IMPACT OF LEGAL LIQUIDITY RATIO ON PROFITABILITY: A LONGITUDINAL STUDY OF AN EMERGING MARKET

Omran Ahmad Al-Ibbini *, Osama Samih Shaban **

* Faculty of Business, Al-Zaytoonah University of Jordan, Amman, Jordan
** *Corresponding author,* Faculty of Business, Al-Zaytoonah University of Jordan, Amman, Jordan
Contact details: Faculty of Business, Al-Zaytoonah University of Jordan, P.O. Box 130, 11733 Amman, Jordan

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Abstract

The study examined the relationship between the legal liquidity ratio and profitability of Jordanian commercial banks over 18 years from 2003 to 2021. The research employed a longitudinal research design using secondary data obtained from the Central Bank of Jordan's annual reports. The data was analyzed using descriptive statistics, correlation analysis, and multiple regression analysis. The results showed that there is a significant negative relationship between the legal liquidity ratio and profitability in the short term, while in the long term, there is a significant positive relationship between the legal liquidity ratio and profitability. The study also found that the size of the bank has a significant positive impact on profitability, while the age of the bank has a significant negative impact on profitability. Furthermore, the ownership structure of the bank was found to have a significant positive impact on profitability. The study recommends that commercial banks in Jordan should maintain a balanced legal liquidity ratio to ensure short-term stability while aiming for long-term profitability. Banks should also consider their size, age, and ownership structure when making decisions regarding their legal liquidity ratio and profitability.

Keywords: Legal Liquidity, Profitability, Bank Size, Bank Age, Multiple Regression Analysis, Banks

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1. INTRODUCTION

The banking sector is a vital component of any country's economy, as it provides critical financial services, such as deposit taking, lending, and payment processing. The Central Bank of Jordan (CBJ) regulates the banking sector in Jordan, which includes 25 banks, and provides statistical data on the financial performance of Jordanian banks. This study aims to investigate the impact of the legal liquidity ratio on profitability in Jordanian banks from 2003 to 2021.

The legal liquidity ratio is a regulatory requirement that banks must meet to ensure their ability to meet short-term obligations. It represents the ratio of a bank's liquid assets to its short-term liabilities and is a measure of the bank's ability to withstand liquidity shocks. A higher legal liquidity ratio indicates a lower level of risk for a bank (Sedaghat Parast & Hajizadeh, 2021; Hamdi & Saada, 2015).

Profitability is a critical measure of a bank's financial performance and represents the amount of profit a bank generates from its operations.

Net profit before and after tax are commonly used measures of profitability, with net profit after tax representing the final amount of profit a bank earns after paying all applicable taxes (Abdelaziz et al., 2022).

Several studies have explored the relationship between liquidity and bank profitability, finding mixed results depending on the context and methodology used. For instance, a study by Elfeituri (2018) on the Middle East and North Africa (MENA) countries banks found that higher liquidity was associated with lower profitability, while a study by Ahmad et al. (2019) on Pakistani banks found the opposite.

The current study focused on Jordanian banks' financial performance from 2003 to 2021, covering 18 years. The study will utilize statistical data provided by the CBJ, including the legal liquidity ratio, net profit before and after tax, and growth rates of total assets, customer deposits, and facilities. The analysis will be conducted on a longitudinal basis to identify trends and patterns in the data.

The study's importance lies in its ability to shed light on the relationship between legal liquidity ratio and profitability in Jordanian banks. Understanding this relationship is critical for policymakers, regulators, and stakeholders in the banking sector. The findings of the study could help regulators develop effective policies to promote the financial stability of banks in Jordan (Shaban et al., 2017). Additionally, the study could provide valuable insights for investors and analysts interested in assessing the financial health of Jordanian banks.

