THE INFLUENCE OF LIQUIDITY MANAGEMENT AND SPECIFIC BANKING FACTORS ON PROFITABILITY THROUGH CREDIT GROWTH IN INDONESIA

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Abstract

This research aims to determine the influence of Liquidity Management and Specific Banking Factors on Profitability through Credit Growth. The population of this research is 17 commercial banks listed on the Indonesia Stock Exchange. The method used in this research is purposive sampling, 6 periods from 2018 – 2023, 10 banking companies on IDX, a total of 60 observations. Data analysis uses the panel data regression method processed using Eviews version 13. The results of this research are: (1) Liquidity, Capital Adequacy, Investment Policy, and Credit Growth have no effect on Profitability, (2) Problematic Credit and Banking Efficiency have an effect on profitability, (3) Liquidity and Investment Policy influence on credit growth, (4) Capital adequacy, problem loans, and banking efficiency have no effect on credit growth, (5) Liquidity, capital adequacy, problem loans, Investment Policy, and banking efficiency has no effect on profitability through credit growth.

Keywords: Liquidity Management, Profitability, Credit Growth

INTRODUCTION

Under ideal conditions, banks act as responsible intermediaries between customers who deposit their funds and borrowers who need access to capital. Banks are tasked with managing customer funds carefully and transparently and providing credit to borrowers who meet the requirements and need capital for productive purposes. Bank credit performance reaches ideal conditions when credit is provided efficiently, transparently, and responsibly, in accordance with good banking principles. Providing appropriate credit will benefit the economy as a whole by encouraging balanced and stable economic growth.

Law No. 10 of 1998 concerning banking defines a bank as a financial institution whose function is to collect funds from the public through savings and then redistribute these funds in the form of credit, financing, or other financial services to improve community welfare.

Therefore, it can be concluded that public funds collected by the Bank should be channeled to the community through credit distribution, for various reasons, the most important of which is economic development. However, in reality, in Indonesia, there are still many banks that place funds from third parties in securities as in the following news sources.

SBN ownership in Indonesia is still largely held by banks and BI. This shows that economic conditions are not yet completely normal because a lot of public funds are still placed by banks in Government Securities (SBN), said Sri Mulyani, in the press conference for our APBN for the August 2021 period, Wednesday by (Sembiring, 2021) (25/8 /2021).

In 2020, national banking recorded the largest purchase of state securities (SBN) in the history of the republic. Throughout the year, national banks added SBN worth IDR 753.4 trillion, so total SBN ownership by banks at the end of 2020 reached IDR 1,375.6 trillion. (Marta, 2021)

In November 2023, purchases of non-bank corporate bonds by banks reached IDR 269.46 trillion, an increase from IDR 231 trillion in the same period the previous year, said Dian Ediana Rae, who serves as Chief Executive of OJK Banking Supervision. According to President Jokowi, banks are indeed permitted to buy several instruments such as SBN or

Bank Indonesia (SBI) certificates to manage liquidity. However, banks should focus more on supporting the real sector by increasing their credit distribution." (Burhan, 2024).

Meanwhile, from news sources reported by (Puspadini, 2023) it was explained that Bank Indonesia revised its banking credit growth target from 10% - 12% to 9% - 11%, this was done after as of June 2023, banking credit growth only grew at the rate 7.76%.

From the data presented in the Indonesian Banking Statistics data for 2022. There are 106 banks in Indonesia, with details of 70 banks for KBMI 1, 19 banks for KBMI 2, 13 banks for KBMI 3, and 4 banks for KBMI 4. The following is ownership data SBN during December 2022 which is accessed through the portal of the Directorate General of Risk Financing Management, Ministry of Finance.

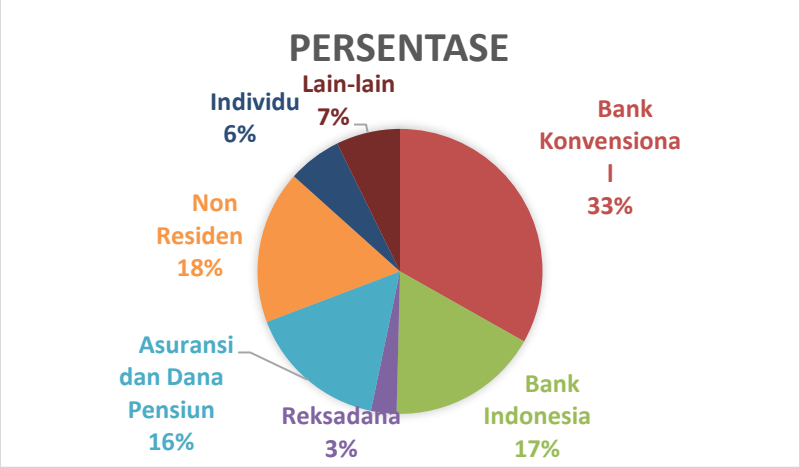

Figure 1.

