Impact of Liquidity Management on Profitability of Joint Venture Commercial Banks in Nepal

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Abstract

This study investigates the Impact of Liquidity Management and Profitability of Joint Venture Commercial Banks in Nepal. Data analysis was done using descriptive statistics, Pearson correlation, regression analysis, and t-test. The data used to analyze five (5) samples size, out of 27 which has found to be covering period 2012-2021 of joint venture commercial Banks in Nepal. The Liquidity management represents the variables of the Credit Deposit Ratio (CDR), Capital adequacy ratio (CAR), Current Reserve ratio (CRR), Total deposit to total ratio (TDTAR), Total loan to total assets ratio (TLTAR) and the profitability including Return on Assets (ROA). The findings of the study have a R square value of 0.615 meaning that 61.5% of the variation in the dependent variable is explained by the independent variables while 38.5% is explained by other variables outside the model and also showed that there is a strong positive correlation between the dependent variable and the set of independent variables. The result showed that there is significant impact of TLTAR on ROA and there is insignificant impact of CDR, CAR, CRR and TDTAR on ROA of joint venture commercial banks in Nepal.

Key words*:* Liquidity, Management, Assets, Deposit, Loans and advances, Profitability

I. INTRODUCTION

Profitability and liquidity are the main metrics that banks use to evaluate their performance. The ability to easily convert assets or securities into cash is referred to as liquidity. One of the first signs when a financial organization is in serious financial trouble is typically a lack of liquidity. Maintaining liquidity is crucial if it is involved in the comfort and pleasure of the client. Liquidity plays a part in determining the income level of the organization. According to Ali and Jameel (2019), the commercial bank's liquidity reflects its capacity to pay its contractual obligations, such as those involving lending and investment commitments, withdrawals, deposits, and accumulated liabilities, when they are due. A healthy liquidity stage is essential to a firm's productivity and profitability. Therefore, in order to ensure high profitability, the banking industry wants to determine the top of the line stage of the liquidity. The amount of liquidity that a company needs depends on its unique characteristics; there

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is no set formula for figuring out the optimal level of liquidity that a company should maintain to guarantee a favorable influence on its profitability (Owolabi & Obida, 2012). Liquidity shouldn't be excessively high or low. Instead, it must keep its stage at a respectable level. To keep the public's trust in banks, financial institutions' involvement in liquidity is crucial. In order to improve the banks' profitability and reap the rewards of the money's time value, it is necessary to invest the excess liquidity that is now accessible at the banks in a variety of investment opportunities (Alshatti, 2015).

Profitability is a sign that a business can generate revenue from its assets. Being able to turn a profit from all of an enterprise's business activities is what is meant by profitability (Owolabi & Obida, 2012). Every business's primary goal is to increase and enhance its revenue, thus making effective use of its resources is a must. Profitability is a sign that a business can generate revenue from its assets. Being able to turn a profit from all of an enterprise's business activities is what is meant by profitability (Owolabi & Obida, 2012). Every business's primary goal is to increase and enhance its revenue, thus making effective use of its resources is a must. Profitability is a measure of a company's performance that depicts a financial institution's capacity to produce revenue that exceeds the value of its capital base. The profitability gauges the business's financial success. Bank profitability is a crucial component of financial development, and its importance extends from the performance of banking firms to macroeconomic stability. A larger return greatly reduces bank instability at the firm level. At the macro level, more profitability creates a stable banking sector that can fund economic development and growth (Osuagwu, 2014). A profitable and strong banking company is better able to withstand negative shocks and actively contribute to financial stability. Profitability also shows how well banks are performing in a certain climate. More specifically, it is a reflection of the management quality, shareholder behavior, and risk management capabilities of the bank (Aburime, 2008). Banks are expected to maintain a sizable stake in liquid assets, but they must also be profitable in order to remain viable. Almost all profit-oriented institutions, not only those in the banking sector, can use profitability and liquidity as reliable indicators of their overall performance. For the shareholders and depositors, who make up the main constituencies of financial institutions, these performance indicators are extremely important. Depositors are worried about a bank's ability to respond to withdrawal requests, which are typically made on demand or with little notice, while shareholders are more interested in a bank's profitability stage. Since banking makes up a significant portion of Nepal's economic structure, it is prudent to do research on the financial system by analyzing the profitability of the banking industry and its performance. In order to provide insight for increasing better asset and legal responsibility control of banks in Nepal, the study intends to investigate how liquidity affects the profitability of Commercial Banks of Nepal.

