Influence of Liquidity Management of Commercial Banks in Nepal

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Abstract

The purpose of paper is impact of liquidity management and commercial banks' profitability in Nepal is examined in this study. Descriptive statistics, Pearson correlation, regression analysis, and the t-test were used to analyse the data. Three (3) samples that were used for the analysis covered the commercial banks in Nepal from 2014 to 2023. The factors of the Credit Deposit Ratio (CDR), Capital Adequacy Ratio (CAR), Current Reserve Ratio (CRR), and profitability, including Return on Assets (ROA), are all represented by liquidity management. With a R square value of 0.628, the study's results demonstrate a strong positive correlation between the dependent variable and the set of independent variables, with the independent variables accounting for 62.8% of the variation in the dependent variable and other variables outside the model for 37.2%. The findings indicated that while CAR had a little effect on the return on assets (ROA) of Nepal's commercial banks, CDR and CRR had a considerable influence.

Keywords

Return on Assets, Cash Reserve Ratio, Cash Deposit Ratio, and Capital Adequacy Ratio.

Introduction

The term liquidity is often used in multiple frameworks. An asset’s liquidity can be used to describe how quickly, easily and costly it is to convert that asset into cash (Berger & Bouwman, 2008). The quantity of Cash or assets close to cash a firm possesses can also be used to characterize it; the more liquid assets a corporation has, the more liquidity it possesses. A company's liquidity ratios are financial measurements that quantify its liquidity. The ratio of current is one such ratio that assesses a firm's capacity to settle short-range loans as they become due.

There are numerous ways to define liquidity risk, however, the ratio can be used to assess the probability that a company would fail to fulfill its short-term commitments on schedule. A business may have severe financial issues as a result of this incapacity. Furthermore, the counterparty to a transaction can also be used to identify liquidity risk. The phrase describes the risk that the counterparty may not have sufficient liquidity to pay or settle the transaction, even in situations where they are in a healthy financial position. The contractor's ability to settle its debts at maturity, including loan and investment commitments, withdrawals, deposits, and accrued liabilities, is indicated by the commercial bank's liquidity.

The performance of commercial banks can be affected by internal and external factors (Kosmidou, 2008). These elements fall into two categories: macroeconomic and bank-specific (internal). Individual bank traits that have an influence on the bank's performance are known as core factors. In essence, the internal decisions made by the board and management have an influence on these elements. The external factors that impact banks' profitability are sector-

wide or national issues that are out of the company's control. However, the relation between bank performance and consumer satisfaction is the focus of this study. Return on equity, return on assets, and net interest margin are the three main ratios used to assess the profitability of commercial banks (Murthy and Sree, 2003).

The commercial bank's liquidity is a measure of the party's capacity to pay its debts when they become due, including pledges to lend and invest, withdrawals, deposits, and accrued liabilities (Amengor, 2010).

In the corporate sector, liquidity and profitability are crucial. The management of a firm's current resources and present requirements is stated to as liquidness. It is critical in defining if a firm can effectively switch its immediate responsibilities. In order to pay their short-term obligations, businesses must keep a fair quantity of cash assets due to its crucial necessity. A stable amount of liquidness is essential to a company's effectiveness and financial success. Hence, in order to assurance good success, trades must ascertain the model equal of liquidity. Liquidity shouldn't be excessively high or low. Rather, it should remain within a reasonable range. Contrarily, profitability is the total of a business's revenue less its running expenses. By calculating a company's profitability, profitability ratios make it possible to analyze the company's current state in a clear and concise manner. All businesses aim for maximum profitability, and increasing profitability is their ultimate goal. The corporation must maintain an ideal level of liquidity because there is a considerable correlation between the two (Khan & Ali, 2016).

Literature Review

Alshatti, (2015) showed how Jordanian commercial banks' income was impacted by liquidity management between 2005 and 2012. The thirteen banks that make up the study's sample are typical of Jordan's whole commercial banking sector. Among the liquidity indicators that are looked at are the investment ratio, the fast ratio, the capital ratio, the ratio of net credit facilities to total assets, and the liquid assets ratio. Profitability is measured using surrogates such as return on equity (ROE) and return on assets (ROA). Hypotheses are tested and whether a unit root exists in the time series data of the variables using regression analysis and the Augmented Dickey Fuller (ADF) stationary test model.

The observed results show that the productivity of Jordanian marketable banks is completely impacted by a rise in the fast and investment ratios. On the other hand, productivity is adversely impacted by the investment and liquid assets ratios. The researcher recommends maximising the use of available liquidity across a range of investment factors in order to boost bank profitability. Furthermore, in order to provide adequate liquidity for effective operations, banks are advised to implement a thorough framework for managing liquidity. It's also advised to balance the sources and uses of funds and analyse the rates at which liquidity changes.

