROE increase the confidence of investors and indicate that the management is generating highest return out of its shareholders' equity. According to Fred Economic Data the average ROE from 1996 to 2020 of American banks was 11.39 percent and that of European banks was 7.69 percent. In comparison with Nepal, Average ROE of Nepalese commercial banks from FY 2068/069 to 2077/78 is 27.29 percent which can be considered as well ROE.

Return on Assets

ROA is measured to know how efficient a company's management is in generating profit using their total assets. Higher the ROA, the more management is efficient to generate profit from its total assets. ROA of Nepalese commercial banks has presented as follows:

Figure 6: *Trend Line Chart of ROA of Commercial Banks*

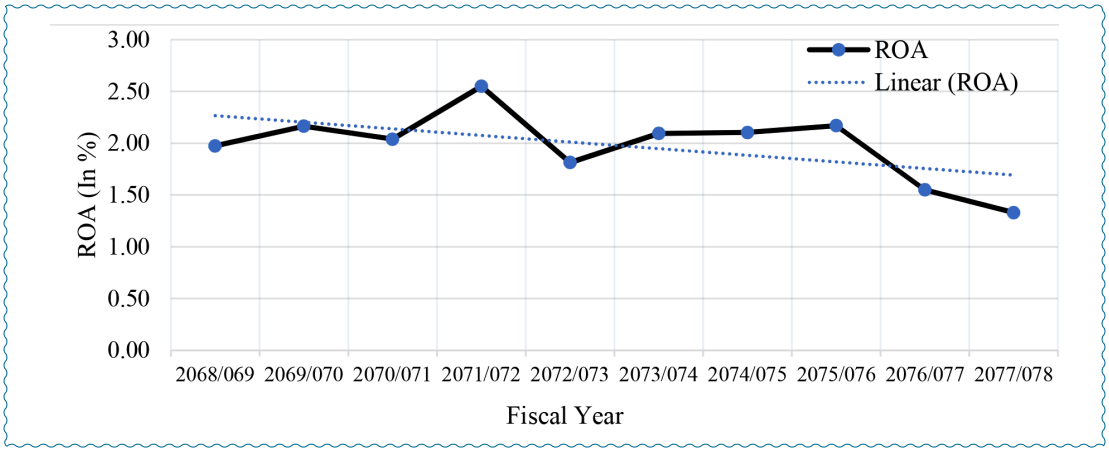


Figure6 shows the trend line charts of ROA of commercial banks on the basis of ten year's data from FY 2068/069 to FY 2077/078. Linear trend line in figure shows ROA of commercial banks is in decreasing trend. This is due to mandatory requirement of increase in paid up capital as imposed by the NRB by implementing Basel II and then Basel III and commercial banks strengthen their capital position.

According to Fred Economic Data the return on average assets ratio (ROA) of banks in the United States from 1996 to 2019 was 1.34 percent and that of European banks was 0.54 percent. In the context of Nepal, Average ROE of Nepalese commercial banks from FY 2068/069 to 2077/78 is 1.98 percent which is far better than US and European banks and it can be concluded that Nepalese commercial banks are profitable.

Net Profit Margin

NPM is measured to know how much net profit is generated as a percentage of total revenue. Higher the NPM, the more profitable bank is. The average NPM of sample commercial banks in Nepal is presented below.