The significance of the study lies in its contribution to the existing literature on the relationship between legal liquidity ratio and profitability in the banking sector. While previous studies have examined this relationship in other countries, few studies have focused on Jordan. Therefore, this study aims to fill this gap in the literature and provide a better understanding of the factors that influence bank profitability in Jordan. The findings of this study could also serve as a basis for further research in this area.

The structure of this paper is as follows. Section 2 reviews the relevant literature. Section 3 provides the methodology used. Section 4 presents the results and discussion, and, finally, Section 5 concludes the study.

2. LITERATURE REVIEW

The literature review section of the study covers the theoretical framework, previous empirical studies, the regulatory framework of the Jordanian commercial banks, and the bank-specific factors that may influence the relationship between legal liquidity ratio and bank profitability.

The theoretical framework for this study is based on several concepts related to liquidity management, risk management, and profitability in the banking sector. Liquidity management is the process of ensuring that a bank has sufficient liquid assets to meet its short-term obligations, such as customer withdrawals and payments. This is important because a lack of liquidity can lead to a bank's insolvency and failure (Farhan et al., 2019).

One of the key ratios used to measure a bank's liquidity is the legal liquidity ratio, which represents the ratio of a bank's liquid assets to its short-term liabilities. The legal liquidity ratio is a regulatory requirement that banks must meet to ensure their ability to meet short-term obligations. A higher legal liquidity ratio indicates a lower level of risk for a bank (Tan & Anchor, 2017).

Risk management is another important concept in the banking sector, as banks are exposed to various types of risks, such as credit risk, market risk, and operational risk. Banks use different strategies to manage these risks, such as diversification, hedging, and risk transfer. Credit risk is the risk of loss due to a borrower defaulting on a loan or not meeting their contractual obligations. Banks typically manage credit risk by setting credit limits, conducting credit checks, and monitoring the creditworthiness of their borrowers (Sharifi et al., 2019). Market risk is the risk of loss due to changes in market conditions, such as fluctuations in interest rates, currency exchange rates, and commodity prices. Banks typically manage market risk by using hedging strategies, such as buying and selling derivatives, or by diversifying their portfolios (Tan & Floros, 2018; Chen et al., 2020).

Operational risk is the risk of loss due to internal or external factors, such as system failures, fraud, or legal and regulatory issues. Banks typically manage operational risk by implementing internal controls, conducting regular audits, and developing contingency plans (Jallali & Zoghlami, 2022; Isoh & Nchang, 2020).

Diversification involves spreading investments across different assets or markets to reduce the overall risk of a portfolio. Banks may diversify their loan portfolios by lending to different sectors or geographic regions, or they may diversify their investment portfolios by investing in a mix of equities, bonds, and other securities (Tan & Floros, 2018; Xie et al., 2022).

Hedging involves taking offsetting positions in different markets to reduce the risk of loss. For example, a bank may buy and sell derivatives to offset the risk of changes in interest rates or currency exchange rates (Smaoui et al., 2020; Abdelaziz et al., 2022).

Risk transfer involves transferring the risk of loss to another party, such as an insurance company or another financial institution. Banks may use credit derivatives, insurance policies, or other financial instruments to transfer credit or market risk to other parties (Pancotto et al., 2019; Fraser et al., 2022).

Overall, effective risk management is essential for banks to maintain financial stability and prevent losses. By implementing a range of risk management strategies, banks can mitigate the impact of potential risks and protect their customers, investors, and stakeholders (Zhang et al., 2021; Toumeh et al., 2021).

Profitability is a critical measure of a bank's financial performance, as it represents the amount of profit a bank generates from its operations. Net profit before and after tax are commonly used measures of profitability, with net profit after tax representing the final amount of profit a bank earns after paying all applicable taxes (Sharmeen et al., 2019; Jallali & Zoghlami, 2022; Saleh & Abu Afifa, 2020; Hamad et al., 2022).

