



Fundamental Factors and Capital Behavior of Banking in Indonesia

Dhurotus Sangadah

Faculty of Economics and Business, University of Muhammadiyah Malang, Indonesia

hurotus@umm.ac.id

Published: 15/09/2022

How to cite (in APA style):

Sangadah, D. (2022). COVID-19 Fundamental Factors and Capital Behavior of Banking in Indonesia. *Jurnal Ekonomi dan Bisnis Jagaditha*, 9(2), 154-164. doi: <https://doi.org/10.22225/jj.9.2.2022.154-164>

Abstract—Capital has an important role in banking operations, in addition to indicating the fulfillment of capital regulations also serves to anticipate future risks. Studies of ROA-mediated capital buffers are still rare. This study aims to investigate the role of return on assets as mediation on the influence of loans to total assets (LOTA) and non performing loans (NPL) on capital buffers. This study is conducted by using path analysis research conducted on commercial banks owned by the government with an observation period from 2015 to 2020. The existence of interference, especially on the funding side, is one of the characteristics of the company's bank. The results showed that lota negatively affects ROA and capital buffer while NPL negatively affects ROA and positively affects capital buffer. In roa mediation testing is able to mediate the influence of NPL on capital buffers but is not able to mediate LOTA's engaruh against capital buffers.

Keywords: capital buffer; loans to total assets; non-performing loans; return on asset

I. INTRODUCTION

Modal in supporting the operations of the banking industry. Capital for the banking industry serves as a tool to support banking operations, (Fitrianto & Mawardi, 2012), fulfillment of regulatory provisions (Jokipii & Milne, 2011; Saeed & Akhter, 2012; Shim, 2013) as well as bank risk mitigation tools (Noreen et al., 2016).

The provision of minimum banking capital in Indonesia is regulated through Bank Indonesia Regulation No. 15/12/PBI/2013 and Financial Services Authority Regulation No. 11/POJK. 03/2016. The Bank in responding to the regulator's policy should not be rigid, the provision of minimum capital is not only limited to the fulfillment of regulators. Banks need to consider several factors such as smooth operation and risks that must be faced. Bank capital serves to cover the risks that banks will face in the future (Noreen et al., 2016).

The behavior of banks in forming excess capital or capital buffers can serve as a signal

of the bank's health to the market, a guarantee against violations of minimum capital requirements and adverse shocks (Tasman, 2020), as well as taking advantage of unexpected investment opportunities in the future so that the bank is in a competitive position (Wu et al., 2016).

Studies on the determinants of capital buffers have been widely conducted, such as by both internal and external factors. Non performing loans (Atici & Gursoy, (2012); Haryanto (2015); Sadalia et al. (2017); Tasman (2020)), Cash holding (Tasman (2020); Sadalia et al. (2017); Tasman (2020); Atici & Gursoy (2012), economic cycle (Shim, 2013), bank size (Atici and Gursoy 2012; Guidara et al. 2013; Jiang et al. 2020) and some other research. However, when viewed from the direction of the influence of independent variables on dependent variables, most studies conduct directly testing independent variables against dependent variables in the sense that the test model has not considered the contribution of other variables to the influence of independent variables on dependent

variables.

Previous research has discussed how LOTA and NPL directly affect capital buffers. In the discussion about the influence of NPL on Capital Buffer shows the consistency of the influence of NPL on capital buffers. Research Antoun et al. (2021); Haryanto (2015); Jokipii & Milne (2011); Sadalia et al. (2017); Tasman, (2020) increased capital buffer is influenced by the increase in NPL faced by banks. However, the results of research (Atici & Gursoy, 2012; Fauzia & Idris, 2016; Guidara et al. 2013; Haryanto, 2015; Tabak et al., 2011), the moral hazard of banking will encourage banks to form a lower capital buffer when the NPL increases.