II. Review of Literature

Mohanty, and Mehrotra, (2018) conducted a research on The Effect of Liquidity Management on Profitability: A Comparative Analysis of Public and Private Sector Banks in India. This paper makes an attempt to study the effect of liquidity management on the

profitability of public and private sector banks in India. For this purpose, 27 public sector banks and 20 private sector banks have been considered for the periods 2011-12 and 2015-16. Cash-Deposit Ratio (CDR), Credit-Deposit Ratio (CRDR) and Investment-Deposit Ratio (IDR) ave been used as independent variables to denote the liquidity management of the banks, while Return on Assets (ROA) and Return on Equity (ROE) have been used as proxy variables for the profitability of the banks. It is discovered that CDR and IDR have a large detrimental impact on ROA. However, when all factors are included, it is discovered that there is no meaningful association between bank profitability and liquidity in the case of ROE, regardless of the kind or structure of commercial banks in India. This suggests that commercial banks can concentrate on boosting their profitability without doing so at the expense of their liquidity, and vice versa.

Pradhan, and Gautam, (2019) conducted a research on Impact of liquidity management on bank profitability in Nepalese commercial banks. This study examines the impact of liquidity management on the profitability of Nepalese commercial banks. The return on assets and return on equity are the dependent variables. The independent variables are the capital ratio, total deposits, current ratio, liquid asset ratio, quick ratio and investment ratio. This study is based on secondary sources of data that are collected for18 commercial banks through 2009/10 to 2014/15, leading to a total of 120 observations. The data were collected from Quarterly Economic Bulletin and Bank Supervision Reports published by Nepal Rastra Bank and annual reports of the selected commercial banks. The regression models are estimated to test the significance of liquidity management on the profitability of Nepalese commercial banks. The result shows that capital ratio is positively related to return on assets. This indicates that higher the capital ratio, higher would be the return on assets. Likewise, the study reveals that investment ratio and current assets ratio are positively related to return on assets and return on equity. This indicates that increase in investment ratio and current assets ratio leads to increase in return on assets and return on equity. However, the study reveals that liquid asset ratio is negatively related to return on assets and return on equity. This indicates that higher the liquid asset ratio, lower would be the return on assets and return on equity. The regression result shows that beta coefficients are positive for current assets ratio and liquid asset ratio with return on equity. However, the study reveals that beta coefficients are negative for quick ratio with return on assets. Mishra, and Pradhan (2019) conducted a research on Impact of liquidity management on Profitability: An empirical analysis in private sector banks of India. This paper makes an attempt to explain the impact of liquidity management on the profitability of private sector banks in India. For this purpose, 10 private sector banks have been considered for the period from 2013 to 2017. Cash-Deposit Ratio (CDR), Credit-Deposit Ratio (CRDR) and Investment-Deposit Ratio (IDR) have been used as independent variables to denote the liquidity management of the banks, while Return on Assets (ROA) and Return on Equity (ROE) have been used as dependent variables for the profitability of the banks. It is discovered that CDR and IDR have a large detrimental impact on ROA. However, when all the factors are taken into account with regard to all the chosen commercial banks in India, it is discovered that there is no meaningful correlation between bank profitability and liquidity in the case of ROE. This suggests that commercial banks can concentrate on boosting their profitability without doing so at the expense of their liquidity, and vice versa.