In the data above it can be seen that Conventional Banks dominate SBN ownership with 33%, Bank Indonesia with 17%, Individuals with 6%, and Others with 7%.

Good credit growth creates a conducive environment for economic growth by providing additional funds to individuals, businesses, and governments to make necessary investments. This includes infrastructure development, business expansion, technology development, and financing other strategic projects. Apart from that, good credit growth can also trigger the growth of certain economic sectors, such as the industrial, trade, and service sectors. Businesses that gain access to credit have the opportunity to expand their operations, create new jobs, and increase their competitiveness in the marketplace.

Good credit growth also reflects the bank's high confidence in the economy and market conditions. Banks will be more inclined to provide additional credit when they believe that credit risk can be managed well and there is a good chance of earning adequate returns.

Data on the Ministry of Finance Portal shows that Third Party Data increased from 2018 to 2022 from IDR 5,630,448 in 2018 to IDR 8,513,590 in 2022 as seen in the graph below.

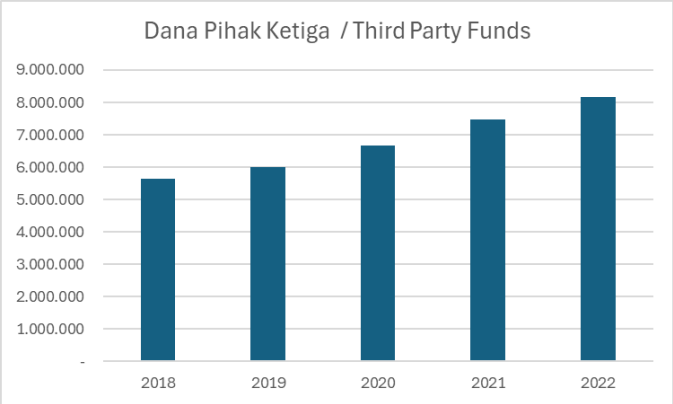

Figure 2.
Third-Party Funds 2018 to 2022
Source: Ministry of Finance

Meanwhile, credit distribution in the Electricity, Gas, and Water business sector from 2018 worth IDR 170,190 fell to IDR 162,327 (in trillion) in 2022 as seen in the graph below.

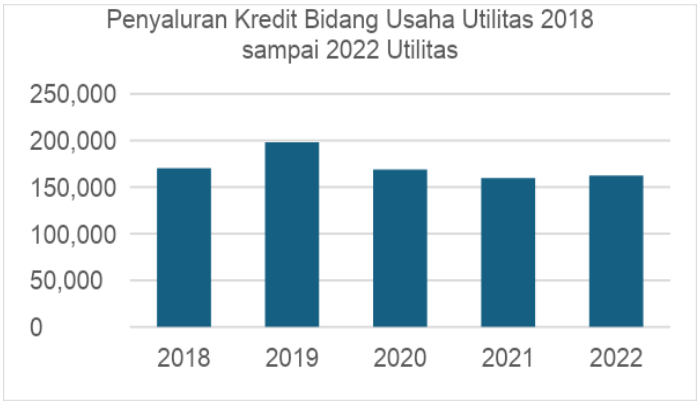

Figure 3.
Credit Distribution in the Utilities Business Sector 2018 to 2022 Utilities
Source: Ministry of Finance

Connecting data on credit distribution in the utility business sector, and NPL data related to credit distribution, below is a graph of NPL for credit distribution in the electricity, gas, and water business sector.

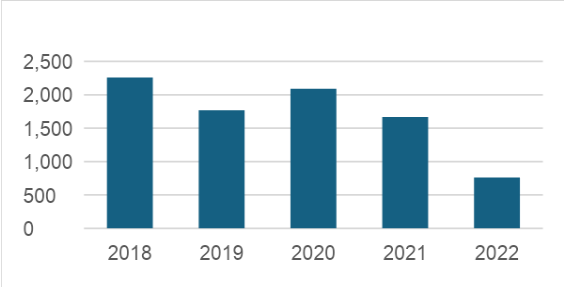

Figure 4.
NPL from 2018 to 2022
Source: Ministry of Finance

The NPL graph appears to have decreased from 2018 at Rp. 2,259 to Rp. 761 (in trillions) in 2022, even though the credit distribution graph against NPL has equally decreased in the same period. The ratio of NPL value to credit distribution also appears to be decreasing as shown below.