Fonseca and Gonzalez Research (2010), Bayuseno & Chabachib (2014); Purwanti et al. (2017); Sadalia et al. (2017) the precautionary principle must be applied by banks to operational activities. Application of the precautionary principle on lending activities is carried out through good credit management, which starts from feasibility assessment activities to credit management after realization. The more efficient credit management, the smaller the risk faced by banks so that the capital buffer formed by banks is smaller. However, in research (Atici & Gursoy, 2012; Shim, 2013) when banks act aggressively in the pursuit of profits by ignoring the precautionary principle, banks face greater risks and form a larger capital buffer.

The other similar study has been also conducted by Rahadian & Permana (2021) that showed their results study that NPL negatively and insignificantly affects CAR. ROA gives positive and insignificant impacts toward CAR. In addition, the results study conducted by Nasikin & Yuliana (2022) revealed that Return on Assets (ROA) as a mediating variable is able to mediate the effect of non-performing loans (NPL) on stock prices, however, Return On Assets (ROA) does not mediate the effect of the BI Rate on stock prices.

Based on the exposure of the results of the above research can be concluded there are empirical gaps and lack of discussion that lacks detail. Research on the determinants of capital buffers through the role of variable mediation in research models is still rarely done so studies on the influence of specific banks on capital behavior seem important and worthy of investigation. Therefore, this study aims to investigate the role of return on assets as mediation on the influence of loans to total

assets (LOTA) and non performing loans (NPL) on capital buffers.

II. CONCEPT AND HYPOTHESIS

Effect of LOTA on ROA

Menicucci and Poalucci (2016) stated that credit is the bank's main source of income. Tight competition will cause the Bank to relax existing requirements so that credit is of poor quality (Rizal et al., 2020). Poor credit quality will lead to increased costs that must be borne by banks both reputational costs, restructuring and the formation of loss reserves. While according to the theory of procyclical lending policy there is an asymmetry of information, debtors have more knowledge about the main characteristics of the project than creditors about a project so that the credit selected has low quality.

On the other hand, according to moral hazard theory moral hazard on the part of the debtor is indicated by the violation of the credit agreement so that the bank suffers losses due to delayed payment of interest and principal by customers. Research Firdaus et al. (2021); Muin (2017); Utami et al. (2017), credit growth can lower ROA when credit mining has a low quality.

Effect of NPL on ROA

Credit risk is the risk faced by banks over the credit disbursed. Credit risk can be measured by the Non-Performance Loan (NPL) variable. The higher the NPL ratio shows that the greater the burden that must be borne by the bank both the cost of restructuring, reserve losses so that the profits received by the bank will also decrease.

Purwoko & Sudiyatno (2013) variations in bank profitability are triggered by the emergence by NPL, when NPL increases, then bank profitability decreases. This is corroborated by Latifah et al. (2012), Handayani & Sudiyatno (2018) and Funso, et al (2012), NPL has a negative influence on ROA. As well as the research of Said and Tumin (2011), the main factor in the decline in banking ROA in Malaysia and China is due to increased credit risk.

Effect of ROA on Capital buffer

The preference of banks in forming capital is explained by pecking order theory. This theory explains that companies / banks prioritize internal funds in arranging capital so that the greater the ROA produced by the bank the greater the capital buffer formed. Antoun et al. (2021) banks in southeastern European

countries tend to use retained earnings to increase capital buffers.

The effect of ROA on Capital Buffer is also explained by Charter value theory. Charter value theory explains about the bank's concerns about the risks faced in the future so that banks will increase the ability to anticipate these risks through capital buffers. Seenaiyah K et al. (2015) and Haryanto (2015) high profitability will encourage banks to increase their capital.

Lota's Influence on Capital Buffer

The LOTA ratio is used to measure a bank's ability to meet credit with a guarantee of a number of assets held. The picture of LOTA's influence on capital buffers is explained by moral hazard theory, banks deliberately allocate in the form of credit [LOTA] to sectors that are at risk of such actions causing banks to form large reserves for risk anticipation. Research Fonseca (2010) and Fikri (2012) banks take greater risks in asset utilization tend to hold smaller capital buffers. Similarly, research Anggitasari & Arfinto (2013) and (Prmono et al, 2015) banks that behave procyclicality tend to increase their credit distribution activities excessively.

