



Which One Is The Most Important In Bank: Liquidity Or Capital Resiliency?

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ABSTRACT

This research aims to examine the fulfillment of the Liquidity Coverage Ratio (LCR) and Capital Adequacy Ratio (CAR) of banks towards bank credit growth in Indonesia. The researchers included macroeconomic factors (GDP and BI Rate) as control variables and bank size (core capital category) to support the research testing. The influence of LCR and CAR on bank credit growth with KBMI categories 2, 3, and 4 during quarterly periods (Q4 2018 - Q2 2023) is tested using multiple linear regression. The study findings indicate that banks that enhance liquidity management by increasing the LCR can lead to a reduction in credit distribution. However, the CAR does not have a major influence on credit growth. This is because bank capital in Indonesia is very robust. The relationship between the LCR and credit growth in all KBMI categories is not significantly influenced by the core capital category of banks. In addition, the KBMI has a little impact on the correlation between CAR and credit growth in KBMI banks 2 and 3, but it does have a moderating effect on KBMI 4 banks.

INTRODUCTION

The global financial crisis of 2007–2008 demonstrated that robust capitalization was insufficient to avert bank failures in the financial services industry, particularly in the banking sector. This was demonstrated by the failure of well-known banks with a lengthy history, such Northern Rock in the UK and Lehman Brothers in the US, both of which had failed because of issues with liquidity. Because liquidity risk needs to account for major events that can happen unexpectedly, like the global crisis of 2007–2008, effective liquidity management is essential.

The Liquidity Coverage Ratio (LCR), a measure of a bank's ability to endure 30 days in a crisis situation by holding high-quality liquid assets (HQLA), is one of the liquidity resilience requirements issued by the Basel Committee on Banking Supervision (BCBS). In addition to preventing a bank collapse brought on by liquidity issues, banks are obliged to adhere to the BCBS's liquidity resilience criterion, or LCR, in order to avoid negative spillover effects on other banks, particularly during times of crisis.

As a state institution with jurisdiction over the regulation and supervision of banking in Indonesia, the Indonesian Financial Services Authority, also known as Otoritas Jasa Keuangan (OJK), issued Regulation OJK (POJK) Number 42/POJK.03 of 2015 concerning the Obligation to Fulfill the Liquidity Coverage Ratio (LCR) for Commercial Banks, or POJK LCR. Foreign banks and banks classified under Core Capital Bank Groups (KBMI) 2, 3, and 4 are required to fulfill a minimum LCR requirement of 100%.

Strong liquidity resilience, even over regulatory thresholds, is a good thing, but the bank may have certain drawbacks as well. Bank failures can occur suddenly from a shortage of liquidity or gradually from an excess of liquidity because maintaining liquid assets comes at a cost (Matz, 2011).

In crisis conditions, particularly when market liquidity is limited (market liquidity shock), banks will naturally store additional liquidity, among other things, to account for third-party withdrawals, loan repayments, and discharges of unused loan obligations. During the 2007-2008 global crisis, bank lending growth in the United States fell by 47% in the fourth quarter of 2008 compared to the same period the year before (Ivashina & Scharfstein, 2010). During the pandemic in 2020, credit growth in Indonesia declined by -2.41% compared to 2019, but third-party funds increased by 11.11% (LPIP OJK). This suggests that during a crisis, banks seek to maintain cash rather than channel it into loans.

In addition to liquidity regulations, following the 2007-2008 global crisis, the BCBS issued Basel III principles for strengthening capital resilience, which include additional capital measures such as the conservation buffer, countercyclical capital buffer, and, specifically for systemically important banks, the capital charge. According to (Anginer et al., 2021a), the implementation of these capital laws caused banks to boost their capital, particularly in advanced economies where capital climbed significantly, whereas capital increased in developing countries but not as dramatically. Furthermore, (Berrospide & Edge, 2024) found that measures to improve capital resilience led to a drop in lending.