Wuave, Yua, and Yua, (2020) conducted a research on Effect of liquidity management on the financial performance of banks in Nigeria. This study examines the effect of liquidity management on financial performance of banks in Nigeria for the period 2010 to 2018. The study uses secondary data from five banks listed bank on the stock exchange in Nigeria. The proxies employ for liquidity management are; Liquidity ratio (LQR), Loan to deposit ratio (LDR), Cash reserve ratio (CRR) and deposit ratio (DR), while return on assets (ROA), return on equity (ROE) and return on net interest margin (NIM) are proxies for financial performance (Profitability). The study uses panel regression analysis in estimating the model and Hausman test while making a choice between fixed effect and random effect model. The study finds that liquidity ratio (LQR) have positive and significant effect on financial performance of DMB as measured by return on assets (ROA), return on equity (ROE) and net interest margin(NIM). Therefore, it suggests that banks in Nigeria establish sound governance and risk management systems by creating strategies, policies, and practices for liquidity management that are well integrated into their risk management practices as well as by creating a contingency funding plan to address any liquidity shortfall during times of stress or emergency while making sure that active monitoring liquidity funding needs to avoid any liquidity challenge that could trigger crisis in the economy.

Dzapasi, (2020) conducted a research on the impact of Liquidity Management on Bank Financial Performance in a subdued economic environment: A case of the Zimbabwean Banking Industry. Liquidity is generally referred to as the ability to generate adequate cash to pay off financial obligations but in banking it mainly refers to the ability to honour maturing deposits. Banks indeed require liquidity since such a large proportion of their liabilities are payable on demand (deposits) but typically the more liquid an asset is, the less it yields. Hence, the decision to choose a particular combination of assets over another, taking into consideration the liability size of a bank, would have a massive effect on bank liquidity management, profitability and risk. This paper sought to establish the impact that proper liquidity management has on the financial performance of banks on the backdrop of a poorly performing economy. Factors that include asset liability mix, regulatory and market changes and liquidity management strategies are closely scrutinized in line with the ever changing Zimbabwean economic environment. A mixed research methodology was adopted, where research methodology is based on the multiple viewpoints or perspectives which are brought forward by both qualitative and quantitative research methodologies. The study focused on the population of banking financial institutions in Zimbabwe and drew a sample of five (5) leading banks that comprised of Commercial Bank of Zimbabwe (CBZ), Standard Chartered Bank of Zimbabwe, First Capital Bank, FBC Bank and ZB Bank. The study's key conclusions were that there is a significant beneficial association between bank financial performance and liquidity management. Profit margins have decreased over the research period due to the trade-off between liquidity and profitability in Zimbabwean banking institutions, but this has led to more stability, which has ensured better performance and sustainability. However, all parties involved in the process must take a comprehensive approach to managing liquidity, and as a result, recommendations have been sent their way for consideration.

Obim, Takon, and Mgbado, (2020) conducted on a research on The impact of liquidity on banks profitability in Nigeria. The study examined the impact of liquidity on banks profitability. The study sought to examine the impact of liquid assets, bank deposit, and Treasury bills on Return on Asset. Secondary source of data was employed using Central Bank of Nigeria statistical bulletin. Ordinary least square multiple regression techniques was adopted to establish the impact of independent on dependent variables. According to the data, there was a positive but insignificant correlation between bank deposits and return on assets, a negative but insignificant correlation between liquid assets and return on assets, and a positive but insignificant correlation between treasury bills and return on assets. According to the report, necessary steps should be done to stop unfavorable market development that could have a detrimental influence on bank deposits. Additionally, it is advised that banks hire knowledgeable employees to make sure the best choices are made in terms of the proper level of liquidity.