Figure 7: *Trend Line Chart of NPM of commercial banks*

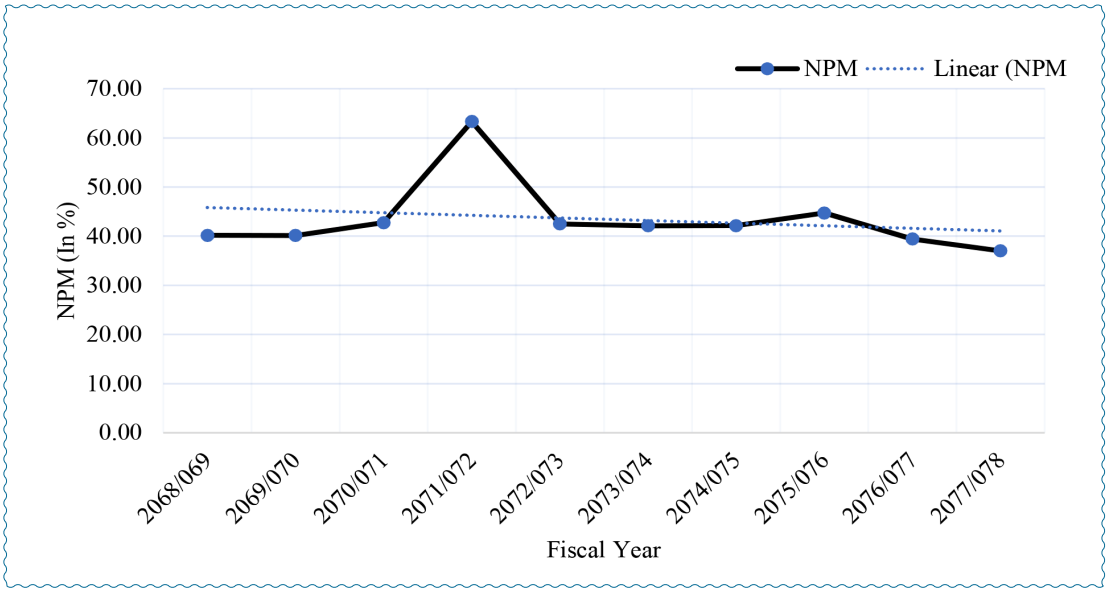


Figure 7 shows the trend line charts of NPM of Nepalese commercial banks on the basis of ten year's data from FY 2068/069 to 2077/078. Linear trend line in figure shows NPM of commercial banks is in decreasing trend with low degree. This might be due to much more restriction of NRB on charges and service fee of bank and increased cost of fund of Nepalese commercial banks.

Correlation Analysis

Correlation analysis is applied in quantifying the association between two continuous variables, for example, a dependent and independent variable or among two independent variables. In order to find out the association of capital adequacy with the profitability of commercial banks following correlation coefficient are calculated and analyzed.

The correlation coefficient between capital adequacy variables: and profitability variables is presented as follows:

Table 4: *Correlation Matrix*

	CAR	CCR	SCR	ROE	ROA	NPM
CAR	1.0000					
CCR	0.9955	1.0000				
SCR	0.4915	0.4086	1.0000			
ROE	0.0565	0.0430	0.1114	1.0000		
ROA	-0.1908	-0.1270	-0.7367	0.4886	1.0000	
NPM	0.0707	0.1306	-0.5486	0.3310	0.7384	1.000

Table 4 shows the correlation coefficient between capital adequacy variables CCR, SCR, CAR and profitability variables ROE, ROA and NPM based on ten year's data of sample commercial banks in Nepal from FY 2068/069 to 2077/078.

Correlation coefficient between ROE and CCR, ROE and SCR, ROE and CAR found 0.0430, 0.1114 and 0.0565 respectively. Which implies that there is very weak positive correlation between capital adequacy variables and profitability variables. In other words, if bank and financial institution has adequate capital or increase their capital base then ROE will also be increased by negligible amount and vice versa.

Correlation coefficient between ROA and CCR, ROA and SCR, ROA and CAR found -0.1270, -0.7367 and -0.1908. Which implies that there is weak negative correlation between ROA and CCR, ROA and CAR, if core capital and total capital of the commercial bank will be increased then ROA of the commercial bank will be decreased. Similarly, it found there is strong negative correlation between SCR and ROA, if supplementary capital of the bank will be increased then ROA of commercial bank will be decreased. Therefore, there is negative correlation between capital adequacy and ROA of commercial bank in Nepal.

Correlation coefficient between NPM and CCR, NPM and SCR, NPM and CAR found 0.1306, 0.0707 and -0.5486. Which implies that there is very weak degree of positive correlation between NPM and CCR, NPM and CAR, if core capital and total capital of the commercial bank will be increased then NPM of the commercial bank will also be increased and vice versa. Similarly, it found there is moderate degree of negative correlation between SCR and NPM, if supplementary capital of the bank will be increased then NPM of commercial bank will be decreased and vice versa.