The enforcement of LCR regulations in Indonesia commenced in December 2018, accompanied by the introduction of regulatory standards for capitalization. Consequently, banks were compelled to adopt a more comprehensive approach in devising business strategies to ensure alignment between credit expansion, liquidity management, and bolstering capital resilience. The table below displays the trends in LCR (Liquidity Coverage Ratio), CAR (Capital Adequacy Ratio), and bank credit growth in Indonesia from December 2018 to December 2023:

Table 1 Trend LCR, CAR, And Banking Credit Growth Of Indonesia

Description	December 2018	December 2019	December 2020	December 2021	December 2022	December 2023
LCR	190.32%	209.16%	267.91%	257.79%	242.58%	220.18%
CAR	23.42%	23.31%	23.81%	25.67%	25.66%	27.65%
Credit Growth	12.05%	6.08%	-2.40%	4.92%	11.63%	9.12%

Source: OJK

The data indicates that there was a notable decline in credit growth in December 2019, with a fall of 6.08% compared to the position in December 2018, which had a growth rate of 12.05%. Additionally, the Capital Adequacy Ratio (CAR) decreased from 23.42% in December 2018 to 23.31% in December 2019, while the Liquidity Coverage Ratio (LCR) grew from 190.32% in December 2018 to 209.16% in December 2019. This might potentially be a response from the banking sector to the introduction of the LCR legislation in 2018. In December 2020, the Covid-19 pandemic led to a negative credit rate of -2.40%, while the LCR increased dramatically to

267.91%. This is a sensible response from banks, as they tend to be cautious during times of epidemic and prioritize the allocation of credit towards secure and liquid assets. In light of the pandemic and ongoing global events, it is crucial to adhere to the principles of liquidity management and bolster the banking sector in Indonesia to ensure consistent and robust business growth.

(Demsetz et al., 1996) found that franchise values can mitigate excessive risk-taking in banks. They concluded that banks with higher franchise values are more likely to incur losses when a risky business strategy is implemented, leading to failure to meet their obligations. Banks must uphold the trust of clients and investors by assuring them that they can fulfill their immediate financial obligations using the liquid assets they possess.

(Berger & Bouwman, 2009) analyze the interplay between liquidity, finance, and bank credit. They find that capital might impede the production of liquidity as banks often prioritize strengthening their own operations rather than increasing liquidity or extending loans. (credit). When banks have vulnerable capital, they tend to be more cautious in lending to avoid the risk of defaults, which could make it harder for them to provide financing.

Several studies have examined the effects of implementing LCR on profitability, such as the research conducted by (Bado et al., 2023; Rajdeep & Patra, 2023). The study conducted by (Roberts et al., 2023) examines the impact of liquidity and capitalization on credit growth, specifically focusing on the LCR. (Brewer III et al., 2014) investigates the relationship between core customer growth in depository institutions and credit growth. Berospide et al. (2023) analyze how strengthening capital resilience affects credit growth. Additionally, (Anginer et al., 2021b) examine the influence of capitalization regulation on the Risk Weighted Assets (RWA) and its impact on credit growth.

This study aims to examine two crucial factors: the management of bank liquidity resilience, as represented by the LCR parameters, and the impact of bank financing (CAR) on bank credit growth. Effective liquidity management entails investing in high-quality liquid assets while simultaneously considering the appropriate rate of return. Therefore, banks must also closely monitor central bank interest rates (BI rates). Besides impacting the management of investments in liquid assets, BI rates can also directly or indirectly influence the determination of favorable interest rates for establishing good credit. Additionally, these rates can affect the expansion of bank credit, along with other macroeconomic factors such as the economic growth shown by GDP growth. This study will examine the impact of these elements by analyzing the size of the bank, specifically focusing on the bank's core capital. The reason for this is that the OJK categorizes bank business operations based on core capital. Additionally, the LCR requirements issued by the OJK are only obligatory for banks that have a specific level of core capital.

LITERATURE REVIEW

The author has investigated literatures that explain about LCR (bank liquidity), bank capital resilience, and their influence on bank credit growth. Prior studies have determined that the management of liquidity has an impact on the policies of banks when it comes to the allocation of credit. In a study conducted by (Roberts et al., 2023), 109 banks in the United States were surveyed between 2009 and 2017. The findings indicated that banks subject to the LCR requirement tend to raise their liquid assets and have a negative impact on the distribution of credit. The study revealed that the impact of LCR on credit expansion was significant for medium-sized banks (with assets ranging from US\$50 million to US\$90 million), but this effect was not observed in large-scale banks (with an average of US\$250 million in assets). The lack of credit growth in large banks can be attributed to their superior market access to liquidity and financing compared to banks serving medium and small enterprises.

(Cornett et al., 2011) examined the influence of liquidity, not specifically related to LCR, as well as the stability of funds obtained from deposits and financing, on the credit supply provided by banks to the national economy. They discovered that banks with greater amounts of non-liquid assets would augment their liquid assets and decrease credit during times of crisis.

(Rajdeep & Patra, 2023) conducted a study on banks in India from March 2015 to March 2022. However, the study focused on the influence of LCR on profitability rather than on credit distribution. However, the study posits that in order to augment high-quality liquid assets (as mandated by the LCR criterion), banks must relinquish their lending expansion.