Shrestha, B. (2018) conducted research on Nepal's commercial banks' profitability and liquidity management. Liquidity management is one of the primary determinants of a company's market value since it directly affects profitability. This study looks at the relationship between liquidity management and the profitability of Nepali commercial banks. The study's goal is to determine how liquidity management influences profitability and how it is related to profitability. The relationship between liquidity management and profitability is examined using Pearson correlation analysis. The effect of liquidity on profitability is investigated using regression analysis. It was found that Nepal's commercial banks from 2012 to 2016 were included in the data. Liquidity management represents profitability criteria such as return on equity (ROA), the current reserve ratio (CRR), and the credit deposit ratio (CDR). The result indicates that liquidity has no effect on the profitability of Nepalese commercial banks.

Yüksel, et al. (2018) determined the elements influencing the profitability of banks in thirteen post-Soviet countries. They used pane reversion with fixed factors and the Generalised Method of Moments (GMM) to analyse annual data from 1996 to 2016. The outcomes show that profitability is knowingly stuck by mortgage size, non-interest income, and financial progress. The profitability of banks in these countries has suffered as a outcome of the universal mortgage crisis of 2008. Profitability is strongly correlated with economic expansion and more non-interest revenue driven by recognition card dues and charges. However, banks' profitability is negatively impacted by a higher loan-to-GDP ratio. These results imply that post-Soviet banks should prioritise the growth of non-interest income and exercise care when making loans.

Sathyamoorthi, Mapharing, & Dzimiri, (2020) examined how liquidness supervision affected Botswana's profitable banks' fiscal results. A variety of criteria were employed as stand-ins for liquidness management, while return on equity and return on assets were employed as procedures of financial performance. Data from Botswana's nine commercial banks was examined during the nine-year examination. Significant positive correlations were found by regression analysis between return on equity, return on assets, liquid assets to total assets, and loans to total assets. However, there was a significant inverse relationship between the ratio of liquid assets to deposits and the ratio of loans to deposits.There was no substantial connection between cash-related ratios. The study recommends establishing minimum liquidity standards to boost bank profitability and shows that optimizing liquidity variables can enhance bank performance.

Zaharum, et al. (2022) conduct research on the impact of liquidity management on banks' profitability. The main objective of this study is to look into the relationship between liquidity management and the profitability of Malaysian commercial banks. A sample of the top five commercial banks listed on Bursa Malaysia has been used to investigate the relationship between liquidity and profitability throughout the ten-year period from 2011 to 2020. The data was taken from the annual financial statements of the institutions. The current ratio (CR), cash deposit ratio (CDR), loan to total deposit (LTD), capital to asset ratio (CAR), and non-performing loan (NPL) were used as proxies for liquidity as an independent variable, while the return on assets (ROA) was used as a stand-in for banks' profitability as a dependent variable. The results of the study show a favourable correlation between return on assets (ROA) and current ratio (CR). This implies that a higher current ratio (CR) would result in a higher return on assets (ROA). However, the study shows that non-performing loans (NPL) and return on assets (ROA) are negatively correlated. This implies that when the amount of non-performing loans (NPL) rose, the return on assets (ROA) would fall. In order to avoid having too much liquidity, which would lower their profitability, the study recommended that banks should keep the minimum amount needed to cover certain liabilities.

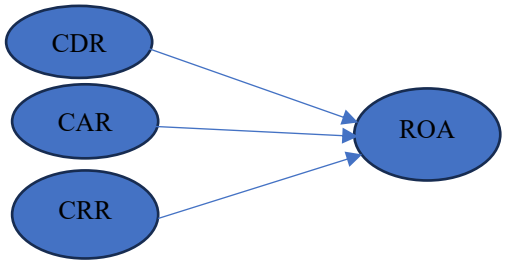
Shrestha, B., & Chaurasiya, S. (2023) conducted research on Liquidity management's effect on Nepali joint venture commercial banks' profitability. This study looks at the relationship between joint venture commercial banks' profitability and liquidity management in Nepal. The data was analysed using the t-test, regression analysis, descriptive statistics, and Pearson correlation. From 2012 to 2021, Nepal's joint venture commercial banks were included in five (5) of the 27 samples used for the analysis. Liquidity management is a representation of the following characteristics: profitability, including return on assets (ROA); credit deposit ratio (CDR); capital adequacy ratio (CAR); current reserve ratio (CRR); total deposit to total ratio (TDTAR); and total loan to total assets ratio (TLTAR). The study's findings show a strong positive correlation between the dependent variable and the set of independent variables, with the independent variables explaining 61.5% of the variation in the dependent variable and other variables outside the model explaining 38.5%, according to the R square value of 0.615. The

findings show that TLTAR has a major impact on ROA for Nepali joint venture commercial banks, but CDR, CAR, CRR, and TDTAR have less bearing.

