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THE EFFECT OF PROFITABILITY, LIQUIDITY, AND RISK ON CAPITAL BUFFERS IN CONVENTIONAL BANKING COMPANIES LISTED ON THE IDX IN 2020 – 2022

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ABSTRACT
This research aims to test and analyze the influence of profitability, liquidity and risk on capital buffers in banking companies listed on the IDX in 2020 - 2022. The independent variables in this research are ROA, LDR and NPL. Meanwhile, the independent variable in this research is Capital Buffer. The research approach used is quantitative. The data is secondary data in the form of company financial reports taken from the website www.idx.com. The sampling technique uses a purposive sampling method. The method used in this research is multiple regression analysis, using the SPSS version 25 application. The data analysis technique used in this research is statistical and descriptive analysis. The research results show that profitability has no effect on the capital buffer, liquidity has a positive and significant effect on the capital buffer, and risk has a negative and significant effect on the capital buffer.
Keywords: Capital Buffer, Profitability, Liquidity, Risk and Banking

INTRODUCTION

A bank is a financial institution that provides various services to individuals and businesses, such as accepting deposits and providing loans. Banks use the money saved by their customers to lend to other individuals and businesses, which helps create new money and stimulates economic growth (Sadalia et al., 2017). Banks are regulated by government agencies to ensure that they operate safely and soundly, and to protect the interests of their depositors.

Banks that operate healthily can be assessed through the value of capital adequacy owned by the bank. With sufficient capital, banks will tend to be more stable in the face of economic shocks. Therefore, the central bank as a supervisory institution with the authority to supervise the banking sector issues regulations on capital. Bank Indonesia as the central bank applies the prudential principle through the determination of the lowest capital provision obligations that must be owned by banks (Agustuty et al., 2022). The purpose of the measure is to strengthen the banking structure and as a form of protection against potential losses that may be faced by the financial institution.

The regulation on the obligation to provide minimum capital applied by Bank Indonesia comes from regulations issued by the Basel Committee on Banking Supervision (BCBS) and Bank International Settlement (BIS), namely Basel I. In the policy, it is explained that banks must maintain a minimum capital limit of 8% of risk-weighted assets (ATMR). Basel I aims to improve the stability and soundness of the global banking financial system through the establishment of minimum capital adequacy standards. (B. Haryanto et al., 2015). Over time, the policy has been updated to date which is implemented by Bank Indonesia is Basel III. Basel III has a focus on strengthening bank capital.

Basel helps set minimum capital requirements that serve as a reference for banks in determining capital buffer levels. Capital buffers are generated from the Capital Adequacy Ratio (CAR) minus the minimum value of CAR (ANISA & SUTRISNO, 2020). The function of capital buffers is to anticipate future risk increases. The average CAR at conventional banks in Indonesia in December 2021 was 25.66% (Banking Statistics December 2021, OJK), while the minimum capital value determined was 8% (ANISA & SUTRISNO, 2020), this means that the average capital buffer value in 2021 was 17.66%. This capital adequacy figure will provide protection to banks from potential economic shocks that may occur in the future. The high value of capital buffers will be in line with the high value of CAR, while the high value of CAR comes from additional capital derived from retained earnings. This causes the profits obtained by banks to be more (B. Haryanto et al., 2015).

The profit obtained by a bank is influenced by the management of all its capital properly. Good capital management is in line with maintaining public trust, namely by improving the quality and performance of the bank (Tangngisalu et al., 2023). In addition, banks must also maintain Return on Assets (ROA) standards with a minimum value of 1.5% according to Bank Indonesia regulation Number 13/24/ DPNP / 2011 (Bank Indonesia, 2011; Tangngisalu et al., 2020). ROA is obtained from the difference in interest on savings, community savings, and other costs with loan interest (Sri Shalini et al., 2021).

ROA is one indicator of a bank's profitability. ROA directly has a close relationship with capital buffers. Banks that have high profitability have the opportunity to increase the amount of their capital by setting retained earnings (A. Haryanto, 2015). The higher the profitability value will add more capital because the retained earnings can be more. The increased capital will add to the value of CAR which will then have a positive effect on the capital buffer.