In a study conducted by Berrospide et al. (2023), the researchers examined the relationship between the capital resilience of banks in the United States and the impact on credit, total liabilities, investment, and human resources. This was done by testing the extent to which the banks' capital resistance in a stress test simulation, required by the Federal Reserve, was related to these factors. Regarding its effect on credit, a more extensive and thorough examination of capital resilience stress revealed a reduction in credit expansion, an increase in credit interest rates, and a decrease in new credit.

In a study conducted by (Karim & Arif-Uz-Zaman, 2013), the researchers evaluated the impact of capitalization on the growth of credit and bank deposits in 14 countries that are members of the Organization of Islamic Cooperation (OIC). The study concluded that CAR had a favorable effect on loan growth. In a study conducted by (Cornett et al., 2011), the researchers examined how regulations regarding capitalization affect the credit growth of banks in the Middle East and North Africa (MENA) region, specifically in Egypt, Jordan, Lebanon, Morocco, and Tunisia, between 1989 and 2004. The study concluded that meeting the CAR requirement can enhance credit growth.

(Demsetz et al., 1996) conducted a study on 350 banks from 1991 to 1995 to explore the connection between a bank's franchise value and the risk it takes in its business activities. Their findings revealed a negative correlation between the amount of risk and the franchise value of a bank. Banks possessing substantial franchise values typically exhibit minimal risk, while banks with limited brand values tend to have a significant level of risk. This illustrates that a bank's high franchise value is indicated, among other things, by a strong owner-bank management connection and a high level of trust from stakeholders (contributors and creditors) due to the bank's capacity to fulfill its responsibilities. Regarding liquidity and capitalization, a bank with a high value will effectively maintain its ability to meet its obligations to customers and lenders. Additionally, the bank's management will only extend credit when it has a robust capacity to handle the associated risk.

The paper above discusses how the management of liquidity and efforts to strengthen it can impact the expansion of bank lending. Given that previous studies have analyzed the influence of liquidity on credit and the impact of capitalization on credit individually, this study aims to investigate the combined impacts of both factors on credit growth. The research variables selected from the liquidity aspect are LCR, while the capital aspect will be represented by CAR. In addition, the research will be enhanced by incorporating additional variables such as the BI rate and GDP from the macroeconomic perspective. Furthermore, the research findings will be analyzed based on the dispersion of results across different banks, as determined by their core capital category (KBMI).

OJK's special regulations on LCR (POJK LCR) describe LCR as the ratio between High-Quality Liquid Assets (HQLA) and net cash outflow over the next 30 days, or as follows:

$$CR = \frac{L \text{ HQLA}}{\text{Net Cash Outflow}}$$

HQLA is divided into three levels: HQLA 1 (cash, placements with Bank Indonesia, and Indonesian government securities), HQLA 2A (corporate bonds), and HQLA 2B (residential

mortgage-backed securities). Meanwhile, Net Cash Outflow refers to the difference between cash withdrawals and inflows during the next 30 days. Banks must maintain an LCR value of at least 100%.

Capital adequacy is expressed in the comparison between total capital (core and supplementary capital) and risk-weighted assets (RWA), which is formulated as:

$$AR = \frac{C}{RWA} \text{ Capital}$$

OJK requires banks to maintain a minimum CAR of 8%, plus an additional percentage of capital (add-on capital) based on their risk profile and type (systemic or non-systemic bank).

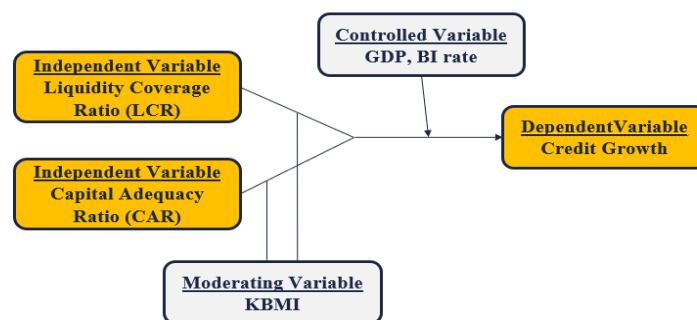
OJK regulates bank categorization based on core capital through Regulation No. 12/POJK.03 of 2021 regarding Commercial Banks, also known as the Core Capital-based Bank Group (KBMI), which is divided into four kinds.:

1. KBMI category 1 refers to banks with core capital of Rp 6,000,000,000,000 (six trillion Indonesian Rupiah);
2. KBMI category 2 denotes banks that have a core capital exceeding Rp 6,000,000,000,000 (six trillion Indonesian Rupiah) but less than of Rp 14,000,000,000,000 (fourteen trillion Indonesian Rupiah);
3. KBMI category 3 denotes banks that have a core capital exceeding Rp 14,000,000,000,000 (fourteen trillion Indonesian Rupiah) but less than of Rp 70,000,000,000,000 (seventy trillion Indonesian Rupiah); and
4. KBMI category 4 refers to banks with core capital more than 70,000,000,000,000 (seventy trillion Indonesian Rupiah).