Table 1.
NPL Ratio to Credit Distribution in the Utility Business Sector 2018 to 2022

Business Fields	2018	2019	2020	2021	2022
Utility	170.190	198.255	168.881	159.701	162.327
NPL	2.259	1.770	2.091	1.668	761
NPL Ratio to Credit Distribution in the Utilities Sector	1,328%	0,893%	1,238%	1,045%	0,469%

Source: Ministry of Finance

It can be seen that the NPL ratio to credit distribution decreased from 2018 to 2022, this shows that the Bank reduced the amount of credit distribution from 2018 to 2022, not because the NPL ratio was high, but because the ratio decreased.

Still from the same data source, from 2018 to 2022, the placement of bank funds in bonds increased, from IDR 616,058 trillion in 2018 to IDR 1,557,913 trillion in 2022 as seen in the graph below.

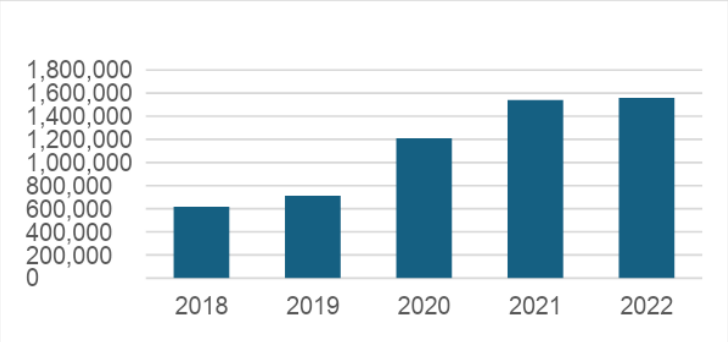

Figure 5.
Placement of Bank funds in Bonds
Source: Ministry of Finance

Thus, if the data is summarized.

1. Third-party funding increases.
2. Credit distribution in the Electricity, Gas, and Water business sectors decreased.
3. The NPL ratio decreased.
4. Bond placements rise.

The four points above show that the Bank is placing a certain amount of funds in investment and reducing credit distribution in the Electricity, Gas, and Water business sectors, not to control risk because the NPL Ratio decreases. From the data above, the most reasonable thing because banks place their funds in SBN is to maintain liquidity to control credit risk.

REVIEW OF LITERATURE

In a journal conducted in Brazil, on 27th October 2023, it was concluded that NPLs had a negative impact on the level of banking efficiency in Brazil. The high volume of NPLs on a banking balance sheet can endanger a bank's operations and reduce its ability to generate new loans, thereby affecting its profitability (F´abio Lucas Takahashi, 2024). Capital adequacy and the level of bank liquidity are crucial aspects because both affect the bank's overall operational performance (Rahmat Setiawan, 2019).

Research conducted in Indonesia in 2022, examining commercial banks for the 2016 – 2020 period, found that researchers found that banking performance was significantly influenced by credit and operational risks. The NPL ratio, as a proxy for credit risk, affects

financial performance negatively. In contrast, BIA, as a proxy for operational risk, influences financial performance positively (Gandakusuma, 2022). In his research on Rural Banks, it was concluded that liquidity was proven to have a positive effect on profitability at BPRs in Gianyar Regency for the 2013-2016 period (Komang & Luh, 2018). In research conducted in Vietnam, this research resulted in the conclusion that the relationship between funding liquidity and bank loan growth increases as loan growth strengthens (Nguyen, 2022).

The research, entitled "Does loan growth impact on bank risk?", concluded that these results show that banks have practical lending activities, but loan capital is more concentrated through equity (Shih-Wei Wu a, 2022).

Table 2.
Operational Variables

Operational Variables	Variable	Size	Indicator (Formula)	Source
Independent Variable	Liquidity	Loan to Deposit Ratio	(Loan / Third Party Funds) x 100%	(Amelia & Yoko, 2023)
	Capital Adequacy	CAR	(Capital / Risk Weighted Assets) x 100%	(Amelia & Yoko, 2023)
	Troubled Credit	NPL	(Total NPL / Total Credit) x 100%	(Julia, 2022)
	Investment Policy	IPR	(Securities) / (Total Deposit) x 100%	(Julia, 2022)
	Banking Efficiency	BOPO	(Operating Costs / Operating Income) x 100%	(Nadila, 2019)
Variable Intervening Y	Profitability	LONG	Net Profit / Total Assets	(Sepiyanto & Ardi, 2018)
Variable Dependent Z	Credit Growth	Credit Growth	((Loan t - Loan t-1)/Loan t-1)*100	(Slivyta, 2022)