Effect of NPL on Capital Buffer

Non-Performing Loan (NPL) or non-performing loans is one of the indicators to assess lending performance. The higher the number of non performing loans will increase costs and can cause losses. An overview of the influence of NPL on Capital is explained by charter value theory. This theory explains the bank's concerns about the risks it will face, when the NPL ratio increases, the bank will take various efforts to overcome these risks, one of which is through increasing the Capital Buffer. Capital buffer is not only as a fulfillment of regulations and for risk anticipation (Shim, 2013), so that the formation of capital buffers is adjusted to the risks [NPL] faced by banks (Jokipii & Milne, 2011).

Atici & Gursoy (2012) the high level of risk faced will encourage banks to increase the capital buffer rate. The statement is corroborated by research (Antoun et al., 2021).

Lota's Influence on Capital Buffer through ROA Mediation

LOTA is the initiator of the bank's ability to distribute credit, the greater the LOTA ratio shows the greater the credit distributed to the community. The illustration of LOTA's

influence on capital buffers through ROA mediation is explained by procyclical lending policy theory, moral hazard and pecking order theory.

Increased LOTA without followed by good management will cause problems for banks, namely increased costs and decreased bank profits. Procyclical lending policy reveals the existence of information asimetris causing banks to not be able to select credit properly so that the credit channeled has low quality. This statement is also affirmed by the moral hazard theory which states that there is bad faith from the debtor to violate the credit agreement resulting in losses for the bank. Research Firdaus et al., (2021); Muin (2017); Utami et al. (2017), credit growth can lower ROA when credit mining has a low quality.

A decrease in ROA will cause the capital buffer to decrease. Haryanto (2015) banks with low profitability will reduce ditaan profits so that bank capital will also decrease. This is corroborated by the pecking order theory which explains the tendency of banks to use profits to increase capital.

Effect of NPL on Capital Buffer through ROA mediation

The influence of NPL on capital buffers through ROA mediation is explained by the pecking order theory. Research Purwoko & Sudiyatno (2013) variations in bank profitability are triggered by the emergence by NPL, when NPL increases then bank profitability decreases. Research by Latifah et al. (2012); Handayani & Sudiyatno (2018) and Funso, et al (2012), credit risk (NPL) negatively affects profitability (ROA). While said and tumin research (2011), increased credit risk in Malaysia and in China has an impact on reducing profitability (ROA). The decrease in ROA will have an impact on reducing capital buffers, considering the main factors forming capital derived from the profits generated by banks, this statement is in accordance with the pecking order theory statement stating that banks prefer funding from internal banks. Poor credit risk management will lead to lower ROA levels as well as lower capital adequacy ratios

III. METHOD

This research is comparative causal research, a research method that aims to determine the influence of independent variables on dependent variables. The population in this study is a company bank in Indonesia with a research period of 2015 to

2020. Sample withdrawal using the non probability sampling method, which is saturated sampling where all members of the population are considered as samples, this is done because the number of research

populations is small. The variables used in the study consisted of dependent variables (credit risk), mediation variables (CAR, Financing) and independent variables (size, ROA).

Table 1
Operational definition of research variables

VARIABLE	Definition	Formula	Unit
Dependent variables			
Capital buffer	Capital added by banks minus established standards	CAR-8%	Percent
Mediation variables			
ROA	Percentage of net profit generated by banks on asset utilization	$\frac{\text{Laba bersih}}{\text{Total Assets}} \times 100 \%$	Percent
Independent			
NPL	Credit with collectability 3-5	$\frac{\text{kredit kurang lancar, diragukan, macet}}{\text{Total credits}} \times 100 \%$	Percent
LOTA		$\frac{\text{kredit yang diberikan}}{\text{Total Assets}} \times 100 \%$	Percent

This research uses data analysis methods with the Structural Equation Model (SEM) approach using Partial Least Square (PLS) software, namely Warp software version 7.0. PLS is a variant-based structural equation analysis that can simultaneously test measurement models as well as structural model testing.