METHODS

This study utilises secondary data obtained from Indonesian banking statistics published by the OJK, as well as quarterly reports available on the official websites of banks. The data covers the period from the fourth quarter of 2018 to the second quarter of 2023, encompassing a total of 19 quarterly periods. The selection of quarterly positions was based on the consideration that the variables being investigated include LCR, CAR, and bank credit data, which are published on a quarterly basis. The macroeconomic factors were sourced from the official websites of the Central Bureau of Statistics for the Gross Domestic Product (GDP) data and Bank Indonesia for the BI rate. The study's sample consists of 36 banks categorized as KBMI 2, 3, and 4. Specifically, there are 20 banks categorized as KBMI 2, 12 banks categorized as KBMI 3, and 4 banks categorized as KBMI 4. The excluded banks in the sample are those categorized as KBMI 1 banks, sharia banks, and rural banks, as the LCR regulation is currently not obligatory for banks in these categories. The research framework is depicted in the subsequent diagram:

Figure 1 Diagram



The research framework will evaluate multiple hypotheses in this study, specifically:

Table 2 Multiple Hypotheses

H01	:	Adherence to LCR requirements has no significant effect on the expansion of bank lending
Ha1	:	Adherence to LCR requirements has a significant effect on the expansion of bank lending.
H02	:	Bank Capital Adequacy Ratio (CAR) has no significant effect on the expansion of bank lending
Ha2	:	Bank Capital Adequacy Ratio (CAR) has a significant effect on the expansion of bank lending.
H03	:	Adherence to LCR requirements and bank Capital Adequacy Ratio (CAR) do not have an impact on the increase of bank credit, when using KBMI as a moderator
Ha3	:	Adherence to LCR requirements and bank Capital Adequacy Ratio (CAR) have an impact on the growth of bank loans. This relationship is influenced by the presence of the KBMI as a moderator

In order to examine the impact of LCR and CAR on bank credit growth, a statistical technique called multiple regression analysis is utilized. The regression model used is a Generalized Linear Regression Model. Given that the dataset used is panel data, which includes both time series and cross-sectional data, the regression model employed is in the form of the natural logarithm (ln). The time series data utilized covers the period from Q4 2018 to Q2 2023, while the cross-sectional data includes all banks classified as KBMI 2, 3, and 4..

The influence of LCR and CAR on credit growth is analyzed using the Generalized Linear Regression Model. This analysis is carried out in three separate regression models:

Model 1:

$$LG_{it} = \beta_0 + \beta_1LCR_{it} + \beta_2CAR_{it} + \beta_3GDP_{it} + \beta_4BIR_{it} + \epsilon_{it} \dots\dots\dots(1)$$

This model seeks to analyze the impact of Liquidity Coverage Ratio (LCR) and Capital Adequacy Ratio (CAR) on the credit growth.

Model 2:

$$LG_{it} = \beta_0 + \beta_1LCR_{it} + \beta_2CAR_{it} + \beta_3KBMI_{it} + (\beta_4LCR_{it} \times KBMI_{it}) + (\beta_5CAR_{it} \times KBMI_{it}) + \beta_6GDP_{it} + \beta_7BIR_{it} + \epsilon_{it} \dots\dots\dots(2)$$

This model seeks to analyze the impact of Liquidity Coverage Ratio (LCR) and Capital Adequacy Ratio (CAR) on the credit growth. The moderation of LCR and CAR are assessed in relation to the bank's core capital category (KBMI).

