The Liquidity Management and Profitability of Joint Venture Banks in Nepal[1]

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Abstract

The main objective of this study is to establish a connection between liquidity management and the effect of profitability of joint venture banks in Nepal. We observed the data from Nepal's top five joint venture banks over ten years, from 2012 to 2021. We used financial statements to collect information. In our analysis, we used different indicators like the current ratio (CR), loan-to-total deposit (LTD), capital-to-asset ratio (CAR), and non-performing loans (NPL) as measures of liquidity. We treated these as independent variables and Return on assets (ROA) as dependent variable. Our findings show the positive link between ROA and CR, meaning higher CR is connected to greater ROA. However, the study reveals an unfavorable relationship between NPL and ROA, suggesting higher NPL leads to lower ROA. As a result, our research advises banks to keep liquidity only as long as necessary for specific liabilities, avoiding unnecessary holding of liquidity, which could reduce profitability.

***Keywords**:* AR, Liquidity, NPL, Profitability, ROA

Introduction

Liquidity in a financial context represents the degree to which assets or investments can be quickly and easily converted into cash without significant loss of value, providing the ability to meet short-term financial obligations or take advantage of investment opportunities. The impact of liquidity management on a bank's profitability is fundamental and straightforward. It centers on striking the right balance between maintaining sufficient cash reserves and earning returns from investments. When banks

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effectively handle their liquidity, they ensure they have the necessary funds for customer withdrawals and day-to-day operations, all while optimizing their profit potential.

Furthermore, liquidity management empowers banks to capitalize on lending opportunities and make informed investment choices, ultimately boosting their profits. In essence, it revolves around prudent resource utilization while preserving the financial stability of the bank, resulting in enhanced profitability.

The banking sector plays a significant role in the overall efficiency of the financial system. Profitability and liquidity are two critical pillars of the banking industry. As noted by Otekunrin et al. (2019), banks serve as primary sources of liquidity within the financial system, making it imperative to effectively manage liquidity levels and mitigate liquidity risks for everyday operations.

Amengor's (2010), study suggests that a commercial bank's liquidity is a good indicator of its ability to meet a variety of obligations, including deposits, loans, withdrawals, pledges to make investments, and accumulated liabilities. Fundamentally, liquidity is the degree to which assets or securities may be quickly turned into cash. A lack of liquidity often acts as a precursor to serious financial difficulties in a financial organization.

Bassey and Ekpo (2018) explored the roles of the CBN and DMBs in liquidity management. They found that deposit liabilities were the main funding source for DMBs, while loans and advances constituted most illiquid assets. DMBs operated above solvency levels, maintaining a current ratio above one and prioritizing short-term securities for liquidity. The study suggested enhancing credit risk assessment and establishing a robust bank-wide liquidity risk management framework, protected from competitive pressures, to ensure integrity.

Any company aiming to meet its commitments, including short-term financial and organizational expenses, must prioritize effective liquidity management. According to Mishra and Pradhan (2019), the primary responsibility of liquidity management is to figure out the amount of cash needed to fulfill obligations and ensure its readily available. To manage liquidity effectively, it's crucial to accurately estimate cash inflows and outflows, along with conducting daily analyses. This helps in making informed decisions and reduces the risk of savers being unable to access their savings when needed.

The future financial well-being of a company is heavily influenced by profitability. The stability and reliability of the financial and banking sectors depend on the profitability of the banking industry. Profitability is often defined as the difference between spending and revenue over a specific period, typically a financial year. It's essential for banks to generate profits to support their growth and development. Eljelly (2004) emphasizes that profitability and liquidity serve as reliable indicators of the performance and overall health of profit-making enterprises, not just limited to commercial banks. Shareholders and depositors, who are the two main stakeholders of a bank, attach significant importance to these performance revenue and profitability.