PLS can be used to explain the presence or absence of relationships between latent variables as well as analyze constructs formed with reflexive and formative indicators with a not too large sample size. PLS aims to help researchers for predictive purposes. In the analysis using PLS there are several things that are done, namely:

Hypothesis Testing

A measure of the significance of hypothesis support can be used in comparison of t-table and t-statistical values. The hypothesis is supported or accepted when the t-statistic > t-table. For hypothesis testing using a statistical value with alpha 5% or the t-table value used is 1.96.

Iner Model Rating

The inner model is used for causality testing (hypothesis testing with predictive models) as well as describing latent intervariable relationships based on substantive theories. Structural models are evaluated using R-square for dependent constructs, Stone-

Geisser Q-square tests for predictive relevance, and t tests and significance of structural path parameter coefficients. Assessing a model with PLS begins by looking at the R-square for each dependent latent variable. Changes in R-square values can be used to assess the influence of certain independent latent variables on dependent latent variables whether they have a substantive influence.

Q-square measures how well the observation value is generated by the model as well as the estimation of its parameters. A Q-square value of > 0 indicates the model has predictive relevance, conversely if the Q-square value ≤ 0 indicates the model lacks predictive relevance (Chin in Ghozali, 2013). The magnitude of Q-square has a value with a range of 0 < Q-square < 1, where the closer 1 means the model the better. The amount of Q-square is equivalent to the total coefficient of determination in path analysis.

The first step in a mediation testing procedure is that the direct influence of independent variables on dependent variables must be significant. Second, indirect influence must be significant, each path i.e. variable independent of mediation variable and mediation variable to dependent variable must be significant to meet this condition. This indirect influence is obtained by the formula of the influence of independent variables on mediation variables multiplied by the influence of mediation variables on dependent variables

(Sholihin, 2014). If indirect influences are significant, it indicates that the mediation variable is able to absorb or reduce the direct influence on the first test. Third, calculate the

$$VAF : \frac{\text{pengaruh tidak langsung}}{\text{pengaruh tidak langsung} + \text{pengaruh langsung}}$$

VAF with the following formula:

If the VAF value is above 80%, then indicate it as full mediation, categorized as a partial mediation if the VAF value ranges from 20% to 80%, but if the VAF value is less than

20% it can be concluded that there is almost no mediation effect.

Inner model evaluation

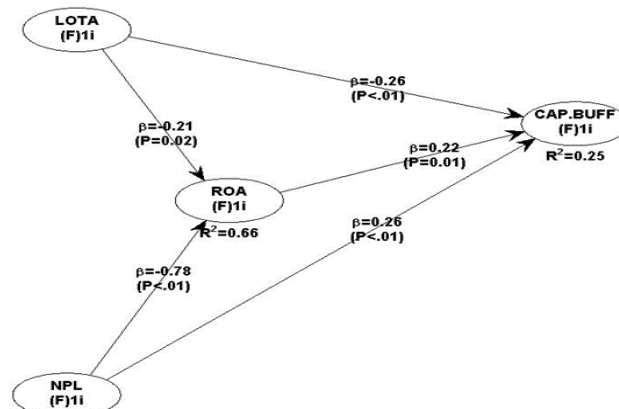
It is an index and measure of the goodness of relationships between latent variables. Evaluate the inner Model on WarpPLS using the Fit and Quality Indices Model as shown in Table 2. The criteria used are rule of thumb, so it should not apply rigidly and absolutely. If there are one or two indicators of the Fit and Quality Indices Model that are fulfilled the model can still be used