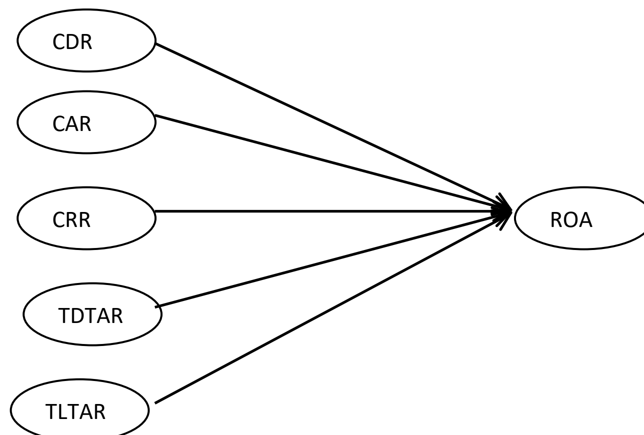
Bencharles, and Abubakar, (2020) conducted a research on Liquidity Management and Its Impacts on Islamic and Conventional Banks' Profitability in Nigeria: A Comparative Study. The study investigates the impact of liquidity management on Islamic and conventional banks profitability in Nigeria for the period 2012-2019. First bank plc and Jaiz bank were both used to represent the conventional and Islamic banks in Nigeria respectively. Time series data were sourced from the quarterly bulletin of selected banks used for the study. Time series data were first subjected to preliminary analysis (descriptive statistics, unit root test & co-integration test) so as to ascertain the background characteristics of dataset. The ordinary least square estimation technique was used to capture the relationship between liquidity and profitability. Liquidity was measured by the liquid asset to total asset ratio (LATA), current ratio and cash ratio while bank size was used as a control variable. Profitability was measured using the return on asset. The risk return trade-off was discovered to be true because empirical findings showed that profitability and liquidity had an inverse connection in both conventional and Islamic banks. However, it was discovered that the profitability of Islamic banks responded more dramatically to fluctuations in the level of liquidity than did regular banks. The study indicated that, although liquidity was shown to be more significant in Islamic banks, the link between liquidity and profitability followed the risk return hypothesis. Therefore, the study advised banks to just hold on to cash as necessary to meet their stated liabilities and not needlessly hold on to liquidity as this erodes bank profitability.

Khati, (2020) conducted a research on Impact of liquidity on profitability of Nepalese commercial banks. This paper seeks at investigating the relationship between the liquidity and the profitability of commercial banks in Nepal. Ten out of Twenty seven listed commercial banks were involved in the study covering the period from 2013 to 2019. This study is based on the secondary data, which are extracted from Bank Supervision Reports published by Nepal Rastra Bank and annual reports of the selected commercial banks. The liquidity indicators are credit-deposit ratio (CDR), cash-deposit ratio (CADR) and assets

quality (AQ), while return on equity (ROE) and return on assets (ROA) are the proxies for profitability. By using Hausman test and thereafter fixed effects approach, the result showed that assets quality (AQ) has negative and significant relationship with return on assets (ROA) whereas it has positive and significant relationship with return on equity (ROE). Cash deposit ratio (CADR) has positive and insignificant relationship with return on assets (ROA) and return on equity (ROE). However, the study reveals that credit-deposit (CDR) has positive but insignificant relationship with ROA and has negative and insignificant relationship with return on equity (ROE).

Ajayi, and Lawal, (2021) conducted a research on Effect of Liquidity Management on Banks Profitability. Liquidity management and profitability are very important issues in the growth and survival of businesses including financial institutions and the ability to handle trade-off between the two is a source of concern for financial managers. Hence, this research examines the relationship between liquidity management and bank performance using secondary data from the published annual reports of five (5) sampled Deposit Money Banks in Nigeria for a period of ten years (2009-2018). The proxies for liquidity management include loan to deposit ratio, loan to assets ratio, liquid ratio, while return on assets was the proxy for profitability. Data was analyzed using Auto Regressive Distributed Lag (ARDL) and results from the study showed that there is a negative and significant relationship between loan to deposit ratio with p-value 0.0021 and return on assets (ROA), a positive and significant relationship between loan to asset ratio with p-value 0.0005 and return on assets (ROA) and a positive and insignificant relationship between liquid ratio with p-value 0.1808 and return on assets (ROA). According to the study's findings, there is a considerable and favorable connection between bank profitability in Nigeria and liquidity management. It is advised that banks always make an effort to manage their credits effectively by rigorously adhering to credit-granting regulations.