Regression Analysis

Regression analysis is a set of statistical methods used for the estimation of relationships between a dependent variable and one or more independent variables. It can be utilized to assess the strength of the relationship between variables and for modeling the future relationship between them.

Multiple Regression between ROE and Independent Variable

Table 5: *Regression between ROE and Independent Variable*

	Constant	CAR	CCR	SCR	Adjusted R-Squared
Coefficient P-Value	15.94 (0.6525)	74.76 (0.5837)	-74.60 (0.5836)	-65.76 (0.6228)	-0.40

Table 5 represent the multiple regression between ROE as dependent and CCR, SCR, CAR as independent variable of commercial banks based on 10 year's data from FY 2068/069 to 2077/078.

The p-value of independent variable CAR, CCR and SCR found 0.5837, 0.5836 and 0.6228. Since p-value of all the independent variable are greater than significance level of 0.05, the regression results found insignificant. Therefore, H0 1.1 is accepted and H1 1.1 is rejected. This implies that the capital adequacy has not made any significant impact on ROE of commercial banks in Nepal.

Multiple Regression Between ROA and Independent Variable

Table 6: *Regression between ROA and Independent Variable*

	Constant	CAR	CCR	SCR	Adjusted R-Squared
Coefficient P-Value	2.70930 0.0002	1.50986 (0.2715)	−1.48549 (0.2776)	−2.19788 (0.1230)	0.492650

Table 6 represent the multiple regression between ROA as dependent and CCR, SCR, CAR as independent variable of commercial banks based on 10 year's data from FY 2068/069 to 2077/078. The p-value of independent variable CAR, CCR and SCR found 0.2715, 0.2776 and 0.1230. Since p-value of all the independent variable are greater than significance level of 0.05, the regression results found insignificant. Therefore, H0 1.2 is accepted and H1 1.2 is rejected. This implies that the capital adequacy has not made any significant impact on ROA of commercial banks in Nepal.

Multiple Regression between NPM and Independent Variable

Table 7: *Regression between NPM and Independent Variable*

	Constant	CAR	CCR	SCR	Adjusted R-Squared
Coefficient P-Value	53.1129 (0.0009)	11.4151 (0.7445)	−10.4863 (0.7640)	−24.8860 (0.4775)	0.193812

Table 7 represent the multiple regression between NPM as dependent and CCR, SCR, CAR as independent variable of commercial banks based on 10 year's data from FY 2068/069 to 2077/078. The p-value of independent variable CAR, CCR and SCR found 0.7445, 0.7640, and 0.4775. Since p-value of all the independent variable are greater than significance level of 0.05, the regression results found insignificant. Therefore, H0 1.3 is accepted and H1 1.3 is rejected. This implies that the capital adequacy has not made any significant impact on NPM of commercial banks in Nepal.

Discussion

According to regulatory standards, Nepalese commercial banks are required to maintain a minimum Capital Conservation Ratio (CCR) of six percent and a minimum Capital Adequacy Ratio (CAR) plus Capital Conservation Buffer of 11 percent, as outlined in the Capital Adequacy Framework 2015 and Unified Directives Number One of the Nepal Rastra Bank (NRB). The CCR, Supplementary Capital Requirement (SCR), and CAR of commercial banks show an increasing trend.

The profitability position of banks is found to be strong, exceeding conventional standards. As per conventional rating rules, banks with a Return on Assets (ROA) less than one percent are categorized in the marginal earning performance zone, while those with an ROA exceeding one percent are considered satisfactory with a good return. Nepalese commercial banks are earning ROA exceeding one percent. Similarly, Return on Equity (ROE) and Non-Performing Assets (NPA) are also higher compared to banks in the US and Europe.

The correlation coefficient results between ROE and capital adequacy variables (CCR, SCR, and CAR) show a very weak degree of positive correlation, indicating that an increased capital base leads to a negligible increase in ROE and vice versa. Similarly, the correlation coefficient results between ROA and capital adequacy variables exhibit a weak degree of negative correlation, suggesting that an increase in the capital base results in a decreased ROA for commercial banks and vice versa. Additionally, the correlation coefficient results between Net Profit Margin (NPM) and capital adequacy variables indicate a weak degree of positive correlation between NPM and CCR, NPM and CAR, and a moderate degree of negative correlation between SCR and NPM.