Description: LG_{it} = Bank-i's credit growth in quarter t (dependent variable); β_0 =Constant; β = coefficient represents the change in the dependent variable that occurs as a result of changes in the independent variables; LCR_{it} = Liquidity Coverage Ratio of bank-i in quarter t; CAR_{it} =Capital Adequacy Ratio of bank-i in quarter t; $KBMI_{it}$ = Dummy variables representing different bank categories KBMI 2, 3, and 4 refer to the second, third, and fourth iterations of KBMI; GDP_{it} = Gross Domestic Product during the specified quarter; BIR_{it} = BI rate during the specified quarter; dan ϵ_{it} = The variable that represents the factor that causes variations in credit growth in quarter t. The research variables are presented in the table below:

Table 3 Research Variables

Variabel	Variabel Name	Label	Measurement
Dependent	Credit Growth	LG	Quarterly credit growth
Independent	Liquidity Coverage Ratio	LCR	<i>High Quality Liquid Assets</i> <i>Net cash outflow 30 hari</i>

	Capital Adequacy Ratio	CAR	Capital Risk-Weighted Assets
Moderation	Core capital-based bank groups	KBMI	Dummy Variable
Control	Gross Domestic Product	GDP	Quarterly GDP
	Reference interest rate set by Bank Indonesia	BIR	Quarterly BI rate

The EViews program will receive all the data as input. The processed data will reveal the factor (LCR, CAR, or both) that has an impact on bank credit growth. It will also determine the KBMI category that is most influenced by LCR and/or CAR in terms of loan growth. This study will perform classic assumption tests and statistical significance tests, taking into account the presence of dummy variables.

RESULTS

After conducting a series of data normality tests, the researchers identified 483 data that were further processed with the results of descriptive statistical analysis as follows:

Table 2 Descriptive Statistics

	LOAN GROWTH	LCR	CAR	BIR	GDP
Mean	0.009	2.571	0.253	0.045	0.007
Median	0.011	2.166	0.228	0.042	0.003
Maximum	0.088	12.928	1.038	0.060	0.050
Minimum	-0.090	0.906	0.111	0.035	-0.041
Std. Dev.	0.030	1.629	0.131	0.009	0.024
Skewness	-0.417	3.604	3.913	0.207	0.041
Kurtosis	3.169	18.518	20.173	1.379	2.015
Jarque-Bera Probability	14.639 0.000	5892.825 0.000	7168.433 0.000	56.319 0.000	19.641 0.000
Sum	4.377	1242.191	122.444	22.212	3.812
Sum Sq. Dev.	0.446	1280.568	8.357	0.047	0.293
Observations	483	483	483	483	483

The descriptive data for Table 1 are presented above. According to the data, the average value of the LCR is 2,571 (257.1%), indicating that the liquidity element of compliance with regulations is substantially beyond the minimum threshold of 100%. Despite the existence of a minimum LCR value of 0.906 (90.6%), indicating that some banks have not fulfilled the required minimum LCR of 100% over a specific period. The CAR of KBMI 2, 3, and 4 suggest that their bank liquidity is robust, with an average CAR of 25.35%. The lowest CAR number observed is 11.11%, which is still comfortably above the minimum requirement of 8%. The average analysis of both LCR and CAR has yielded results that align with the data given by the OJK, as outlined in Table 2.2 and Table 2.3. Meanwhile, the average credit growth of banks in categories 2, 3, and 4 of the KBMI is expected to be low, specifically 0.90% for each group. The greatest recorded credit growth is 8.85%, indicating a drop in credit.

Based on the simultaneous test (test f) of the equation (1) showed the following results:

Table 3 Simultaneous Testing (Test f) Model 1 Panel Data Regression

Root MSE	0.027460	R-squared	0.183841
Mean dependent var	0.009063	Adjusted R-squared	0.177012
S.D. dependent var	0.030427	S.E. of regression	0.027603
Sum squared resid	0.364206	F-statistic	26.91763
Durbin-Watson stat	1.687768	Prob(F-statistic)	0.000000

The test results indicate that the Prob (F-statistic) value is less than 0.05, namely 0.00000, suggesting a strong simultaneous influence of the variables LCR, CAR, GDP, and BI rate on credit growth. Additionally, a simultaneous test was conducted on equation (2) by categorizing banks based on their core capital (KBMI). This test revealed a Prob(F-Stat) value of less than 0.05, indicating a significant contemporary influence among the variables LCR, CAR, PIB, BI rates, as well as the interaction between LCR and CAR and KBMI on credit growth.

Afterwards, a t-test is conducted to assess the level of significance of a variable that is partially independent from its dependent variable. The hypothesis is as stated:

1. H₀: There is no statistically significant relationship between the independent variable and the dependent variable.
2. H_a: There exists a substantial relationship between the independent variables and the dependent variables.