Conceptual framework



Variable Description

Profitability: A bank's profitability can be determined using a number of different techniques. The return on asset (ROA) method will be used in this study to assess the profitability of these institutions.

Cash reserve ratio (CRR), Credit Deposit Ratio (CDR), Total deposit to total ratio (TDTAR), Total loan to total assets ratio (TLTAR) and capital adequacy ratio (CAR) will be used to determine the liquidity.

Dependent variables

The profitability of banks is regarded as a dependent variable in this study. There are several ways to gauge a bank's performance, and one of those ways is profitability. A return on assets is one of the many measures that can be used to determine profitability (ROA).

Independent variables

The Liquidity management represents the variables of the Credit Deposit Ratio (CDR), Capital adequacy ratio (CAR), Current Reserve ratio (CRR), Total deposit to total ratio (TDTAR), Total loan to total assets ratio (TLTAR). Credit-Deposit Ratio (CDR) - CDR measures the proportion of outstanding credit to total bank deposit. Two factors are indicated by a high CDR: first, the bank is disbursing more of its deposits in the form of loans with interest; and second, the bank is generating more income. As an alternative, an extremely low ratio indicates that the bank has low risk while also not employing assets to produce income. According to Shrestha (2018), the profitability of commercial banks and the credit deposit ratio have a substantial link. The cash-deposit ratio (CADR) measures the amount of cash that banks hold relative to their total deposits. It measures how much a financial organization lends in relation to the deposits it has raised. It implies how extensively lending—the main banking activity—uses the resources of a financial organization. A larger ratio demonstrates the banks' greater liquidity position, which is more beneficial for brand-new investment opportunities. According to Shrestha (2012), the profitability of the cash and bank balance to deposit ratio is not significantly impacted.

III. RESEARCH METHODOLOGY

Descriptive and Causal comparative research design was used for the study. This research is based on secondary data collected from 5 of Nepal's 26 commercial banks between 2011-12 and 2020-2021, yielding a total of 50 observations. The Nepal Rastra Bank's Bank Supervision Reports and the yearly reports of the chosen commercial banks are the primary sources of data. The collected data from this source has been carefully gathered and used in accordance with the needs of the study.

RESULT AND ANALYSIS

Based on the dependent variable the equations for the analysis of relation between the variables are listed below:

Model 1: ROA= β0 + β2 CDR + β3 CAR + β3 CRR + β4 TDTAR + β5 TLTAR + ε

Where, Y= Dependent Variable, β0 = Intercept of dependent variable, β1, β2 , β3, β4 and β5 = coefficient of independent variables, ε = error terms.

Descriptive statistics

The descriptive statistics of dependent variables ROA and independent variables CDR, CAR, CRR, TDTAR and TLTAR of the study is shown in Table 1. The descriptive statistics used in this study includes mean, standard deviation, and N represent the number of the observation.