NPA can be described as bad debt, however the banking industry also includes loans and advances that are performing poorly and are at risk of becoming bad debt. NPA negatively affects financial institutions. Because the anticipated return cannot be achieved, the investment loses all of its value on the one hand, and because of the provisions needed for risk reduction, the profitability suffers as a direct result. In this case, the bank's very survival may be in doubt. Therefore, interest and principal must be paid back on time and without any problems. Given the significant amount of non-performing loans held by public sector banks, the Indian government and Reserve Bank of India have the regulatory power to take swift action to maintain public trust in the stability of commercial banks (Vasudevan, 2018).

Literature Review

The capacity of an organization to make a profit is known as profitability (Gibson, 2011). Maximizing profit from each of its commercial activities is one of the bank's major goals. Every bank will constantly seek to improve its profit. It might be argued that a bank is able to successfully and efficiently manage its resources if it is able to generate its maximum profits. A bank's inability to effectively manage its resources results in low profit levels, which prevent the bank from producing substantial profits.

Onyekwelu, Chukwuani, and Onyeka (2018) assessed the impact of liquidity on the financial performance of Nigerian deposit money banks from 2007 to 2016 using data from five banks. Their multiple regression analysis revealed a positive and significant influence of liquidity on both banks' profitability ratios and Return on Capital Employed. The study recommended that banks educate customers about liquidity management, regulators enforce policies to curb high cash transactions, and the Central Bank of Nigeria monitor liquidity policy tool implementation and impose sanctions when needed.

Obi-Nwosu, Okaro, and Atsanan (2017) investigated the impact of liquidity management on Nigerian Deposit Money Banks (DMBs) performance from 2000 to 2015. They used statistical tests and Granger Causality and discovered that liquidity management had no significant short-term or long-term relationship with DMBs' performance. However, they found liquidity management did have a causal effect on DMBs' performance. The study recommended allowing DMBs to reinvest funds for profitability while maintaining liquidity ratios.

For the years 2006 to 2009, secondary data from the fiscal statements and annual reports of 10 Nigerian banks were examined to determine the link between risk management practices and banking' overall performances in Nigeria. Given that the data used in this analysis is cross-sectional units recorded across time, the authors have employed the panel data estimation approach. As independent variables, the authors used the cost of poor and doubtful loans, non-performing loans, liquidity, equity-total asset ratio, equity-loan ratio, and debt-equity ratio. In contrast, the dependent variables used are return on asset (ROA) and return on equity (ROE). The results of this study indicate that there is an inverse link between the cost of bad and doubtful loans and banks' financial performance, but a positive and substantial association between banks' financial performance and their capital assets ratio. The writers came to the conclusion that there is a considerable connection between risk management and bank performance. To improve banks' financial performance, the authors advise that the identified credit risk indicators cost of bad and dubious loans, debt-to-equity ratio, and managed fund be properly managed (Alidade et al., 2014).

According to Ali (2006), banks run the risk of running out of cash when short-term obligations mature. The evaluation of liquidity risk is inextricably linked to the function of bank liquidity. According to Fahmi (2015), a company's liquidity is how quickly it can meet its short-term obligations. Profitability and a bank's liquidity are inversely correlated with one another. High bank liquidity will result in low profits, while low bank liquidity will result in high profits.

Impacts of credit risk management on the profitability of rural and community banks in Ghana were examined for the years 2006 to 2010.The non-performing loan ratio and capital adequacy ratio were used by the authors as measures of managing credit risk, and ROA and ROE were used as indications of bank profitability. According to the study's findings, non-performing loans and bank profitability have a substantial positive

association, which means that despite widespread loan default, non-performing loans are growing proportionately to profitability. The authors reported that banks pass the burden of loan default to other customers with increased interest rates as the cause of inefficient credit risk management practices among Ghana's rural and community banks. The community banks were lucrative as a result of this strategy. Due to the fact that nonperforming loans theoretically lower bank profitability, this nonetheless demonstrates that Ghana's rural and community banks lack good and effective credit risk management practices. To put an end to this behavior, the authors strongly advise the Bank of Ghana to improve its controls over the rural banking sector (Afriyie & Akotey, 2012).