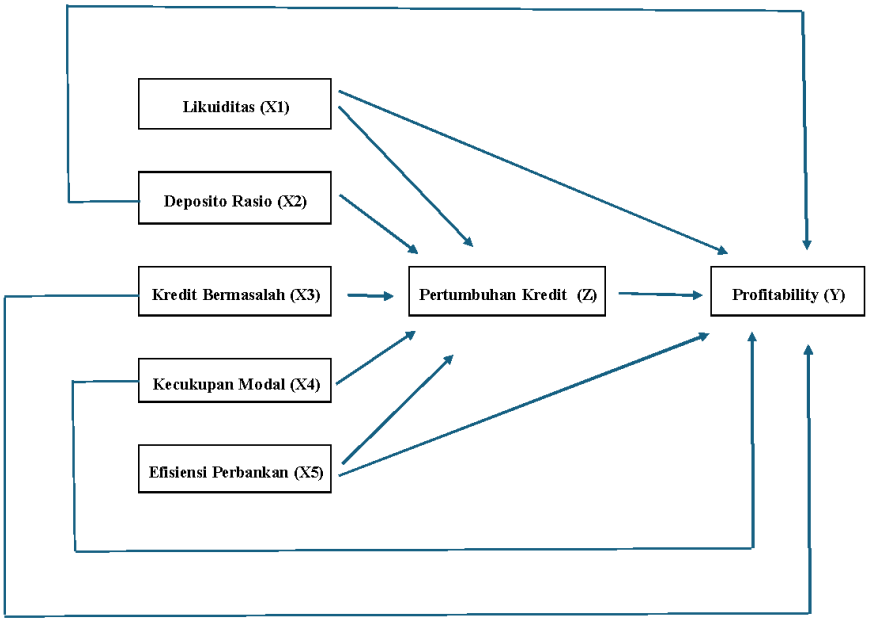

Figure 6.
Conceptual Framework

RESEARCH METHOD

In this research, the method used by researchers is quantitative with comparative causality. This research is useful for analyzing the causal influence between two or more variables, or how one variable compares with other variables. The sample collection technique in this research used a non-probability sampling technique using purposive sampling, that is, samples were selected based on certain criteria determined by the researcher, such as samples that have certain qualities or samples that are related to the problem being studied. The sample in this research is the Book Bank. four state-owned and private companies from 2018 to 2022.

Population and Sample

According to Indonesian Banking Statistics Data, there are 105 commercial banks registered with the OJK in 2023, of these 105 banks, number of book 3 and book 4 banks registered with the OJK in 2023 17 banks, of these 17 banks, book 3 and book 4 public banks Book 4 registered on IDX are 10 banks, the number of years used in this research is 2018-2023 (6 years) so the number of observation data is 60.

Table 3.
Sample Bank Books 3 and 4

No	Sample Bank Books 3 and 4	Code
1	Bank Rakyat Indonesia (BRI)	BBRI
2	Bank Central Asia (BCA)	B-BCA
3	Mandiri Bank	B-BMDR
4	Indonesian National Bank (BNI)	B-BNI
5	Danamon Bank	B-BDMN
6	CIMB Niaga Bank	B-BNGA
7	Gem Bank	B-BALI
8	National Pension Savings Bank (BTPN)	B-BTPN
9	Bank OCBC NISP	B-NISP
10	Pan Indonesian Bank	B-PNBN

This research uses data time series in the period from 2018 to 2023 (5 years), then using data cross-section by collecting company data for Bank Books 3 & 4 as many as 10 banks listed on the Indonesia Stock Exchange using the Eviews 13 statistical tool. In panel data regression which uses data cross-section and time series, according to (Widarjono, 2005), both are as follows:

a. Model data Cross section
$Yi = \alpha + \beta Xi + \varepsilon i$, i = 1,2,3,...N.....(1)
N = Lots of data Cross section

b. Model data Time series
$Yt = \alpha + \beta Xt + \varepsilon t$, t = 1,2,3,….T……...(2)
T = Lots of data Time series

Panel data is a combination of data cross Section and data time series, then the regression equation can be described as follows:

$$ANDit = \alpha + \beta Xit + \varepsilon it ; i = 1,2,3.....n; t = 1,2,3.....t.....(3)$$

Where:
Yit = Dependent variable (dependent)
a = Constant
b = Regression coefficient of Variable
X = Independent variable (free)
e = Error Term
i = data cross-section
t = data time series