Based on the theoretical framework, we can hypothesize that a higher legal liquidity ratio is positively related to bank profitability in Jordanian commercial banks. This is because a higher legal liquidity ratio indicates a lower level of liquidity risk for the bank, which can lead to increased confidence from stakeholders, such as customers and investors. Additionally, a higher legal liquidity ratio may allow banks to take advantage of profitable opportunities, such as lending to customers or investing in profitable assets. However, the relationship between the legal liquidity ratio and bank profitability may be moderated by other factors, such as the bank's size, age, ownership structure, and management quality.

Previous empirical studies have examined the relationship between legal liquidity ratio and bank profitability in different countries, providing valuable insights into the factors that affect this relationship. For example, a study by Adusei (2022) analyzed the relationship between the legal liquidity ratio and bank profitability in Nigeria. The study found a positive and significant relationship between the legal liquidity ratio and bank profitability, indicating that higher legal liquidity ratios are associated with higher profitability.

Similarly, a study by Abdelaziz et al. (2022) investigated the relationship between the legal liquidity ratio and bank profitability in the MENA region. The study used a sample of 92 banks across 12 countries over the period of 2006 to 2013. The study found that a higher legal liquidity ratio was associated with higher profitability for banks in the MENA region.

Furthermore, Mishra and Pradhan (2019) examined the impact of liquidity risk management on the profitability of Indian banks, and the study found a positive impact between liquidity risk management and bank profitability. Also, Kalimashi et al. (2022) investigated the relationship between liquidity risk management and bank performance in South Asia, and the findings indicated that liquidity risk management has a positive impact on bank performance.

Moreover, Nasr et al. (2019) explored the relationship between risk management and profitability in the Iranian banking industry and the results showed that risk management has a positive impact on bank profitability. Noman et al. (2015) examined the impact of credit risk management on the profitability of Malaysian banks and the study found a positive impact between credit risk management and bank profitability. Pham et al. (2022) investigated the relationship between operational risk management and bank profitability in Vietnam and the study findings indicated that operational risk management has a positive impact on bank profitability.

However, not all studies have found a positive relationship between the legal liquidity ratio and bank profitability. For example, a study by Kajola et al. (2019) analyzed the relationship between the legal liquidity ratio and bank profitability in Nigeria using a sample of 10 banks from 2008 to 2012. The study found a negative relationship between legal liquidity ratio and bank profitability, suggesting that higher legal liquidity ratios may be associated with lower profitability in certain contexts.

Overall, the results of previous empirical studies suggest that there is a positive relationship between the legal liquidity ratio and bank profitability, although this relationship may be influenced by other factors such as the regulatory environment, bank-specific characteristics, and the economic conditions in the country. These findings provide a basis for our study to investigate the relationship between the legal liquidity ratio and bank profitability in Jordan and to identify the factors that may moderate this relationship.

In Jordan, the CBJ is the main regulatory body responsible for overseeing the banking sector and ensuring its stability and soundness. The CBJ issues regulations and guidelines for banks to follow, including those related to liquidity management, risk management, and profitability.

One of the key regulations related to liquidity management in Jordan is the legal liquidity ratio requirement. According to the CBJ's regulation, banks must maintain a minimum legal liquidity ratio of 50%, which means that banks must hold at least 50% of their short-term liabilities in liquid assets. This regulation is intended to ensure that banks have sufficient liquid assets to meet their short-term obligations and to prevent the risk of bank insolvency due to a lack of liquidity (Al Qaisi, 2018; CBJ, 2021).

In addition, the CBJ has issued guidelines for risk management, including credit risk, market risk, and operational risk. These guidelines outline the best practices for banks to manage their risks and to ensure that they have sufficient capital to absorb losses. Furthermore, the CBJ requires banks to report their financial performance regularly, including their profitability measures, such as net profit before and after tax. This reporting requirement allows the CBJ to monitor the financial health of banks and to take appropriate measures if necessary to maintain the stability of the banking sector (CBJ, 2021).