The observed value refers to the probability value found in the regression analysis table of data panels. When the probability value is greater than 0.05, it indicates that the null hypothesis (H₀) is accepted, meaning that there is no significant effect between the independent and dependent variables. Regarding the overview of values presented in the following table:

Table 4 Partial Test (t test)

Variable	KBMI 2		KBMI 3		KBMI 4		All (Model 1)	
	Prob	Signif	Prob	Signif	Prob	Signif	Prob	Signif
LCR	0.0166	Yes	0.0000	Yes	0.0000	Yes	0.0000	Yes
CAR	0.9326	No	0.9933	No	0.2656	No	0.5932	No
GDP	0.0000	Yes	0.0000	Yes	0.0000	Yes	0.0000	Yes
BIR	0.0024	Yes	0.0031	Yes	0.0007	Yes	0.0019	Yes
LCR*KBMI	0.7353	No	0.1996	No	0.0498	Yes		
CAR*KBMI	0.9403	No	0.2289	No	0.2313	No		

According to the information presented in table 4, it is evident that the Liquidity Coverage Ratio (LCR) has a substantial impact on the credit growth of all banks in the KBMI 2, 3, and 4 categories. This suggests that Indonesian banks are prioritizing the management of their liquidity when providing credit. However, the data shows that CAR (Capital Adequacy Ratio) does not have a substantial effect on credit growth in KBMI categories 2, 3, and 4. This is because the banking situation in Indonesia is considered to be solid, with an average CAR of 25.35%, which is well over the minimum legal requirement of 8%. The credit growth in the banking sector in Indonesia is heavily influenced by the rate of growth of GDP and the BI rate, which are macroeconomic

determinants. The findings suggest that Indonesian banks prioritize liquidity management when formulating credit distribution methods, as the banking sector in Indonesia is deemed robust. The CAR is much above the regulatory requirements.

The hypothesis of this study is formulated based on the partial trial:

Table 5 Hypothesis 1

01	Adherence to LCR requirements has no significant effect on the expansion of bank lending
a1	Adherence to LCR requirements has a significant effect on the expansion of bank lending.

The t-test results for Model 1 (All) indicated that the probability (Prob.) LCR value of 0.0000 was less than 0.05, therefore supporting the acceptance of Ha1, which states that compliance with LCR regulations has an affect on bank loan growth.

Table 6 Hypothesis 2

02	Bank Capital Adequacy Ratio (CAR) has no significant effect on the expansion of bank lending
a2	Bank Capital Adequacy Ratio (CAR) has a significant effect on the expansion of bank lending.

The t-test findings for Model 1 (All) indicated that the probability of the CAR value, 0.5932, was greater than 0.05. Therefore, H02 was accepted, suggesting that the fulfillment of bank funding had no significant impact on the expansion of bank credit.

Table 6 Hypothesis 3

01	Adherence to LCR requirements and bank Capital Adequacy Ratio (CAR) do not have an impact on the increase of bank credit, when using KBMI as a moderator
a1	Adherence to LCR requirements and bank Capital Adequacy Ratio (CAR) have an impact on the growth of bank loans. This relationship is influenced by the presence of the KBMI as a moderator

The t-test results indicate that the interaction between LCR and KBMI, as well as the interaction between CAR and KBMI, yielded the same value for CAR interactions with KBMI: Probability > 0.05. However, there was a significant difference in the value for the interaction between LCR and KBMI at KBMI 4, with a probability of less than 0.05. Ha3 acknowledged that adherence to LCR laws and bank capital (CAR) had a moderating effect on the expansion of bank credit with the KBMI. Based on the observed value of Adj.R-squared, the data presented in the tables in the simultaneous test above can be utilized. This information can be summarized as follows:

Table 7 Determination Coefficient

Description	KBMI 2	KBMI 3	KBMI 4	All
Adj.R-Squared	0.1745	0.1943	0.1916	0.1770

The coefficient of determination data presented in the table indicates that the independent variables (LCR, CAR, GDP, and BI rate) examined in this study do not have a substantial influence on the dependent variable (credit growth). Therefore, credit growth is influenced by factors not considered in this study.