Thus, the panel data regression equation if applied in this research where there is an Intervening variable (Z) in the research is as follows:

$$Yit = \alpha + \beta 1X1it + \beta 2X2it + \beta 3X3it + \beta 4X4it + \beta 5X5it * Zit + \varepsilon$$

Where:

AND	= Variable ROA
a	= Constant (intercept)
b1, b2, b3, b4, b5	= Regression coefficient for each independent variable
X1	= Variabel LDR
X2	= CAR variable
X3	= NPL variable
X4	= Variabel IPR
X5	= BOPO variable
WITH	= Credit Growth Variable
e	= Error Term
i	= Bank Company Data
t	= Period Data

RESULTS AND DISCUSSION

Panel Data Regression Analysis (Sub-Structural Stage 1)

Regression analysis of panel data at stage 1 of banking companies in this study uses the Common Effect Model (CEM). The CEM model was chosen as the panel data analysis model in this research after previously carrying out the Chow test and Lagrange Multiplier test first and producing values that indicated the CEM model.

Table 4.
Panel Data Regression Results (Sub-Structural Stage 1)

Dependent Variable: LGR
Method: Panel Least Squares
Date: 07/16/24 Time: 23:22
Sample: 2018 2023
Periods included: 6
Cross-sections included: 10
Total panel (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.103803	0.140645	0.738051	0.4637
LDR	0.275590	0.062995	4.374763	0.0001

CAR	-0.017512	0.021222	-0.825197	0.4129
NPL	-4.152182	3.497383	-1.187225	0.2403
IPR	-0.759787	0.174925	-4.343511	0.0001
BOPO	6.642570	3.591835	1.849353	0.0699

Based on the results of the panel data regression analysis in Table 9, the regression equation is:

Hypothesis Testing (Sub-Structural Stage 1)

T Test (Sub-Structural Stage 1)

In the first stage, a t-test was carried out on banking companies to analyze the partial influence of the independent variable (X) which includes liquidity and capital adequacy on the intervening variable (Z), namely credit growth. The results of the first stage of the t-test in this banking company were obtained using Eviews 13 software as follows:

Referring to Table 9 above, the influence of independent variables on intervening variables can be partially explained as follows:

a. The calculated t value of the LDR variable (X1) is 4.374763 ≥ t table value 1.671 and the prob value. LDR(X1) is 0.0001 ≤ 0.05 and the direction of the coefficient is positive, then H_0 is rejected and H_a accepted. This means that liquidity influences banking company credit growth for the 2018-2023 period
b. The calculated t value for the CAR variable (X2) is -0.825197 ≤ table value 1.671 and the prob value. CAR(X2) is 0.4129 ≥ 0.05 and the direction of the coefficient is negative, then H_0 is accepted and H_a rejected. This means that capital adequacy has no effect on banking company credit growth for the 2018-2023 period
c. The calculated t value of the NPL variable (X3) is -1.187225 ≤ table value 1.671 and the prob value. NPL(X3) is 0.2403 ≥ 0.05 and the direction of the coefficient is negative, then H_0 rejected and H_a rejected. This means that non-performing loans have no effect on banking company credit growth for the 2018-2023 period
d. The calculated t value of the IPR variable (X4) is -4.343511 ≤ table value 1.671 and the prob value. IPR(X4) is 0.0001 ≤ 0.05 and the direction of the coefficient is negative, then

H_0 is accepted and H_a rejected. This means that the Deposit Ratio influences banking company credit growth for the 2018-2023 period

e. The calculated t value of the BOPO variable (X5) is 1.849353 ≤ table value 1.671 and the prob value. IPR(X4) is 0.0699 ≥ 0.05 and the direction of the coefficient is positive, then H_0 is accepted and H_a rejected. This means that Banking Efficiency has no effect on banking company credit growth for the 2018-2023 period

Simultaneous F Test (Sub-Structural Stage 1)

The results of stage 1 F testing using Eviews 13 are as follows:

Table 5.
F Test Results (Stage 1)

R-squared	0.383449	Mean dependent var	0.100083
Adjusted R-squared	0.326361	S.D. var dependent	0.208114
S.E. of regression	0.170811	Akaike info criterion	-0.601884
Sum squared resid	1.575517	Schwarz criterion	-0.392449
Log likelihood	24.05652	Hannan-Quinn criterion.	-0.519963
F-statistic	6.716804	Durbin-Watson stat	1.943500
Prob(F-statistic)	0.000062		

Based on the F test stage 1 above in Table 10, it shows that the calculated F is 6.716804 and the prob value. (F-Statistic) is 0.000062 ≤ 0.05, then H0 is rejected and Ha is accepted, meaning that the variables of liquidity, capital adequacy, non-performing loans, deposit ratios, and banking efficiency have a negative effect on banking company credit growth 2018-2023.