In addition to profitability, the level of capital buffer is also influenced by the value of liquidity. In the banking industry, liquidity value can be measured using the Loan to Deposit Ratio (LDR). A high LDR indicates that the bank is lending a large amount compared to the amount of deposits it has. This will increase the risk faced by banks to cover loans that are defaulted by creditors. Conversely, a low LDR may indicate that banks are more cautious in lending practices and retain more deposits. Bank liquidity measured using LDR indicates the bank's ability to meet customer demand in the form of cash. (Agustuty et al., 2022).

A large LDR ratio reflects the bank's capacity to meet loan demand from the public, which means that the higher the LDR value, the higher the credit that the bank can provide to the public (Anisa &; Sutrisno, 2020). Credit is one of the main sources of income for banks, so if the LDR value of a bank is high, it means that the bank provides large amounts of credit. Large amounts of credit if managed properly can generate high income from credit interest. The higher the income from the interest, the higher the profit obtained by the bank. From these profits, the

capital that can be retained by the company to be used as capital will be even greater. In the end, LDR will have a positive influence on the value of the capital buffer.

The existence of various risks faced by the banking industry can affect the level of capital buffer it has. One such risk is Non-Performing Loan (NPL). NPLs are loans that default or are close to default. This means that the borrower has missed one or more payments or has not made payments for a long period of time. For banks, non-performing loans can cause significant financial losses that can reduce the profitability of the bank.

The higher the NPL number will increase costs and potentially cause high losses (Sadalia et al., 2017). Losses occur because the bank does not get principal and interest from debtors whose credit is bad. This makes the profits obtained by banks decrease. On the other hand, the bank must also cover the loss with the bank's capital, which results in a decrease in capital value (Agustuty et al., 2022). A decrease in the value of capital owned by a bank will affect the value of a bank's capital buffer in a negative direction.

So this study aims to find out how far the banking industry in Indonesia can maintain the value of capital buffer. Capital buffer itself indicates the bank's resilience to economic shocks that at any time threaten bank stability. One of the latest economic shocks is the economic crisis caused by the COVID-19 outbreak. To find out this, this study has an interest in exploring whether bank profitability, liquidity, and risk have an influence on capital buffers. This study chose conventional banking because conventional banking has a larger company population when compared to Islamic banking listed on the IDX (www.idx.co.id). The selection of these variables is based on the controversy that makes each study have different results so that this topic is interesting to research.

Problem Statement

1. Does profitability have a positive influence on the capital buffer of conventional banking companies listed on the IDX in the period 2020 – 2022?
2. Does liquidity have a positive influence on the capital buffer of conventional banking companies listed on the IDX in the period 2020 – 2022?
3. Does the risk have a negative influence on the capital buffer of conventional banking companies listed on the IDX in the period 2020 – 2022?

Research Objectives

1. To determine the positive effect of profitability on capital buffers in conventional banking companies listed on the IDX in the period 2020 – 2022.
2. To determine the positive effect of liquidity on capital buffers in conventional banking companies listed on the IDX in the period 2020 – 2022.
3. To determine the negative effect of risk on capital buffers in conventional banking companies listed on the IDX in the period 2020 – 2022.

Research Benefits

Theoretical Benefits

This research is expected to add knowledge that supports existing theories and is relevant to this research and become a comparison material for future research.

Practical Benefits

1. For Academics

This research is expected to provide benefits as reference material to add insight and thoughts for authors and other academics who will conduct related research.

2. For Companies

This research is expected to be used as analysis material by the management of banking companies in determining capital allocation strategies.

METHOD

The population is the subject of the study. The population in this study includes conventional banks operating in Indonesia and listed on the Indonesia Stock Exchange. The sample is the share of the overall population that meets the established research criteria. The sample collection method used is purposive sampling, which is sampling with certain criteria to answer the problems in the study. The research data is annual data for the period 2020 – 2022. The criteria used in sampling are:

1. Conventional banks listed on the Indonesia Stock Exchange for the period 2020 – 2022.
2. Conventional banks that publish financial statements in the form of annual data for the period 2020 – 2022.

Table 1. Sample Selection Procedure

No	Information	Sum
1	The population of conventional banks listed on the Indonesia Stock Exchange for the period 2020 – 2022	41
2	Conventional banks that publish annual financial statements for the period 2020 – 2022	41
3	Sample: Companies that fit the criteria	41
Total observation data for the period 2020 – 2022		**123**

In this study, the data used is secondary data consisting of annual financial statements of banking companies in Indonesia. Secondary data are obtained indirectly through intermediaries. The annual financial report of banking companies is taken from the Indonesia Stock Exchange website, which is www.idx.co.id.