Conceptual Framework

Below presents schematic conceptual framework of the connection between liquidness supervision and effectiveness of profitable bank "with reference to SANIMA, NABIL and MBL"

Figure 1 Conceptual/Research Framework



Hypothesis formulation

H_1: There is significant connection between CDR and profitability.
H_2: There is significant connection between CRR and profitability.
H_3: There is significant connection between CAR and profitability.

Research Methodology

We can determine correctness, validity, and applicability with the use of research methodology. Appropriate research approach is necessary to obtain the justification for the current investigation. The applied approach will be employed in order to accomplish the study's goals. Below is a quick summary of the research technique employed in this study. This study looks into how the capital structure affected the profitability of the 20 commercial banks during the period. Using information from three sample banks' annual reports i.e. Sanima Bank, Nabil Bank and Machhapuchhre Bank, research methodology gives a great insight towards the goal and objective of this research following are the content of the research methods appropriately devised for organizing the collected data.

Variable defined

Return on Assets (ROA): A profitability ratio called return on asset (ROA) shows how much money a business can make from its assets. Stated differently, return on assets quantifies the effectiveness of a company's management in producing profits from its financial resources or assets listed on its balance sheet.

Cash Deposit Ratio (CDR): The ratio of a bank's lending to its mobilized deposits is known as the cash deposit ratio, or CDR. It shows the proportion of a bank's core funds allocated to lending, which is the primary banking function. It can also be expressed as the ratio of total deposits to total cash.

Capital Adequacy Ratio (CAR): One factor that shows a bank's level of financial strength is its capital adequacy. Depositors are somewhat reassured by the bank's capital position that they

will be paid in the event of a failure. The capital adequacy ratio, which is determined by dividing the total risk-weighted assets by the regulatory capital (tier I + tier II), is taken from the annual report.

Cash Reserve Ratio (CRR): The amount of cash that banks must retain in order to invest or lend it for interest is known as the cash reserve ratio, or CRR. This percentage, which is sometimes referred to as the reserve ratio, informs commercial banks of the amount of monetary reserves they must maintain with their respective central banks.

Data Analysis

Descriptive and correlation analysis

Table:1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	30	.87	2.89	1.6363	.52442
CAR	30	10.63	16.82	12.9317	1.30929
CRR	30	3.66	30.01	19.6180	8.58964
CDR	30	64.43	94.10	83.6923	7.20531
Valid N (listwise)	30				

Table 1 signifies expressive study of 3 commercial banks including connection study from Financial Year 2014 to 2023.

Table: 2 Correlations

		ROA	CAR	CRR	CDR
ROA	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	30			
CAR	Pearson Correlation	-.141	1		
	Sig. (2-tailed)	.456			
	N	30	30		
CRR	Pearson Correlation	-.533**	.293	1	
	Sig. (2-tailed)	.002	.116		
	N	30	30	30	
CDR	Pearson Correlation	-.485**	.483**	.313	1
	Sig. (2-tailed)	.007	.007	.092	
	N	30	30	30	30

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

A factual evaluation technique called connection investigation is used to focus on the degree of relationship between two consistent, statistically assessed components. When a scientist needs to regulate whether there is a connection among variables, this particular type of investigation is useful. To determine how strongly two things are connected, connection investigation is used. The dependent variable and the free component have a strong correlation, according to connection analysis, with the relationship coefficient esteem falling between a short one and a large one (- 1.00 and +1.00).

There is a negative linear link between the CAR and ROA, as showed by the connection coefficient of r of -0.141. The inverse association serves as more evidence that Nepal's commercial banks are less profitable the higher the CAR. In the same way, a positive connection coefficient indicates a positive suggestion among the two variables. better profitability among Nepal's commercial banks translates into better return on assets (ROA), as realized by the positive connection among the two variables. In a similar vein, CRR (-0.533**)

and CDR(-0.485**) have negative correlation coefficients with ROA. Higher CRR and CDR among Nepal's commercial banks are associated with lesser profitability, as further shown by the negative correlation coefficient.

Regression Analysis

The financial data of Machhapuchhre Bank Limited (MBL), Nabil Bank Limited (NABIL), and Sanima Bank Limited (SANIMA) in Nepal is examined using regression analysis. The correlations between Return on Assets (ROA) and important variables such as the Capital Adequacy Ratio (CAR), Cash Reserve Ratio (CRR), and Cash Deposit Ratio (CDR) are shown via linear regression. We might then look into the quantitative environment and ascertain how these factors affect the sample banks' financial stability.