Dependent Variable: ROA
Method: Panel Least Squares
Date: 07/17/24 Time: 00:23
Sample: 2018 2023
Periods included: 6
Cross-sections included: 10
Total panel (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.29E-16	1.90E-17	6.792447	0.0000

LDR	-1.52E-17	9.85E-18	-1.545012	0.1283
CAR	1.22E-18	2.87E-18	0.423877	0.6734
NPL	-2.76E-15	4.76E-16	-5.800008	0.0000
IPR	2.66E-17	2.73E-17	0.973930	0.3345
BOPO	1.000000	4.98E-16	2.01E+15	0.0000
LGR	1.76E-17	1.83E-17	0.963558	0.3396

Based on the results of the panel data regression analysis in Table 13, the resulting equation is as follows:

ROA = 1.2916 - 1.5217.LDR + 1.2218.CAR – 2.7615.NPL + 2.6617.IPR + 1.000. BOPO+1.7617.LGR

The explanation of this equation is as follows:

1) A constant value of 1.2916 or 129% indicates that, if the LDR (X1), CAR (X2), NPL (X3), IPR (X4), BOPO (X5), and LGR (Z) variables are not considered, the ROA (Y) variable will increase by 129%.
2) The beta coefficient of the LDR variable (X1) is 1.5217 or 152.17%, which means that if other variables remain constant and the LDR variable (X1) increases by 1%, then the ROA variable (Y) will decrease by 152.17%.
3) The CAR variable beta coefficient of 1.2218 or 122.18% indicates that assuming other variables are constant, every 1% increase in the CAR variable will cause an increase of 122.18% in the ROA (Y) variable.
4) The beta coefficient of the NPL variable is 2.7615 or 276.15%, meaning that, if other variables are constant, every 1% increase in the NPL variable will cause a decrease of 276.15% in the ROA (Y) variable.
5) The beta coefficient of the IPR variable is 2.6617 or 266.17% indicating that assuming other variables remain constant, every 1% increase in the IPR variable will result in an increase of 266.17% in the ROA (Y) variable.
6) The BOPO variable beta coefficient of 1.00 or 100% means that, if other variables remain constant, every 1% increase in the BOPO variable will cause a 100% increase in the ROA (Y) variable.

7) The beta coefficient of the LGR (Z) variable is 1.7617 or 176.17% indicating that, if other variables are constant, every 1% increase in the LGR (Z) variable will cause an increase of 176.17% in the ROA (Y) variable.

Hypothesis Testing (Sub-Structural Stage 2)

T-Test (Sub-Structural Stage 2)

Based on Table 13, the influence of independent and intervening variables on the partial dependent variable is as follows:

1) The calculated t value of the LDR variable (X1) is -1.545012 ≤ t table value 1.671 or prob value. A value of 0.1283 ≥ 0.05 and the direction of the coefficient is negative, then H_a rejected and H_0 accepted, meaning that liquidity does not affect profitability.
2) The calculated t value of the CAR variable (X2) is 0.423877 ≥ t table value 1.671 or prob value. The value is 0.6734 ≥ 0.05 and the direction of the coefficient is positive, then H_a rejected and H_0 accepted, meaning that capital adequacy does not affect profitability.
3) The calculated t value of the NPL variable (X3) is -5.8000 ≥ t table value 1.671 or prob value. The value is 0.0000 ≤ 0.05 and the direction of the coefficient is negative, then H_a accepted and H_0 rejected, meaning that non-performing loans affect profitability.
4) The calculated t value of the IPR variable (X4) is 0.9739 ≤ t table value 1.671 or prob value. A value of 0.3345 ≥ 0.05 and the direction of the coefficient is positive, then H_a rejected and H_0 accepted, meaning that Investment Policy does not affect profitability.
5) The calculated t value of the BOPO variable (X5) is 2.0115 ≥ t table value 1.671 or prob value. The value is 0.0000 ≤ 0.05 and the direction of the coefficient is positive, then H_a accepted and H_0 rejected, meaning that banking efficiency affects profitability.
6) The calculated t value of the LGR (Z) variable is 0.96350 ≤ t table value 1.671 or prob value. The value is 0.3396 ≥ 0.05 and the direction of the coefficient is negative, then H_a rejected and H_0 accepted, meaning that credit growth does not affect profitability.