Table 2
Criteria for evaluation of inner models in pls warp

Kriteria	Result	P-values	Rule of thumb	Information
Adjusted R ²	0.657	< 0.001	≥ 0.70 (strong), ≥ 0.45 (moderate), ≤ 0.25 (weak)	Moderate
Average Path Coefficient (APC)	0.345	< 0.001	P < 0.05	Accepted
Average R-Square (ARS)	0.458	0.001	P < 0.05	Accepted
Average Adjusted R-Square (AARS)	0.443	<0.001	P < 0.05	Accepted
Average Block VIF (AVIF)	1.060	-	≤ 3.3, but a ≤ value of 5, is still acceptable	Accepted
Average Full Collinearity VIF (AFVIF)	2.391	-	≤ 3.3, but a ≤ value of 5, is still acceptable	Accepted
Tenenhaus GoF (GoF)	0.677	-	≥ 0.10 (small), ≥0.25 (medium), ≥ 0.36 (large)	Big
Statistical Suppression Ratio (SSR)	1.000	-	≥ 0.7	Accepted
R-Squared Contribution Ratio (RSCR)	1.000,	-	≥0.9, Ideal =1 is still acceptable	Accepted
Nonlinear bivariate causality direction ratio (NLBCDR)			Accepted if > = 0.7	
q ² Predictive Relevance	0.694	-	Q ² > 0 (has predictive relevance), Q ² < 0 (does not have predictive relevance)	Accepted

Source: Nitzl et al. (2017)

IV. RESULT AND DISCUSSION



Source: Warp Pls 7.0 (2021)

Inner Model Evaluation

The initial stage in path analysis is to evaluate the inner model. The inner evaluation

test of the model was conducted by looking at the values of Adjusted R squared, Goodness of Fit Model, q² predictive, effect size, and Full Collinearity VIF as well as the significance value of the path coefficient.

Table 3

Test results for structural models (Inner Models)

Kriteria	Result	P-values	Rule of thumb	Information
Adjusted R2	0.657	< 0.001	≥ 0.70 (strong), ≥ 0.45 (moderate), ≤ 0.25 (weak)	Moderate
Average Path Coefficient (APC)	0.345	< 0.001	P < 0.05	Accepted
Average R-Square (ARS)	0.458	0.001	P < 0.05	Accepted
Average Adjusted R-Square (AARS)	0.443	<0.001	P < 0.05	Accepted
Average Block VIF (AVIF)	1.060	-	≤ 3.3, but a ≤ value of 5, is still acceptable	Accepted
Average Full Collinearity VIF (AFVIF)	2.391	-	≤ 3.3, but a ≤ value of 5, is still acceptable	Accepted
Tenenhaus GoF (GoF)	0.677	-	≥ 0.10 (small), ≥0.25 (medium), ≥ 0.36 (large)	Big
Statistical Suppression Ratio (SSR)	1.000	-	≥ 0.7	Accepted
R-Squared Contribution Ratio (RSCR)	1.000	-	≥0.9, Ideal =1 is still acceptable	Accepted
Nonlinear bivariate causality direction ratio (NLBCDR)	1.000	-	Accepted if > = 0.7	Accepted
q ² Predictive Relevance	0.694	-	Q ² > 0 (has predictive relevance), Q ² < 0 (does not have predictive relevance)	Accepted

Source: Warp PLS Output (2021)\

Based on the inner model criteria table, R-Squared (R2) is used to show how large the percentage of endogenous construct variants is and can be explained by predictor variables in the model. The value is 66% and belongs to the moderate category, while the remaining 34% is influenced by other variables.

APC has an index of 0.345 with a p value of < 0.001. This means that endogenous and exogenous variables have a causal relationship both directly and indirectly. ARS has an index of 0.520 with a p value of <0.001. ARS is used to measure the accuracy of a model path's ability to describe the influence between one independent variable and predictive value.

This study did not occur multicollinearity because the AVIF value that should have ≤ 3.3 has been met because based on the data the AVIF value is 1,060. Thus, the inner model is acceptable. Full collinearity VIF is used for testing the presence or absence of vertical and

lateral collinearity problems. Based on the results of the analysis, it is known that the AFVIF value is 2,391 and less than ≤ 3.3. This value indicates that the model is free from vertical, lateral and common method bias problems.