Table: 3 Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.810	.999		3.814	.001
CAR	.082	.069	.205	1.194	.243
CRR	-.028	.010	-.455	-2.868	.008
CDR	-.032	.013	-.442	-2.554	.017

a. Dependent Variable: ROA

The connection among the dependent and independent variable quantity is displayed in Table 3. The independent variables CRR and CDR have a major impact on ROA. Nevertheless, CAR has a considerable value of 0.243 and has no effect on ROA. The following is one way to give the model summary:

$$Y_{ROA}= 3.810+0.082(CAR)-0.028(CRR)-0.032(CDR)+_{E}$$

Discussion

According to the research above, NABIL Bank Ltd. has a greater Return on Assets (ROA) than MBL and SANIMA. It shows the effectiveness of a commercial relative to its total properties.

According to the data, MBL has the greatest Capital Adequacy Ratio (CAR) ratio amongst the three banks, while NABIL has the lowest. It suggests that, in contrast to SANIMA and NABIL, MBL has greater CAR.

According to the data, MBL has the greatest Cash Reserve Ratio (CRR) proportion amongst the three banks, while NABIL has the lowermost. It suggests that, in contrast to SANIMA and NABIL, MBL has a higher CRR.

According to the data, SANIMA has the greatest Cash Deposit Ratio (CDR) proportion amongst the three banks, while NABIL has the lowermost. It suggests that, in contrast to MBL and NABIL, SANIMA has a higher CDR.

Standard deviation, average, maximum, and smallest values are examples of descriptive statistics. The average of each of the thirty banks' ROA, CAR, CRR, and CDR is displayed. Means displays the average, while S.D. displays consistency. Both the CDR mean and the CRR standard deviation are larger in this instance as compared to other examples.

The subordinate variable and free factor's positive or negative relationship is shown by the connection coefficient. If the ROA is higher when the connection coefficient esteem is positive, then more productivity must lower the ROA, and vice versa if the relationship coefficient esteem is negative.

The connection coefficient illustrates the positive or negative connection among the dependent and independent variable star in the context of the classical summary. Similarly, the R square shows how fine the free factor clarifies the distinction in the dependent flexible.

The coefficient displays the influence among the variables. Whether or whether climate has an impact on ROA is debatable.

Conclusion

The goal of the current study is to examine the joining between Nepalese commercial banks' effectiveness and liquidness management. Thirty observations total from the years 2014 to 2023 are included in the study. Three commercial banks chosen at random have been used as a sample.

Reference

Alshatti, A. S. (2015). The effect of the liquidity management on profitability in the Jordanian commercial banks. International Journal of Business and Management, 10(1), 62-71.

Amengor, E. C. (2010). Importance of liquidity and capital adequacy to commercial banks. A Paper Presented at Induction Ceremony of ACCE, UCC Campus.

Berger, A. N., & Bouwman, C. H. (2008, October). Financial Crises and Bank Liquidity Creation. Retrieved March 2010, from Social Science Research Network: http://ssrn.com/abstract=1231562

Khan, R. A. & Ali, M. (2016). Impact of Liquidity on Profitability of Commercial Banks in Pakistan: An Analysis on Banking Sector in Pakistan . Global Journal of Management and Business Research, 16 (1), 53-59.

Kosmidou, K. (2008). The determinants of banks' profits in Greece during the period of EU financial integration. Journal of economic literature 34(3), 146-159.

Kosmidou, K. (2008). The determinants of banks' profits in Greece during the period of EU financial integration. Journal of economic literature 34(3), 146-159.

Murthy, S. and N. Sree (2003) Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics, 13(2), 187- 221.

Sathyamoorthi, C. R., Mapharing, M., & Dzimiri, M. (2020). Liquidity management and financial performance: Evidence from commercial banks in Botswana. International Journal of Financial Research, 11(5), 399- 413.

Shrestha, B. (2018). Liquidity management and profitability of commercial banks in Nepal. *International Journal of Management and Applied Science*, *4*(7), 98-102.

Shrestha, B., & Chaurasiya, S. (2023). Impact of Liquidity Management on Profitability of Joint Venture Commercial Banks in Nepal. *The Lumbini Journal of Business and Economics*, *11*(1), 131-141.

Yüksel, S., Mukhtarov, S., Mammadov, E., & Özsarı, M. (2018). Determinants of profitability in the banking sector: an analysis of post-soviet countries. Economies, 6(3), 41.

Zaharum, Z., Latif, R. A., Isa, M. A. M., & Hanafi, M. H. (2022). The influence of liquidity management on banks' profitability. International Journal of Academic Research in Business and Social Sciences, 12(6), 820-829.