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

Based on the results of descriptive statistical analysis of data using SPSS software version 25, the following results were obtained:

Table 2. Descriptive Statistical Analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CB	123	.0313	2.7538	.285376	.3465641
ROA	123	-.1958	.0473	.003608	.0298911
LDR	123	.0058	2.6448	.859400	.4000531
NPL	123	.0001	.1982	.023200	.0269140
Valid N (listwise)	123				

In table 4.1 above are the results of descriptive statistics which include four variables, namely Capital Buffer (CB), Profitability (ROA), Liquidity (LDR), and Risk (NPL). Results from 41 conventional banks during the period 2020 – 2022 with a total sample of 123 show that Capital Buffer has a minimum value of 3.13% at PT. Bank Mayapada Internasional Tbk in 2022 and a maximum value of 275.38% at PT. Krom Bank Indonesia Tbk in 2022. Overall, the average capital buffer during the period was 28.53%. This figure is very good considering that banks still maintain the value of capital buffers as a way to anticipate future risks. While the standard deviation during the period was 34.65%. This figure is higher than the average value of the capital buffer so that it can be concluded that the distribution of capital buffer data is quite wide and the data is more heterogeneous

Then the Profitability (ROA) variable which has an average value of 0.36% shows that during the period 2020 – 2022 the conventional banking sector as a whole has the ability to generate unfavorable profits. The low average value of capital buffers was caused by the economic crisis that occurred due to the COVID-19 outbreak. Even PT. Bank Raya Indonesia Tbk in 2021 suffered the most losses of 19.58%. On the other hand, PT. Allo Bank Indonesia Tbk scored the largest profit in 2021 of 4.73%. While the standard deviation value is calculated at 2.98%. This figure is higher than the average value of ROA so that it can be concluded that the distribution of ROA data is quite wide and the data is more heterogeneous

Furthermore, in the overall Liquidity (LDR) variable, the bank disbursed loans quite well with an average LDR value of 85.94%. As for PT. Krom Bank Indonesia Tbk in 2022 has the largest LDR value of 264.48%, which means that the credit provided is too large. On the other hand, PT. Bank Tabungan Negara (Persero) Tbk in 2022 has the smallest LDR value of 0.58%, which means that the bank is unable to distribute credit properly. The standard deviation in this variable is 40.00%. This number is smaller than the average LDR so it can be concluded that the distribution of data is narrower which means the data is more homogeneous.

Finally, on the Risk variable (NPL), conventional banks as a whole are quite good at managing their loans so that only a few bad loans occur with an average value of 2.32% of total loans. Nevertheless, PT. Bank Pembangunan Daerah Banten Tbk had the largest total bad loans of 19.82% in 2020. Meanwhile, PT. Bank Jago Tbk (2020), PT. Bank Capital Indonesia Tbk (2020 and 2021), and PT. Bank Maspion Indonesia Tbk (2020 - 2022) has minimal bad loans with an NPL

value of 0.01%. The standard deviation in this variable is 26.91%. This number is greater than the average value of NPL so that it can be concluded that the distribution of data is wider which means more homogeneous data.

Heterokedasticity Test

Table 1. Uji Glejser

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.414	.096		4.301	.000
	Profitabilitas	-2.273	1.272	-.164	-1.787	.077
	Likuiditas	.097	.093	.094	1.050	.296
	Risiko	1.372	1.416	.089	.969	.335

a. Dependent Variable: ABS_RES

In table 4.3 it can be seen that the significance value in the variables of profitability, liquidity, and risk is greater than α (0.05), hence heteroscedasticity does not occur.

Uji Normalitas

Tabel 2. Uji Kolmogorov-Smirnov

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		123
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.66798132
Most Extreme Differences	Absolute	.041
	Positive	.041
	Negative	-.035
Test Statistic		.041
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

In table 4.4 it can be seen that the value of Asymp. Sig (2-tailed) of 0.200. This value is greater than α (0.05) so that the residual data is normally distributed.