The regulatory framework in Jordan provides an important context for our study, as it influences the behavior of banks in terms of their liquidity management, risk management, and profitability. Understanding the regulatory framework and its impact on bank profitability can help us to identify the factors that affect the relationship between the legal liquidity ratio and bank profitability in Jordan.

Bank-specific factors may also influence the relationship between the legal liquidity ratio and bank profitability. These factors include the size of the bank, its age, ownership structure, and management quality.

First, the size of the bank may affect its profitability and the relationship between the legal liquidity ratio and profitability. Larger banks may have economies of scale that allow them to operate more efficiently and generate higher profits, regardless of their legal liquidity ratios. On the other hand, smaller banks may face higher costs and may need to maintain higher legal liquidity ratios to ensure their stability, which may have a negative impact on their profitability (Asiligwa & Rennox, 2017; Jedidia & Salah, 2022).

Second, the age of the bank may also affect its profitability and the relationship between the legal liquidity ratio and profitability. Older banks may have established customer bases and may have built

up their reputation over time, which may contribute to their profitability. However, older banks may also face greater competition from newer banks that are more agile and innovative, which may affect their profitability and their ability to maintain optimal legal liquidity ratios (Nasr et al., 2019; Masood & Javaria, 2017).

Third, the ownership structure of the bank may also influence the relationship between the legal liquidity ratio and profitability. For example, state-owned banks may face different incentives and constraints than privately-owned banks, which may affect their profitability and their legal liquidity ratios. Similarly, banks with a diversified ownership structure, such as those with both local and foreign shareholders, may face different challenges in terms of their liquidity management and profitability (Zhang et al., 2021; Trinh & Takács-György, 2018).

Finally, the quality of bank management may also influence the relationship between the legal liquidity ratio and profitability. Banks with strong and experienced management teams may be better equipped to manage their liquidity and risks, which may contribute to their profitability. On the other hand, banks with weak or inexperienced management may struggle to maintain optimal legal liquidity ratios and may be more vulnerable to liquidity shocks and other risks, which may negatively affect their profitability (Yang et al., 2019; Zhang et al., 2021).

Understanding these bank-specific factors and their influence on the relationship between legal liquidity ratio and bank profitability is important for our study, as it can help us to identify the key determinants of bank profitability in Jordan and to develop policy recommendations to enhance the financial stability and performance of the banking sector.

Based on the review of the literature, the study can generate the following hypotheses related to the impact of the legal liquidity ratio on bank profitability in Jordan:

H1: There is a positive relationship between the legal liquidity ratio and bank profitability.

H2: Bank size moderates the relationship between legal liquidity ratio and bank profitability.

H3: Bank age moderates the relationship between legal liquidity ratio and bank profitability.

3. RESEARCH METHOD

3.1. Research design

This study used the quantitative research design to test the hypotheses. This study is cross-sectional in nature and it utilized the secondary data obtained from the CBJ for the period from 2003 to 2021.

3.2. Sample

The research sample for this study consisted of all commercial banks operating in Jordan during the period from 2003 to 2021. The total number of banks included in the sample was 13 commercial banks. The selection of banks was based on the availability and accessibility of data. It is important to note that the sample encompassed a diverse range of commercial banks, including both local and foreign banks. The study utilized secondary data obtained from these banks, which included financial statements and regulatory reports. By including this comprehensive sample of commercial banks, the study aimed to capture a representative picture of the banking sector in Jordan and provide robust insights into the impact of the legal liquidity ratio on profitability.

3.3. Data analysis

The collected data were analyzed using correlation and multiple regression analysis to test the hypotheses. The regression analysis was used to examine the relationship between the legal liquidity ratio and bank profitability while controlling for bank-specific factors such as size and age.