Research on "A Study on Non-Performing Assets of Commercial Banks with References to SCBNL, RBB, Everest bank, NB bank and NBBL" has been done. His research's primary goal is to ascertain the ratio of non-performing loans and the level of NPA in total assets, total deposits, and total lending in the selected commercial bank, as well as the relationship between loan loss provisions in the commercial bank and the impact of non-performing assets on the performance of commercial banks. Inadequate credit policies, political pressure to lend, a lack of oversight and monitoring, a downturn in the economy, and an overvaluation of collateral, in his opinion, are the main reasons NPAs develop. A lot of effort has been put out in recent years by banks in the public and private sectors such as the NBBL, EBL, and SCBNL sectors, to prevent their loans and advances from turning into non-performing assets. Public banks should create a suitable loan loss strategy and endeavor to quickly recover their loans and interest payments in order to lower their NPA. His investigation shows that, in addition to lowering bank profitability, a significant degree on non-performing assets has an effect on the organization‘s financial and operational health. The NPA will be the key factor in any future bank closures if it is not soon brought under control. The capacity of the banking system to create money by employing the available corporate assets is also measured by ROA, which is a key indicator of bank profitability (Zahara & Abderaman, 2017).

Return on asset (ROA)

Since return on assets is a measure of management effectiveness, it is utilized as a dependent variable (Ekwe & Daru, 2012). It also shows how well a company's management uses all of the institution's resources to generate net income (Khrawish, 2011). According to Wen (2010), a greater ROA shows that the business is employing its resources more effectively.

Since ROA concentrates on measuring how well a banking organization manages its assets to create profits, it is utilized to examine the profitability of banking businesses (Swandewi & Purnawati, 2021). Suardana et al. (2018), in this study ROA is a group of financial statistics related to profitability that are used to evaluate a business's ability to make money (profitability) at the level of revenue, assets, and capital stock. While this assessment may be skewed as a result of off-balance-sheet activity, Malik et al. (2016) that ROA represented the potential for a bank's assets to create profit. In order to assess the company's capacity to generate income from its assets, ROA is frequently employed as a proxy metric. A higher ROA indicated that the bank's performance was strong and that the management was effective at turning a profit by utilizing the assets. Furthermore, Golin and Delhaise (2013) show that ROA is the most crucial indicator of bank profitability.

Current ratio (CR)

The current ratio (CR) is a simple financial tool that tells us if a company can pay its short-term bills. To calculate it, we divide the company's current assets (like cash and inventory) by its current liabilities (like bills and loans due soon). If the ratio is greater than 1, it means the company has enough current assets to cover its current debts. That's good because it shows financial stability. But if it's less than 1, it might have trouble paying its bills. CR helps investors and creditors understand a company's ability to meet its short-term obligations and manage its financial health.

One of the most commonly used liquidity management metrics is the current ratio. The current ratio is a liquidity ratio that shows how well a company can meet both short-term and long-term obligations. According to Senan et al. (2021), to calculate the ratio value, the current asset value must be divided by the current obligation value. How short-term assets and liabilities are related is determined by the current ratio. A high current ratio demonstrates a company's capacity for short-term debt repayment, whereas a low current ratio demonstrates a company's capacity for long-term obligations Ezekwesili, (2021). According to earlier research by Dzapasi (2020), the current ratio has a positive and considerable impact on return on assets.

Loan to total deposit (LTD)

Loan to Total Deposit (LTD) is a straightforward financial ratio that shows how much money a bank lends out compared to the money it holds in deposits from customers. To calculate it, you divide the total loans a bank has given to borrowers by the

total deposits it has received from customers. If the LTD ratio is high, it means the bank is lending out a large portion of its customer deposits, which can be risky if many borrowers default. If it's low, the bank is being more conservative with its lending. LTD helps regulators and investors assess a bank's lending practices and potential financial stability.