The researchers subsequently performed a panel data regression analysis for both regression models, yielding the subsequent outcomes:

Table 8 Panel Data Regression Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002636	0.006668	0.395340	0.6928
LCR	-0.006245	0.001060	-5.893072	0.0000
CAR	0.006959	0.013019	0.534526	0.5932
GDP	0.297833	0.051096	5.828831	0.0000
BIR	0.399493	0.127778	3.126464	0.0019

The panel data regression results for Model 1 indicate that a one-unit rise in LCR leads to a 0.0062 (0.62%) decrease in credit growth, while a one-unit increase in CAR results in a 0.069 (0.69%) increase in credit. This implies that if banks augment their liquidity buffer, it will have a negative influence on credit fall, and if the banks enhance their financing, it would have a positive effect on credit growth. The p-value for the LCR was 0.0000, which is less than the significance level of 0.05. In contrast, the p-values for the CAR were 0.5932, which is greater than 0.05. This indicates that the LCR has a statistically significant impact on credit growth, whereas the CAR does not have a statistically significant impact on credit growth. This aligns with the findings of (Cornett et al., 2011; Roberts et al., 2023) that banks implementing liquidity management strategies to increase the LCR value will experience a decrease in credit. Additionally, research conducted by (Karim & Arif-Uz-Zaman, 2013; Naceur & Kandil, 2013) concludes that banks with robust capitalization are positioned to generate profits through lending or providing loans to other entities. Furthermore, (Demsetz et al., 1996) examined the notion of franchise value of banks in relation to risk, which also supports the same idea: banks with high franchise values utilize effective liquidity management to uphold the confidence of customers and creditors, while simultaneously taking calculated risks to maintain capital resilience (thus preserving the trust of owners). This, in turn, leads to a more discerning approach in credit distribution by banks. It is well-established that any increase in GDP and BI rate by one unit will result in a corresponding credit growth of 29.7% and 39.9% respectively, despite the presence of macroeconomic factors. Based on this value, it can be inferred that when the central bank raises interest rates (BI rate) in conjunction with economic improvement, banks are inclined to augment their loan expansion in order to get maximum revenue.

Model 2's panel data regression incorporated a moderation variable in the KBMI category for each bank that was tested. The resulting outcome is as follows:

Table 7 Panel Data Regression Data Panel Model 2 Bank KBMI 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000811	0.011922	0.67998	0.9458
LCR	-0.005644	0.002348	-2.403783	0.0166
CAR	0.003474	0.041076	0.084583	0.9326
PDB	0.298271	0.051377	5.805488	0.0000
BIR	0.397432	0.130224	3.051916	0.0024
KBMI_2	0.004472	0.009977	0.448219	0.6542
LCR*KBMI_2	-0.000885	0.002615	-0.338336	0.7353
CAR*KBMI_2	0.003257	0.043442	0.074981	0.9403

The panel data regression results indicated that the moderation effect of KBMI2 on LCR (LCR*KBMI2) with a probability value of 0.7353 > 0.05, and the moderation effect of KBMI2 on CAR (CAR*KBMI2) with a probability value of 0.05, did not show significant moderation of the relationship between LCR and CAR with credit growth in KBMI 2 banks.

Table 8 Panel Data Regression Model 2 Bank KBMI 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.007939	0.006823	1.163458	0.2452
LCR	-0.006049	0.001154	-5.241631	0.0000
CAR	-0.000115	0.013773	-0.008350	0.9933
PDB	0.302852	0.050744	5.968274	0.0000
BIR	0.383886	0.129126	2.972960	0.0031
KBMI_3	-0.013386	0.011006	-1.216236	0.2245
LCR*KBMI_3	-0.003671	0.002858	-1.284349	0.1996
CAR*KBMI_3	0.056001	0.046483	1.204780	0.2289

The results of the panel data regression indicated that the probability value of the moderation effect of KBMI3 on LCR (LCR*KBMI3) was 0.1996, which is greater than the significance level of 0.05. Similarly, the probability value of the moderation effect of KBMI2 on CAR (CAR*KBMI3) was 0.05. These findings suggest that the core capital category does not have a significant moderating effect on the relationship between LCR and CAR with credit growth in KBMI 3 banks.

The forthcoming study pertains to KBMI 4 bank, and presents the regression results of the panel data.

Table 9 Panel Data Regression Model 2 Bank KBMI 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001432	0.006774	-0.211426	0.8326
LCR	-0.006755	0.001068	-6.325531	0.0000
CAR	0.014595	0.013096	1.114475	0.2656
PDB	0.299851	0.050764	5.906715	0.0000
BIR	0.441182	0.128853	3.423923	0.0007
KBMI_4	0.019251	0.025189	0.764291	0.4451
LCR*KBMI_4	0.012546	0.006380	1.966447	0.0498
CAR*KBMI_4	-0.186806	0.155845	-1.198665	0.2313