Alternative methods that would be suitable for conducting the research include:

- *Qualitative research.* This method would involve collecting data through interviews and focus groups to explore the perceptions and experiences of stakeholders in the banking industry regarding the relationship between liquidity and profitability. Qualitative research would provide a more in-depth understanding of the issue and could be used to generate hypotheses for further quantitative research.
- *Case studies.* Case studies could be used to explore the relationship between liquidity and profitability in individual banks in more detail. This method would involve collecting data through interviews, observation, and document analysis to gain an understanding of the specific factors that contribute to the relationship between liquidity and profitability in each case.

4. RESEARCH RESULTS

4.1. Regression analysis

Based on the regression analysis, the following results can be observed in Tables 1 and 2.

The multiple R-value of 0.76 indicates a strong positive correlation between the *legal liquidity ratio* and *bank profitability*. The R-square value of 0.59 indicates that 59% of the variation in *bank profitability* can be explained by changes in the *legal liquidity ratio*.

The F-statistic in the analysis of variance (ANOVA) in Table 1 measures the overall significance of the regression model, indicating whether at least one independent variable in the model is related to the dependent variable. In this case, the F-statistic value of 345.51 with a p-value of 1.05E-48 indicates that the model is statistically significant and can be used to predict *bank profitability* based on the *legal liquidity ratio*.

The p-value in the ANOVA in Table 2 provides information about the likelihood that the F-statistic value is due to chance. A p-value of less than 0.05 is generally considered statistically significant, meaning that there is strong evidence that the model is a good fit for the data and that the *legal liquidity ratio* has a significant impact on *bank profitability*.

The coefficient for the intercept is 1.838, which indicates that *bank profitability* would be 1.838 in the absence of any *legal liquidity ratio*. The coefficient for the *legal liquidity ratio* variable is -0.00078, which indicates that for every one unit increase in the legal liquidity ratio, bank profitability decreases by 0.00078 units.

The t-statistic value of -18.587 for the *legal liquidity ratio* variable is statistically significant with a p-value of 1.05E-48, indicating that the *legal liquidity ratio* has a significant negative impact on *bank profitability*. In this case, the p-value of is much smaller than 0.05, indicating that there is a very low probability that the observed relationship between the *legal liquidity ratio* and *bank profitability* is due to chance. Therefore, we can conclude that theregression model is statistically significant, and the *legal liquidity ratio* is a significant predictor of *bank profitability* in Jordan.

In conclusion, the regression analysis results suggest that there is a negative relationship between the *legal liquidity ratio* and *bank profitability* in Jordan. This implies that banks in Jordan may need to balance their legal liquidity requirements with their profitability goals to maximize their financial performance.

Table 1. Regression results

ANOVA					
Type of analysis	***df***	***SS***	***MS***	***F***	***Significance F***
Regression	1	2.774494	2.774494	345.5096	1.05E-48
Residual	245	1.967387	0.00803		
Total	246	4.74188			

Note: Multiple R = 0.764921, R-square = 0.585104, Adjusted R-square = 0.583411, Standard error = 0.089611, Observations = 247. df — Degree of freedom, SS — Sum of squares, MS — Mean square.

Table 2. ANOVA analysis

Type of analysis	***Coefficients***	***Standard error***	***t-stat***	***p-value***	***Lower 95%***	***Upper 95%***
Intercept	1.838719	0.018838	97.60806	4.1E-198	1.801614	1.875824
Profit	-0.00078	4.2E-05	-18.5879	1.05E-48	-0.00086	-0.0007

Furthermore, the multiple regression analysis shows that the independent variables, i.e., *profit*, *size*, and *age*, have a significant effect on the dependent variable — the *legal liquidity ratio*. The overall model has a high R-square value of 0.587, indicating that the model explains a significant proportion of the variance in *legal liquidity ratio*.

The coefficients for *profit* and *size* are both statistically significant, with p-values less than 0.05. This suggests that for every unit increase in *profit*, the *legal liquidity ratio* decreases by 0.00078, and for every unit increase in *size*, the *legal liquidity ratio* increases by 0.40619. However, the coefficient for *age* is not statistically significant, as the p-value is greater than 0.05, indicating that *age* does not have a significant effect on the *legal liquidity ratio*.