A commonly used measure to assess a bank's liquidity is the Loan-to-Total Deposit (LTD) ratio. This ratio is calculated by dividing the total loans by the total deposits of the bank. If this ratio is excessively high, it may indicate that the bank lacks sufficient capital to meet unexpected financial needs (Hacini et al., 2021).

Capital to asset ratio (CAR)

The Capital-to-Asset Ratio, often called the Capital Adequacy Ratio, measures the amount of available capital a bank has in relation to its credit risks. Companies can secure efficient financing when they have enough funds. An ideal capital structure is one that maximizes a company's value by minimizing the cost of using capital. According to Garcia-Herrero et al. (2009), banks with more capital usually earn more money.

However, previous studies by Suhandi (2019) concluded that the Capital Adequacy Ratio (CAR) had little impact on Return on Assets (ROA). Jati (2021) also found a negative influence and a weak connection between ROA and CAR in their study of Bank Victoria International. In contrast, Brastama and Yadnya (2020) examined the impact of CAR and non-performing loans on bank stock prices, using profitability as a mediator, and found a positive and significant effect of CAR on bank profitability.

Non-performing loan (NPL)

A non-performing loan (NPL) is a loan that a borrower has stopped paying or is failing to meet the required interest and principal payments, indicating a high risk of default and potentially causing financial losses for the lender.

Non-Performing Loans (NPLs) refer to loans where borrowers have defaulted or are significantly behind on payments. They are a critical concern for financial institutions as they can erode capital and destabilize the banking sector. Amid the economic challenges posed by the COVID-19 pandemic, NPLs have garnered increased attention. According to the International Monetary Fund (IMF) in its Global Financial Stability Report, April 2021, the pandemic has heightened NPL risks globally, necessitating proactive measures from governments and banks to address potential NPL surges.

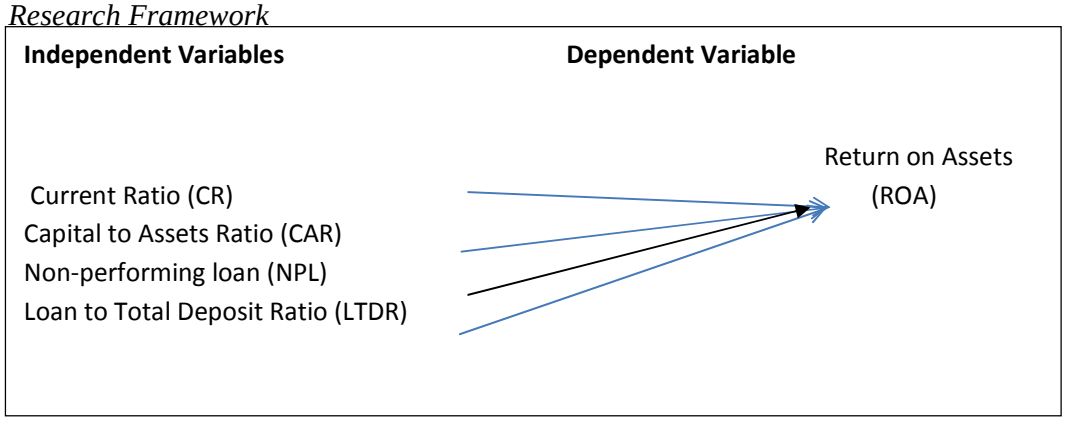
Effective NPL management remains essential for financial stability and economic recovery. (IMF, Global Financial Stability Report, April 2021)

Conceptual Framework and Hypotheses

The proposed research framework is shown in Figure 1, and it includes one dependent variable (return on asset) and four independent variables (loan to total deposit [LTD], current assets [CA], non-performing loan [NPL], and capital to asset ratio [CAR]).

Figure 1

Research Framework



According to the framework, the following research hypotheses have been developed:

H1: There is a significant connection between the current ratio and the return on assets.

H2: There is a significant relationship between the loan-to-total deposits ratio and return on assets;

H3: There is a significant relationship between the capital-to-asset ratio and return on assets;

H4: There is a significant relationship between the non-performing loan and the return on asset.