Table 1

Descriptive Statistics

Correlations

	Mean	S.D.	ROA	CDR	CAR	CRR	TDTA	TLTA
ROA	1.7396	0.5629	1					
CDR	79.368	10.005	-.069	1				
CAR	12.404	2.3558	-.292*	.251	1			
CRR	13.095	6.6221	.117	.010	-.013	1		
TDTA	83.193	5.1262	.187	-.729**	-.256	.033	1	
TLTA	76.295	83.214	-.364**	.032	.154	.130	.071	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 1 shows the relationship between several liquidity management metrics and the profitability of Nepalese commercial banks. Table 1 presents, the descriptive statistics of Nepalese Joint Venture Commercial Banks. The study period is 2012 to 2021 associated with 5 commercial banks. The average value of ROA of Nepalese commercial bank is 1.7396 with the standard deviation of 0.56294. Similarly, the CDR has average value of 79.367 with the standard deviation of 10.00465. The CAR has average value of 12.403 with the standard deviation of 2.35578. Similarly, the average value of CRR is 13.094 with the standard deviation of 6.62209. The TDTA has average value of 83.1930 with the standard deviation of 5.12617. Similarly, the average value of TLTA is 76.295 with the standard deviation of 83.21373

Table 2 shows the model theory of the research. We can see the R2 to be 0.615 i.e. 61.5%. The adjusted R2 indicates the model's goodness of fit and demonstrates a good fit. The model well matches the data; the Total variation, employed as a performance indicator for ROA, is the observed behavior that can be explained by changes in bank deposits, liquid assets, and loans and advances.

Table 2

Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721[a]	.615	.177	.51057

a. Predictors: (Constant), TLTA, CDR, CRR, CAR, TDTA

Table 3

Coefficients

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	-1.601	2.498		-0.641	0.525
	CDR	0.013	0.011	0.229	1.195	0.238
	CAR	-0.049	0.033	-0.205	-1.503	0.14
	CRR	0.013	0.011	0.151	1.157	0.253
	TDTA	0.036	0.021	0.324	1.676	0.101
	TLTA	-0.003	0.001	-0.382	-2.854	0.007

a. Dependent Variable: ROA

The latter shows that the independent variables, specifically: CDR, CAR, CRR, TDTA and TLTA, jointly account for 73% of variability in the observed behavior of ROA. This demonstrates that the model successfully matches the data is snugly fitted. The relevance of such a good or tight fit is also tested using the t-statistic. When compared to the table value, the model's reported t-statistic value of 1.676 is noticeably high. This shows that the model is statistically robust because the high adjusted R^2 value is better than would have happened by chance. The adjusted R2 shows a good fit of the model and indicates the goodness of fit of the model. The observed behavior of ROA, which is employed as a performance indicator, is well explained by the model, with variations in bank deposits, liquid assets, and treasury bills accounting for the majority of the variation.

IV. Conclusion and Implication

The study looked empirically at how liquidity affects bank profitability. The organization needs to have an excessive amount of liquid in order for the firm to exist. In today's industry, profitability has been impacted by the necessity of liquidity, and any company's ability to endure depends on its capacity for both short-term and long-term goals. It is determined that banks need to keep enough liquidity to meet their daily responsibilities. This study's main objective is to investigate how liquidity management impacts profitability in Nepal's commercial banking sector. The information was obtained from five banks' annual reports from 2011 to 2021 as well as Bank Supervision Reports released by Nepal Rastra Bank. Correlation and a fixed effect model are used to evaluate the data in SPSS. The study looked empirically at how liquidity affects bank profitability. The organization needs to have an excessive amount of liquid in order for the business to survive. The importance of liquidity has affected profitability in today's business and the survived of any business depends on its ability to meet the short and long-run. It is concluded that banks must maintain adequate obligations amount of liquidity to meet its daily obligations. The following recommendations are preferred based on the findings. The following recommendations are preferred based on the findings:

1. Bank deposits and Return on Asset have a positive but insignificant association.
2. The link between liquid assets and return on assets is unfavorable and negligible.
3. The correlation between Total loan to total assets and Return on Asset is both significant and positive.
4. It is important to take the proper precautions to stop unfavorable market development that could harm bank deposits.
5. To guarantee that the best decisions are made in regards to the ideal level of liquidity, banks should employ professional and qualified employees.
6. The management should keep enough cash balance to cover its ongoing operating costs.

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