The Average value R-Square (ARS) or Q-squared (Q2) is used to assess the predictive validity or relevance of a set of exogenous latent variables and endogenous variables. The output of the ARS value is 0.458. Q-squared (q²) Predictive Relevance is used to assess the predictive validity or relevance of a set of endogenous latent variables. The q² output of this research model shows that q² is worth more than zero which is 0.694 so it can be concluded that the research model shows good predictive validity.

Table 4
Result of Path Coefficient Output & Significance Value

Cofisien line			
Relationships between variables	Coefficient	p-value	Conclusion
NPL ROA \rightarrow	-0.779	< 0.01	Accepted
LOTA ROA \rightarrow	-0.207	0.017	Accepted
ROA CAPITAL BUFFER \rightarrow	0.218	0.013	Accepted
LOTA CAPITAL BUFFER \rightarrow	-0.262	0.003	Accepted
NPL CAPITAL BUFFER \rightarrow	0.262	0.003	Accepted

Significance (two-tailed) P value = 0.05

Source: Research data processed with WarpPls 6.0, 2021

Effect of Lota on ROA

The test results showed lota had a significant negative influence on ROA indicated by a coefficient value of -0.207 with a value of 0.017 and a < of 0.05. The results of the study indicated that a 1% increase in LOTA would lead to a 20.7% decrease in ROA.

The results of the study also showed conformity with the hypothesis proposed, namely LOTA with a significant negative impact on ROA. Menicucci & Paolucci (2016) states that loans/credit is the bank's main source of income. Tight competition will cause the Bank to relax predetermined requirements so that the credit is of poor quality (Rizal et al., 2020). Poor credit quality will lead to increased costs that must be borne by banks both reputational costs, restructuring and the formation of loss reserves. This is confirmed by the theory of procyclical lending policy, the condition of information asymmetry, on the part of creditors will cause the selected credit to have low quality. Meanwhile, according to moral hazard theory, debtors commit violations of credit agreements that result in losses that must be borne by banks. The results of this study are also consistent with the study Firdaus et al. (2021); Muin (2017); Utami et al. (2017), credit growth without good management can lead to low credit quality and will have an impact on the decline of ROA.

Effect of Npl on ROA

The test results showed that NPL had a significant negative influence on ROA indicated by a coefficient value of -0.779 with a p-value of < 0.01. The results indicated that an increase in NPL of 1% would lead to a 78% decrease in ROA.

The results showed conformity with the

hypothesis proposed, namely NPL has a negative effect on ROA. Credit risk is a risk faced by banks from lending. Credit risk is measured by the Variable Non-Performance Loan (NPL). The higher the NPL ratio shows the greater the burden that must be borne by the bank both the cost of restructuring and reserve losses, this condition will cause a decrease in bank profits.

Purwoko & Sudiyatno (2013) variations in bank profitability are triggered by the emergence by NPL, when NPL increases, then bank profitability decreases. Research Latifah et al. (2012); Handayani & Sudiyatno (2018) and Funso, et al (2012), credit risk (NPL) negatively affects profitability (ROA). While said and tumin research (2011), the decline in ROA in banking in Malaysia and China is caused by the increased credit risk faced.

Effect of ROA on Capital Buffer

The test results showed that ROA had a significant positive influence on the capital buffer indicated by a coefficient value of 0.218 with a value of 0.013 and a < of 0.01. The results of the study indicated that an increase in ROA of 1% would cause ROA to increase by 22%. The results showed conformity with the hypothesis proposed that ROA positively affects capital buffers. The preference of banks in forming capital is explained by pecking order theory. This theory explains that companies / banks prioritize internal funds in arranging capital so that the greater the ROA produced by the bank the greater the capital buffer formed. Antoun et al. (2021) profit is the main capital-forming factor in European banking. In addition, Charter value theory also strengthens the results of this study. Charter value theory explains that the bank's concerns about the risks faced in the future encourage banks to increase capital buffers in anticipation of the risks faced.