Autocoorelasse Water

Tabel 5. Uji Durbin Watson

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.471[a]	.222	.202	.67635	1.939

a. Predictors: (Constant), Risiko, Likuiditas, Profitabilitas

b. Dependent Variable: LN_CB

Based on table 4.5 the Durbin-Watson value (d) is 1.94. In studies with 3 independent variables, the dU value was 1.75 (See Durbin Watson table in the appendix). Therefore it can be calculated by:

$$dU < d < 4 - dU$$

$$1.75 < 1.94 < 2.25$$

It can be concluded that the data in this study did not detect any autocorrelation.

Regresi Linear Berganda

Tabel 3. Analisis Regresi Linear Berganda

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-2.175	.159		-13.654	.000
	Profitabilitas	.664	2.103	.026	.316	.753
	Likuiditas	.803	.153	.424	5.231	.000
	Risiko	-4.845	2.341	-.172	-2.069	.041

a. Dependent Variable: LN_CB

See table 4.6. The results of multiple regression analysis then the capital buffer equation and the factors that influence it (ROA, LDR, NPL) can be formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

$$CB = -2175 + 664\ ROA + 803\ LDR - 4845\ NPL + e$$

Explanation:
1. The value of the regression coefficient α of -2175. This means that when ROA, LDR, and NPL have a value of 0, the capital buffer value is -2175.
2. The value of the ROA regression coefficient is 664. This means that every addition of 1 ROA value, it will add a capital buffer value of 664.
4. The value of the LDR regression coefficient is 803. The value of the regression coefficient means that every addition of 1 LDR value, it will increase the capital buffer value by 803.
5. The value of the NPL regression coefficient is -4845. The value of the regression coefficient means that every addition of 1 NPL value, it will reduce the capital buffer value by 4845. Sig value < 0.05

Uji Hipotesis

Test F

Tabel 4. Anova

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.537	3	5.179	11.322	.000[b]
	Residual	54.436	119	.457		
	Total	69.973	122			

a. Dependent Variable: LN_CB

b. Predictors: (Constant), Risiko, Likuiditas, Profitabilitas

Judging from table 4.7 it can be seen that the significance value of 0.000 < 0.05 which means that there is a significant influence between the independent variables (profitability, liquidity, and risk) simultaneously on the dependent variable (capital buffer).

Uji T

Based on table 4.6 which is the result of regression analysis, it is found that the significance value of profitability (ROA) is 0.753 > 0.005. This shows that profitability does not affect the capital buffer. This gets Ho accepted and H1 rejected. Profitability does not have a positive effect on Capital Buffer in conventional banking companies listed on the IDX in the period 2020 – 2022.

Then the liquidity significance value (LDR) found at 0.000 < 0.05 shows that LDR has a significant influence on the Capital Buffer. This led to Ho being rejected and H2 accepted. Liquidity has a positive effect on Capital Buffer in conventional banking companies listed on the IDX in the period 2020 – 2022.

In the risk variable (NPL), a significance value of 0.041 < 0.05 was found, indicating that NPL has a significant influence on the Capital Buffer. This led to Ho being rejected and H3 accepted.

The risk negatively affects the Capital Buffer in conventional banking companies listed on the IDX in the period 2020 – 2022.

The Effect of Profitability on Capital Buffer

The first hypothesis (H1) proposed in this study is that profitability (ROA) has a positive effect on capital buffers. The results showed that the significance value was 0.753 > 0.05. This shows that profitability has no effect on the capital buffer, so the hypothesis (H1) is rejected because the significance value requirement is not met.

ROA indicates the bank's ability to generate profits or profits from its assets. The higher the ROA indicates the higher the profit earned by the bank. This profit will be partly distributed as dividends to shareholders and the other part will be kept as retained capital which will increase the amount of capital. An increase in the amount of capital will increase the value of capital adequacy which then increases the value of CAR. An increase in the value of CAR will increase the value of the capital buffer. So that the high profit obtained will increase the value of the capital buffer. Conversely, if the bank experiences a loss, the bank will erode its capital to cover the loss. Capital erosion will result in a decrease in the value of CAR. A decrease in the value of CAR will reduce the value of the capital buffer.