The panel data regression results indicated that the probability value for the moderation of KBMI4 on LCR (LCR*KBMI4) was 0.0498, which is less than 0.05. This suggests that the core capital category had a significant moderating effect on the relationship between LCR and credit growth in KBMI4. On the other hand, the probability value for the moderation of KBMI4 on CAR (CAR*KBMI4) was 0.2313, which is greater than 0.05. This indicates that the core capital category did not have a significant moderating effect on the relationship between CAR and credit growth in KBMI4. The regression analysis reveals that the core capital rates of banks at KBMI2 and 3 did not have a significant moderating effect on the relationship between the LCR and credit growth. However, at KBMI4, the core capital levels were found to significantly moderate the impact of LCR on credit growth. This indicates that the quantity of core bank capital does not have an

impact on how banks maintain liquidity (LCR) in terms of credit in KBMI2 and KBMI3. However, it does have an effect on KBMI4. This finding aligns with a study conducted by Roberts et al. (2023), which revealed that large banks in the United States are more inclined to uphold liquidity by maintaining greater liquidity coverage ratio (LCR) rates compared to small and medium-sized banks.

Regarding capitalization, the regression results indicate that the core capital rate does not have a significant moderating effect on the relationship between the CAR and credit growth, across all levels of the KBMI (KBMI 2, 3, and 4). This phenomenon can be attributed to the fact that banks in Indonesia possess a robust level of capital resilience. Data indicates that the average banking Capital Adequacy Ratio (CAR) in Indonesia exceeds 25%, which is far higher than the minimum requirement of 8%.

DISCUSSION

The study findings demonstrate that effectively managing liquidity by maintaining a high LCR ratio has a substantial influence on credit growth. Furthermore, an increase in the LCR ratio may result in a decrease in credit. However, enhancing the CAR ratio to ensure financial stability does not have a substantial impact on loan expansion, despite its reliability. The increase in CAR is in line with credit growth. Effective and quantifiable liquidity management is crucial for banks. Excessive liquidity buffers may result in a decrease in credit, which is the primary commercial activity of the bank and the most significant source of income, while fulfilling the intermediate role. In order to do this, banks must enhance their planning and balancing efforts in regards to liquidity management and credit expansion, as well as asset and liability management. This will ensure that excessive funds held in liquid assets are effectively utilised for credit distribution, hence maximising earnings.

Excessive regulatory compliance, specifically in terms of liquidity and capitalization, can result in a scarcity of available funds in the market. This occurs because banks hold a significant amount of idle funds in highly liquid assets, rather than directing them towards providing credit. However, credit is crucial for stimulating economic growth. To fulfil this objective, it is essential to assess the compliance of KBMI 1 banks with the LCR obligation plan, as well as analyse the implementation of LCR regulations in KBMI 2, 3, and 4 banks. In academic research connected to banking, the ratio of LCR (Liquidity Coverage Ratio) can be examined independently from profitability (profit gains) to assess its impact on credit expansion.

CONCLUSION AND SUGGESTION

Indonesian banks that are required to maintain a minimum Liquidity Coverage Ratio (LCR) of 100%, specifically banks in KBMI 2, 3, and 4 categories, tend to exceed this requirement by maintaining LCRs far above 200%, which is double the permitted amount. Indonesian banks demonstrate a high LCR, indicating their cautious approach and aversion to experiencing liquidity-related failures like some banks in America and Europe did during the global financial crisis of 2007-2008. Conversely, excessive management of liquid assets leads banks to miss out on potential income from lending because a significant portion of their assets is tied up in liquid assets.

Enhancing financial stability through the maintenance of the Capital Adequacy Ratio (CAR) is a crucial factor. Apart from adhering to Basel and OJK regulations, a high CAR level demonstrates the robustness of banks in managing risks associated with banking activities, particularly credit risks. This study demonstrates that the augmented CAR, which represents the tightening of funding by banks, is consistent with credit expansion. However, it does not exert a substantial impact on credit growth. Banks undertake this measure to absorb the risk associated with new credit allocation. A study conducted by Cornett et al (2011) found that banks with secure funding (robust credit) particularly in banks with substantial assets have the ability to

extend loans to other entities even during periods of economic turmoil. This study demonstrates that the CAR does not have a substantial impact on credit growth. This is because bank financing in Indonesia is robust, with an average CAR of 25%, which is substantially over the minimum requirement of 8%.

The research findings indicate that the moderation variable, core capital (KBMI), does not have a significant moderating effect on the connection between LCR and credit growth across all categories of KBMI. In addition, the KBMI has a minimal impact on the correlation between the CAR and the credit growth in KBMI banks 2 and 3, but it does have the ability to attenuate this correlation in bank KBMI 4. This indicates that the correlation between CAR and credit growth is influenced by the bank's core capital.

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