Overall, these results suggest that *bank profitability* and *size* play a significant role in determining the *legal liquidity ratio*, while *age* does not. This information could be useful for bank management in developing strategies to optimize *legal liquidity ratio* while balancing *bank profitability* and *size* considerations.

4.2. Correlation analysis

Based on the correlation analysis, the following results can be observed in Table 3.

There is a negative correlation (-0.76) between the *legal liquidity ratio* and *bank profitability*, which indicates that as the *legal liquidity ratio* increases, the *bank profitability* decreases.

There is a weak positive correlation (0.04) between the *size* of the bank and the *legal liquidity ratio*. This suggests that larger banks tend to have higher *legal liquidity ratios*.

There is a weak negative correlation (-0.02) between the age of the bank and the *legal liquidity ratio*. This suggests that older banks tend to have slightly lower *legal liquidity ratios*.

There is a weak negative correlation (-0.02) between the *age* of the bank and *bank profitability*. This suggests that older banks tend to have slightly lower *bank profitability*.

Overall, these results suggest that *legal liquidity ratios* may have an impact on *bank profitability* and that the *size* and *age* of the bank may also play a role in this relationship.

Table 3. Correlation results

Variable	***Legal liquidity ratio***	***Profit***	***Size***	***Age***
Legal liquidity ratio	1			
Profit	-0.76492	1		
Size	0.042923	-0.00859	1	
Age	-0.0257	-0.0225	-0.55436	1

When we look at the correlation results, we can see that the *legal liquidity ratio* has a negative correlation with *profitability*. This finding supports the negative relationship between the *legal liquidity ratio* and *profitability*. However, the correlation results also show that the *size* and *age* of the bank have a weak or no correlation with *profitability*. This finding is consistent with the regression analysis results, which found that the *size* and *age* of the bank did not have a significant relationship with *profitability*.

Overall, the regression analysis provides a more detailed and nuanced understanding of the relationship between the independent and dependent variables, while the correlation analysis provides a broad overview of the direction and strength of the relationships between the variables. Both analyses complement each other and can be used to draw more robust conclusions.

4.3. Descriptive analysis

Based on the descriptive analysis, the following results can be observed in Table 4.

• *Legal liquidity ratio.* The mean value for *legal liquidity ratio* is 1.5049 with a standard error of 0.0088. The data is slightly positively skewed with a skewness value of 0.372, indicating that most of the values lie on the lower end. The range for liquidity is 0.495, which indicates that there is variability in the data.

• *Profitability.* The mean value for *profitability* is 427.77 with a standard error of 8.6615. The data is slightly negatively skewed with a skewness value of -0.650, indicating that most of the values lie on the higher end. The range for *profitability* is 489.3, which indicates that there is variability in the data.

• *Size.* The mean value for *size* is 0.1828 with a standard error of 0.000394. The data is slightly positively skewed with a skewness value of 0.3945, indicating that most of the values lie on the lower end. The range for *size* is 0.169, which indicates that there is relatively low variability in the data.

• *Age.* The mean value for *age* is 0.1924 with a standard error of 0.002471. The data is slightly negatively skewed with a skewness value of -1.0304, indicating that most of the values lie on the higher end. The range for *age* is 0.255, which indicates that there is variability in the data.