In fact, the results of the study show that profitability in this study has no effect on the capital buffer. This shows that banking companies in Indonesia prefer to distribute the profits they get in the form of dividends rather than save them to be used as additional capital. This will make profitability conditions have no effect on the capital buffer because the profit obtained is not used to increase the amount of bank capital. Another reason for the absence of profitability influence is the average ROA which tends to be small (< 1%) because in the period the sample was taken there was an economic crisis caused by the COVID-19 outbreak. The results of this study were found to be in line with (Sadalia et al., 2017) and (Noreen et al., 2016) which stated that profitability has no effect on Capital Buffer. Conversely, research (B. Haryanto et al., 2015) and (PRADITHA et al., 2023) shows different results where profitability has a positive effect on capital buffers.

The Effect of Liquidity on Capital Buffer

The second hyposthesis (H2) proposed in this study is that liquidity (LDR) has a positive effect on capital buffers. The results showed that the value of the liquidity regression coefficient was 803 with a significance value of 0.000 < 0.05. This shows that liquidity has a positive and significant influence on the capital buffer, so the second hypothesis (H2) is accepted.

Bank liquidity measured using LDR indicates the bank's ability to meet customers' cash needs, including in terms of withdrawing funds and providing credit. This shows that the bank's liquidity needs in the form of credit and customer funds withdrawal are still able to be supported by Third Party Funds (DPK). A high LDR score will be in line with the high credit score provided by the bank. When a bank's LDR value is high, it means that the bank has high customer credit. This is not enough if you only use deposits, so it is supported by the bank's own capital. When the bank is able to manage credit well, the bank will get benefits that increase capital. Vice versa, if it cannot manage it, the bank will experience losses that have the impact of reducing the amount of capital.

As a bank's main source of income, large credit if managed properly can generate high interest income. The higher the credit score will be in line with the bank's high income. High income will add to the value of the bank's capital which will then add to the value of the bank's

CAR. An increase in the bank's CAR will add to the value of the capital buffer. This is in accordance with the results of research that states liquidity (LDR) has a positive and significant effect on capital buffers. The results of this study are in line with research (Hansen & Oddo, 2015) and (Andhika &; Suprayogi, 2017). Different results were found by (Anisa &; Sutrisno, 2020) and (Andiani &; Kurnia, 2017) who found LDR had no effect on capital buffers.

Effect of Risk on Capital Buffer

The third hypothesis (H3) proposed in this study is that risk (NPL) negatively affects capital buffers. The results showed that the value of the risk regression coefficient was -4845 with a significance value of 0.041 < 0.05. This shows that the risk has a negative and significant influence on the capital buffer, so the third hypothesis (H3) is accepted

Banks at the time of operation will always be faced with risks. One of the risks faced by banks is credit risk. Non-Performing Loan is a ratio used to measure bank credit risk. The higher the NPL value of a bank, the bank will cover losses or credit risk using bank capital so that bank capital will decrease. Conversely, if the bank has a low NPL value, the bank's risk is lower, so that the bank's capital is not eroded to cover losses caused by credit risk. This is in accordance with the results of research which states that risk (NPL) has a negative and significant effect on capital buffers.

High NPLs indicate that banks are not optimal in credit management so that they can erode bank capital. Conversely, when the NPL value is low, it indicates that the bank has low credit risk, so it will have a positive impact on the bank's capital. Potential credit risk will tend to increase in line with uncertain or unstable business situations. However, banks were able to overcome economic instability caused by the COVID-19 outbreak so that credit risk could be suppressed. This research is in line with research (ANISA & SUTRISNO, 2020), (A. Haryanto, 2015), (Agustuty et al., 2022), (Atici & Gursoy, 2012) and (Pangestuty, n.d.). Different research results were found by (Sadalia et al., 2019), (Tasman et al., 2020), and (Anggraini & Baskara, 2020)found that NPL has a positive effect on capital buffers. Research (Andiani & Kurnia, 2017) found that NPL has no effect on capital buffers.

CONCLUSION

Based on the results of the study, the following conclusions can be drawn: 1) Profitability measured using Return on Assets has no effect on Capital Buffer. This is due to banks preferring to distribute dividends and also the low average ROA due to economic shocks caused by the COVID-19 outbreak. 2) Liquidity measured using the Loan to Deposit Ratio has a positive and significant influence on the Capital Buffer. The higher the LDR value is in line with the increase in the Capital Buffer value. 3) Risk measured by Non-Performing Loans has a negative and significant influence on the Capital Buffer. This is in line with the theory and hypothesis that the higher the NPL value will reduce the Capital Buffer value.

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