Research Methodology

A descriptive research design was used to conduct the study on the relationship between commercial banks' profitability and liquidity management. The chosen banks have a substantial branch network and regularly release financial statements that are easily accessible on their website and uploaded online. Five commercial banks—Nabil Bank, Everest Bank, Standard Chartered Bank, Himalayan Bank, and Nepal SBI Bank

From 2012 to 2021, financial statements from the financial institutions were utilized to assess factors including liquidity (CR, LTD, CAR, and NPL) and profitability (ROA) of the banks. The data is analyzed using multiple linear regressions, Pearson correlation, and descriptive statistics analysis techniques.

The first analysis to be utilized to characterize the fundamental characteristics of the study's data will be a descriptive one. Simple summaries of the sample measurements are provided. The correlation analysis is then carried out to look at the relationships between the researched variables. Last but not least, using multiple regression analysis, one can evaluate the nature and strength of the link between the independent and dependent variables. According to Bougie and Sekaran (2013), the regression coefficient shows how important each of the independent variables is in predicting the variable that is dependent. The following are the multiple regression models that were used in this investigation to determine the association between the variables:

$ROA_i = \alpha + \beta 1 CR_i + \beta 2\ LTDR_i + \beta 3\ CAR_i + \beta 4 NPL_i + Ɛi$

Where,

ROAi= Return on Equity

CRi= Current ratio of firm.

TLTDi= Ratio of total loan to total deposit of firm.

CARi= Capital Adequacy Ratio

NPLi=Non-performing loan defined as ratio.

εi= Error

Results from Experiments and Discussion Analysis Using Descriptive Statistics

Result of Study

The outcomes of the descriptive data are displayed in Table 1. The table provides an overview of each variable's mean, median values as well as the standard deviation, skewness, and kurtosis for the years 2011 through 2020.

Table 1

Results of Descriptive Statistics

	ROA	CR	LTD	CAR	NPL
Mean	1.901	1.409	77.426	17.063	1.822
Median	1.124	1.148	86.832	18.325	1.427

Std. D	0.237	0.753	4.972	1.434	1.263
Skewness	-0.715	1.427	-0.651	0.213	0.641
Kurtosis	4.003	4.980	2.497	2.264	3.001
Observations: 50					

Table 1, the ROA (Return on Assets), with an average of 1.901%, measures how efficiently assets are used. It's important to investigate factors affecting it and find ways to improve asset use for better profitability. High skewness (1.427) and kurtosis (4.980) suggest possible extreme values. Decisions should involve examining what drives high CR, assessing risks, and diversifying funding if needed.

LTD averages 77.426 and has a fairly balanced distribution (skewness -0.651). To decide about LTD, see if it matches financial goals and risk tolerance, considering interest rates and debt servicing. CAR) averages 17.063, indicating reasonable capital adequacy. Its relatively balanced distribution (skewness 0.213) and kurtosis (2.264) suggest stability. Keep monitoring to meet regulations and risk goals.NPL (non-performing loans) averages 1.822 with positive skewness (0.641) and moderate kurtosis (3.001), indicating some loan variability. Decide on NPL by investigating its causes, enhancing risk management, and reducing NPL levels through better loan practices.

These indicators provide insights into the organization's financial health. Make decisions after thorough analysis, considering outliers, goals, and risk tolerance. Regularly monitor and adjust strategies for financial stability and profitability. Consulting financial experts can help make well-informed decisions based on this data.