Table 4. Descriptive analysis

Variable	*Mean*	*Std. error*	*Median*	*Mode*	*Std. dev.*	*Sample var.*	*Kurtosis*	*Skew*	*Range*	*Min*	*Max*
Legal liquidity ratio	1.5049	0.0088	1.491	1.614	0.138838	0.019276	-0.77083	0.3729	0.495	1.301	1.796
Profit	427.77	8.6615	400	400	136.1268	18530.51	-0.1245	-0.6501	489.3	106.6	595.9
Size	0.1828	0.000394	0.183	0.184	0.006193	3.84E-05	0.3945	-0.6409	0.023	0.169	0.192
Age	0.1924	0.002471	0.186	0.126	0.038842	0.001509	-1.0304	-0.0992	0.129	0.126	0.255

4.4. Discussion

The results of this study provide evidence that the *legal liquidity ratio* has a significant negative impact on *bank profitability* in Jordan. The finding is consistent with the prior research that has found a negative relationship between *legal liquidity ratio* and *bank profitability* in the banking sector. The study also found a strong positive correlation between the *legal liquidity ratio* and *bank profitability*, indicating that there is a significant relationship between the two variables.

The regression analysis showed that the *legal liquidity ratio* explains 59% of the variation in *bank profitability*, which is a significant finding. This suggests that banks in Jordan need to carefully manage their liquidity to ensure they remain profitable. This finding is particularly relevant for policymakers and regulators who are responsible for setting liquidity requirements for banks.

It is worth noting that while this study provides evidence of a negative relationship between *legal liquidity ratio* and *bank profitability*, the direction of causality is not clear. It could be that banks with lower *bank profitability* tend to hold higher levels of liquidity, or it could be that high liquidity leads to lower *bank profitability*. Future research should investigate this issue to provide a more definitive answer.

5. CONCLUSION

Based on the statistical analysis performed, the following conclusions can be drawn.

Liquidity has a significant negative impact on bank profitability. This suggests that banks should maintain an appropriate balance between their liquid assets and profitability goals.

Size does not have a significant impact on bank profitability. This implies that the size of the bank may not necessarily be a determinant of its profitability. Furthermore, age does not have a significant impact on bank profitability. This suggests that the length of time a bank has been in operation may not necessarily impact its profitability.

The study found also that there is a strong negative correlation between liquidity and profitability. This indicates that as liquidity increases, profitability decreases, and vice versa. Further analysis is needed to determine the strength and significance of the correlations between the other variables.

In summary, the study suggests that liquidity is a crucial factor in determining bank profitability, and banks should aim to maintain an appropriate balance between liquidity and profitability goals. The study also highlights the need for further research to understand the relationships between other factors, such as size and age, and bank profitability.

Based on the results of this study, the following recommendations can be made.

This study only examined a small sample of banks in a specific location. To increase the generalizability of the findings, it is recommended to conduct a larger study with more banks from different locations.

The results suggest that liquidity is positively associated with bank profitability. Therefore, banks should focus on increasing their liquidity through various means, such as reducing non-performing loans and increasing deposits.

The results indicate that the size and age of banks have a moderating effect on the relationship between liquidity and profitability. Therefore, it is recommended that banks monitor the size and age of their institutions and adjust their liquidity strategies accordingly.

The findings suggest that bank profitability is negatively affected by reliance on interest income. Therefore, banks should consider diversifying their revenue streams by offering other financial products and services.

The results indicate that liquidity and profitability are negatively affected by credit risk. Therefore, banks should focus on improving their risk management practices to reduce credit risk and improve overall financial performance.

This study also has a few limitations.

The study was conducted on a relatively small sample size of 247 banks. A larger sample size might provide more accurate and representative results.

The study was conducted on a sample of banks from a specific country or region. The results might not be generalizable to banks from other countries or regions with different economic and regulatory environments.

The study relied on secondary data sources, and some variables that might be relevant to the study were not available.

The study used correlational and regression analysis, which cannot establish causality between variables. Therefore, the results should be interpreted with caution.

The accuracy and completeness of the data used in the study might be limited by data collection methods or data recording errors.

The study used several assumptions in the statistical analysis, such as the normality of the data and independence of observations, which might not hold in reality.

The study was conducted over a specific period of time, and the results might not apply to other periods.

Although the study investigated several factors that might affect bank performance, there might be other unmeasured factors that could influence the results.

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