Regression analysis between ROE as the dependent variable and CCR, SCR, CAR as independent variables yields p-values greater than the significance level of 0.05, rendering the regression results insignificant. Consequently, the null hypothesis (H0 1.1) is accepted, indicating that capital adequacy has not significantly impacted ROE in Nepalese commercial banks. The same pattern is observed in regression analysis between ROA as the dependent variable and CCR, SCR, CAR as independent variables, and between NPM as the dependent variable and CCR, SCR, CAR as independent variables, where the regression results are found to be insignificant, leading to the acceptance of the respective null hypotheses (H0 1.2 and H0 1.3). These results suggest that capital adequacy has not made a significant impact on the profitability indicators of commercial banks in Nepal, aligning with the findings in existing literature reviewed in this research.

Conclusion

The primary aim of this paper was to evaluate the impact of capital adequacy on the profitability of selected commercial banks in Nepal. Through the assessment of capital adequacy ratios (CCR, SCR, CAR) and profitability ratios (ROE, ROA, NPM), the study aimed to provide insights into the financial health and performance of these banks. The literature review revealed mixed results globally, with some studies indicating a significant positive effect of capital adequacy on profitability, while others reported a negative effect. However, limited research has been conducted in the context of Nepal, warranting a comprehensive study using the latest data post-Basel III implementation.

The analysis of capital adequacy ratios indicated that the capital position of the commercial banks is in line with the requirements outlined in the Capital Adequacy Framework 2015 and Unified Directives Number One of the Nepal Rastra Bank (NRB). The prescribed minimum CCR of six percent and minimum CAR plus capital conservation buffer of 11 percent are being maintained by these banks.

Regarding profitability ratios, the ROE, ROA, and NPM of the sample Nepalese commercial banks were found to be high and satisfactory. However, a declining trend was observed in these ratios over the ten-year period from FY 2068/069 to 2077/078, indicating potential challenges that banks may face in maintaining profitability levels.

The correlation analysis between ROE, ROA, NPM, and capital adequacy variables showed varying degrees of correlation. While ROE and NPM exhibited a weak positive correlation with capital adequacy variables (CCR, SCR, CAR), ROA displayed a weak negative correlation. These findings suggest a nuanced relationship between capital adequacy and profitability indicators, with ROE and NPM showing a slightly more positive association compared to ROA.

Furthermore, regression analysis was conducted to assess the impact of capital adequacy variables (CAR, CCR, SCR) on profitability

indicators (ROE, ROA, NPM). The results of the regression analysis were found to be insignificant at the five percent significance level, indicating that capital adequacy did not have a significant impact on profitability based on the data and variables studied.

The study confirmed the adequate capital position of Nepalese commercial banks and their satisfactory profitability ratios; it also highlighted the need for continued monitoring and analysis to understand the evolving dynamics between capital adequacy and profitability in the banking sector. Further research using updated data and a more extensive sample size could provide deeper insights into these relationships and contribute to enhancing the overall financial stability and performance of commercial banks in Nepal.

Implications

This study provides a strong foundation for future academic research on capital adequacy, profitability, capital adequacy regulation, and their interrelationship. The regression analysis revealed an insignificant impact of capital adequacy on profitability, indicating that maintaining capital beyond regulatory requirements does not significantly affect commercial banks' profits. It is recommended that banks in Nepal manage their capital in accordance with regulatory standards.

The study focused on the top-performing commercial bank from both government-owned and private-owned sectors based on a ten-year average net profit. However, it has limitations concerning the scope and data source. The research solely relies on secondary data, overlooking qualitative aspects of capital adequacy and profitability. Factors influencing bank profitability beyond capital adequacy were not addressed. Additionally, the data from annual reports might be subject to window dressing, potentially not reflecting the actual bank performance. Moreover, the study only analyzed two commercial banks in Nepal, namely Rastiya Barinjya Bank Ltd. (RBBL) and Nabil Bank Ltd. (NABIL).

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