Simultaneous F Test (Sub-Structural Stage 2)

Simultaneous F test at the second stage in banking to determine the joint influence of the independent variables (LDR, CAR, NPL, IPR, BOPO) and intervening variables (LGR)

on the dependent variable (Profitability). The second stage of the F test on the Eviews 13 application is as follows:

Table 6.
Simultaneous F Test Results (Sub-Structural Stage 2)

R-squared	1.000000	Mean dependent var	0.016767
Adjusted R-squared	1.000000	S.D. var dependent	0.007391
S.E. of regression	2.29E-17	Akaike info criterion	-73.67937
Sum squared resid	2.79E-32	Schwarz criterion	-73.43503
Log likelihood	2217.381	Hannan-Quinn criterion.	-73.58379
F-statistic	1.02E+30	Durbin-Watson stat	0.839403
Prob(F-statistic)	0.000000		

Based on Table 14, the calculated F value is 1.0230, and the Prob value is 0.0000 ≤ 0.05. Therefore, H0 is rejected and Ha is accepted, which means that liquidity, capital adequacy, non-performing loans, Investment Policy, banking effectiveness, and credit growth together influence profitability.

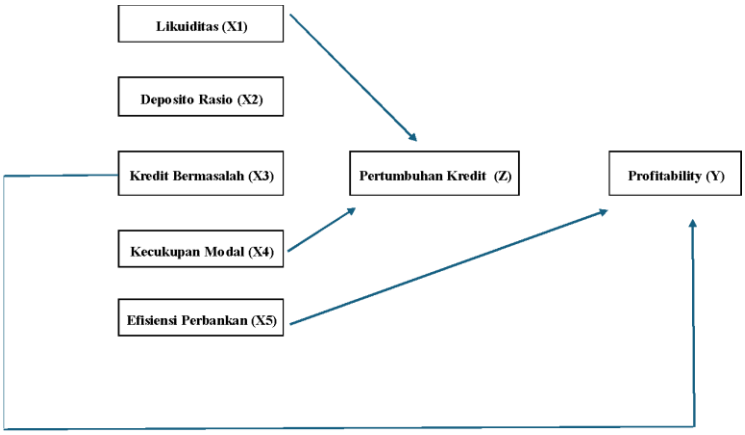

Figure 7.
Conceptual Framework According to Test Results

The Effect of Liquidity on Profitability

The results show that liquidity has no effect on profitability in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the first hypothesis is rejected. This is in accordance with research conducted by (Alfred, 2020) which states that liquidity has no effect on bank profitability in the 2015-2017 period. Banks maintain healthy liquidity levels to be able to fulfill their obligations to customers.

The Effect of Capital Adequacy on Profitability

The results show that capital adequacy has no effect on profitability in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the second hypothesis is rejected. These results are following research conducted by (Pricilla & Nur, The Influence of CAR, NPL, LDR on Bank Profitability (ROA) in 2017-2019, 2021) where the research concluded that CAR did not affect ROA.

The Effect of Non-Performing Loans on Profitability

The results show that non-performing loans have an effect on profitability in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the second hypothesis is accepted. With these results, it can be concluded that non-performing loans, which are often measured through the Non-Performing Loans (NPL) ratio, reflect the number of loans that customers fail to pay. The results of this study indicate that an increase in the NPL ratio is directly related to a decrease in bank net profit. This is due to an increase in the cost of providing for credit losses and a decrease in interest income that can be generated from these problematic loans.

The Influence of Investment Policy on Profitability

The results show that the Investment Policy has no effect on profitability in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the second hypothesis is rejected. This is in accordance with research conducted by (Lesatri, 2019) where the research concluded that capital adequacy did not affect profitability in banks listed on the IDX in 2012-2016.

The Influence of Banking Efficiency on Profitability

The results show that banking efficiency influences profitability in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the second hypothesis is accepted. With

these results, it can be concluded that high and low operational expenses and income influence banking companies to gain profits, where the size of the assets owned is the benchmark for this ratio. These results indicate that BOPO has an impact on bank profitability. BOPO is used to measure bank operational efficiency. The results of this study indicate that an increase in BOPO is directly related to a decrease in bank profitability. When the BOPO ratio increases, this indicates that the bank's operational costs are increasing faster than its operating income, which ultimately erodes net profit. Banks with high BOPO ratios tend to have difficulty managing their operational costs effectively, which has a negative impact on their profitability.

The Effect of Credit Distribution on Profitability

The test results show that credit distribution has no effect on profitability in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the third hypothesis is rejected. The results of this research are in accordance with research conducted by (Sumirastya, Untung, & Yuli, 2022) which concluded that credit distribution and bank profitability as measured by ROA are not related.