Table 2

Results of Pearson's Correlation Test

Variables	Correlation	Probability
ROA-CR	0.358	0.0617
ROA- LTD	-0.264	0.3052
ROA-CAR	-0.297	0.0311*
ROA-NPL	-0.374	0.0025*

*Denotes the 5% is level of significant

The table shows how the Return on Assets (ROA) is related to different factors like Current Ratio (CR), Long-Term Debt (LTD), Capital Adequacy Ratio (CAR), and Non-Performing Loans (NPL). The numbers indicate the strength and direction of these connections. For example, ROA and CR have a moderately positive link with a chance of

0.0617. On the other hand, ROA and LTD have a moderately negative connection, but it's not very strong, with a probability of 0.3052. The connection between ROA and CAR is also negative and moderately strong, and it's statistically significant at the 5% level (probability of 0.0311). The link between ROA and NPL is moderately negative and more robust, being statistically significant at the 1% level (probability of 0.0025).

Result of multiple regression analysis

The method of multiple regression analysis was applied in the current study to assess the connection between the independent factors and to support the dependent variable.

Table 3

Results of Multiple Regressions

Variables	Coefficient	Std.Error	t-Statistic	Probability
C	0.2957	0.7524	0.3407	0.6503
CR	0.0997	0.0784	2.0647	0.0216*
LTD	0.0264	0.0082	1.8263	0.06312
CAR	-0.0235	0.0201	-1.2601	0.1241
NPL	-0.0751	0.0326	-2.1041	0.0183*
R2 = 0.0614; Adjusted R2 = 0.0046; F-stat=0.9926; F-sig= 0.4047; E=0.5394; Number= 50, Denotes 5% significant level				

This table presents the results of a regression analysis with several variables: C, CR, LTD, CAR, and NPL. Each variable has a corresponding coefficient, standard error, t-statistic, and probability value. The "C" variable has a coefficient of 0.2957 with a standard error of 0.7524, resulting in a t-statistic of 0.3407 and a probability value of 0.6503, suggesting it may not be statistically significant. The "CR" variable has a coefficient of 0.0997, a standard error of 0.0784, and a t-statistic of 2.0647, with a probability value of 0.0216, indicating it is statistically significant at the 5% level. The "LTD" variable has a coefficient of 0.0264, a standard error of 0.0082, and a t-statistic of 1.8263, with a probability value of 0.06312, implying borderline significance. The "CAR" variable has a coefficient of -0.0235, a standard error of 0.0201, and a t-statistic of -1.2601, with a probability value of 0.1241, suggesting it may not be statistically significant. Lastly, the "NPL" variable has a coefficient of -0.0751, a standard error of 0.0326, and a t-statistic of -2.1041, with a probability value of 0.0183, indicating it is

statistically significant at the 5% level. The note at the bottom highlights the 5% significance level for reference.

Looking at the overall model, it doesn't explain a lot about ROA variation (R-squared of 0.0614). The Adjusted R-squared is even lower at 0.0046, considering the number of predictors. The F-statistic, which helps determine if the model is useful, is not significant (0.4047). The standard error of the estimate is 0.5394, and there are 50 observations. In summary, while some connections are noteworthy, the model doesn't tell us much about ROA overall. We should be careful in drawing big conclusions from it.

Conclusion

The purpose of this study is to investigate the relationship between the profitability of Nepalese commercial banks and their management of liquidity. The empirical results have shown a positive connection between the current ratio and return on assets, which is a measure of bank profitability in Nepal. This finding supports the initial hypothesis (H1). This outcome aligns with the results of Dzapasi (2020) and Damayanti who also found a strong positive correlation between the current ratio and return on assets. Additionally, the study reveals a significant negative correlation between non-performing loans and return on assets, which further confirms hypothesis H4. This result is consistent with the research conducted by Saleh and Winarso (2021).However, the analysis indicates that there is no substantial relationship between the cash deposit ratio and return on assets, contradicting hypothesis H2. This result is in line with a prior study by Chaudhury (2018), which found no significant connection between the cash deposit ratio and bank profitability. Lastly, it's worth noting that return on assets exhibits a negative correlation with the capital-to-asset ratio. According to the report, the current ratio and non-performing loans have the most significant impact on the profitability of Nepalese commercial banks. Therefore, we recommend that banks maintain only the liquidity necessary to meet their specified obligations and avoid holding excess liquidity, which could potentially reduce their profitability.

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