The Effect of Liquidity on Credit Growth

The test results show that liquidity has no effect on Credit Growth in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the fourth hypothesis is rejected. With these results, it can be concluded that the size of the liquidity level does not affect credit growth

The Effect of Capital Adequacy on Credit Growth

The test results show that capital adequacy does not affect credit growth in book 3 and book 4 banking companies for the 2018 - 2023 period, so the fifth hypothesis is rejected. With these results, it can be concluded that the size of capital adequacy does not affect credit growth

The Effect of Non-Performing Loans on Credit Growth

The test results show that non-performing loans do not affect credit growth in book 3 and book 4 banking companies for the 2018 - 2023 period, so the fifth hypothesis is rejected. With these results, it can be concluded that high and low NPLs do not affect credit growth.

The Influence of Investment Policy on Credit Growth

The test results show that Investment Policy influences Credit Growth in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the tenth hypothesis is accepted.

The Influence of Banking Efficiency on Credit Growth

The test results show that banking efficiency does not affect Credit Growth in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the eleventh hypothesis is rejected. The analysis results show that banking efficiency does not have a significant influence on credit growth. In other words, although banks may succeed in increasing their operational efficiency, this is not always accompanied by an increase in their ability to distribute credit.

The Effect of Liquidity on Profitability through Credit Growth

The results show that liquidity does not affect profitability through credit growth in banking companies Book 3 and Book 4 for the 2018 - 2023 period using the Sobel Test, so the sixth hypothesis is rejected.

The Effect of Capital Adequacy on Profitability through Credit Growth

The results show that capital adequacy has no effect on profitability in Book 3 and Book 4 banking companies for the 2018 - 2023 period, so the second hypothesis is rejected. With these results, it can be concluded that the size of capital adequacy does not influence banking companies to gain profits.

The Effect of Non-Performing Loans on Profitability through Credit Growth

In this research, it was found that credit growth was unable to boost profitability which was influenced by non-performing loans. The results show that non-performing loans cannot affect profitability indirectly through credit growth as an intervening variable.

The Influence of Investment Policy on Profitability through Credit Growth

In this research, it was found that credit growth was unable to encourage profitability which was influenced by Investment Policy. The results show that Investment Policy cannot influence profitability indirectly through credit growth as an intervening variable.

The Effect of Banking Efficiency on Profitability through Credit Growth

In this research, it was found that credit growth was unable to boost profitability which was influenced by non-performing loans. The results show that banking efficiency cannot influence profitability indirectly through credit growth as an intervening variable.

CONCLUSION

This research aims to examine the influence of bank liquidity, capital adequacy, non-performing loans, Investment Policy, banking efficiency, and credit growth on profitability in book 3 and book 4 banking companies for the 2018-2023 period. Banking companies have an important role in the economy as intermediary institutions that collect and distribute funds

The results of this research conclude that:

1. Liquidity does not affect profitability.
2. Capital adequacy does not affect profitability.
3. Non-performing loans affect profitability.
4. Investment Policy does not affect profitability.
5. Banking efficiency influences profitability.
6. Credit growth does not affect profitability.
7. Liquidity influences credit growth.
8. Capital adequacy does not affect credit growth.
9. Non-performing loans do not affect credit growth.
10. Investment Policy influences credit growth.
11. Banking efficiency does not affect credit growth.
12. Liquidity has no effect on profitability through credit growth.
13. Capital adequacy has no effect on profitability through credit growth.
14. Non-performing loans do not affect profitability through credit growth.
15. Investment Policy has no effect on profitability through credit growth.
16. Banking efficiency has no effect on profitability through credit growth.

This research has limitations because the data used is secondary data, so the researcher cannot control and monitor possible errors in calculations and presentation. In addition, the research focus is only on Book 3 and Book 4 banking companies, which limits

the availability of required secondary data. As a result, this research has not been able to fully reflect the data needed to research and investigate all the variables of this research and each aspect of it in depth. Several limitations of this research are:

1. The research sample is not that large, and is only in one country,
2. Vulnerable Research time 5 years.
3. During the research period, there was COVID-19 where an anomaly occurred in customer and banking behavior which made the behavior of the parties different from usual.

Based on research regarding the influence of liquidity and capital adequacy on profitability through credit growth in banking companies in Indonesia, and based on research limitations, several suggestions can be given as follows:

1. Research can be carried out on wider demographics or in countries other than Indonesia.
2. The research time can be increased to provide a bigger picture.
3. The research sample can be increased.

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