Seenaiah K et al. (2015) and Haryanto

(2015) rising profits indicate increased retained earnings so banks can form larger reserves through increased capital buffers.

Effect of NPL on Capital Buffer

The test results showed that NPL had a significant positive influence on capital buffer indicated by a coefficient value of 0.262 with a value of 0.003 and less than < 0.01. The results of the study indicated that an increase in NPL of 1% would cause capita buffers to increase by 26%.

The results of hypothesis testing show conformity with the proposed hypothesis. Non-Performing Loan (NPL) is one of the indicators to assess the performance of bank functions, namely lending. The higher the number of non-performing loans shows that the low quality of credit disbursed can cause losses because banks have to bear NPL-related costs. Charter value theory outlines the bank's concerns over the risks it will face, the bank will increase capital buffer when the risk faced increases. Shim (2013) and Jokipii & Milne (2011) the formation of capital buffers is adjusted to the risks faced by banks.

Lota's Influence on Capital Buffer

The test results showed LOTA had a significant negative influence on the capital buffer indicated by a coefficient value of 0.262 with a value of 0.003 and less than < 0.01. The results of the study indicated that an increase in NPL of 1% would cause capital buffers to increase by 26%.

Lota ratio is used to measure a bank's ability to channel credit for its assets. According to Moral hazard theory, banks act aggressively in channeling credit will divert the funds they have so that the bank will hold funds in the form of capital buffers in small amounts.

The results of this study are supported by Fonseca Research (2010) and Fikri (2012), banks take greater risk on their assets owned and hold smaller capital buffers. Similarly, research Anggitasari & Arfinto (2013) and (Pramono et al, 2015) banks that behave procyclicality tend to increase their credit distribution activities excessively

Table 5
Mediation test

Mediation	Account	P - Value	VAF	Conclusion
ROA Mediation				
NPL ROA CAPITAL BUFFER	0.779 x 0.218	0,1698	0,39	Partial mediation
NPLCAPITAL BUFFER	0,1698+ 0.262	0,4318		
LOTAROCAPITAL BUFFER	0.207 X 0.218	0,0451	0,15	There is almost no mediation effect
LOTACAPITAL BUFFER	0,0451+0.262	0,3071		

Lota's Influence on Capital Buffer Through Roa Mediation

The results of mediation testing on lota's influence on capital buffer through ROA mediation, showed that ROA was not able to mediate LOTA's influence on capital buffers. When viewed from the value of the significance of LOTA's direct influence on ROA and the influence of ROA on capital buffer has a significant < 0.05 but the value of VAF in mediation testing on lota's influence on capital buffer by 15% and <20 so that it can be concluded that there is almost no mediating effect on LOTA pedaling on capital buffer.

This condition has an empirical understanding of LOTA Improvement without followed good management will lead to a decrease in ROA because banks have to bear

the costs that arise due to low credit quality. This is in accordance with the procyclical lending policy, asimetrism information causes banks to not be able to select credit properly so that the credit channeled has low quality. And affirmed by *moral hazard theory*, debtors commit violations of credit agreements that have been agreed so that it will cause the bank to suffer losses. Credit growth without good management can cause losses for banks (Firdaus et al., 2021; Muin, 2017; Utami et al., 2017). The increase in LOTA indicates the increased risk faced by banks so that banks have to bear costs related to these risks, the impact of bank profits will decrease. With the decline in bank profits, it is certain that the ability to form reserve funds in capital buffers will decrease. When viewed from the value of

its influence, LOTA's direct influence on the capital buffer is greater than the indirect influence so that it can be concluded that ROA is not able to mediate LOTA's influence on the capital buffer. This condition is caused by the bank's aggressive behavior in disbursing credit by diverting the funds owned to increase profits, the distribution of credit that is too large causes the channeled credit to have low quality so that it affects the decline of capital buffer.

The Influence of NPL on Capital Buffer Through ROA Mediation

The results of mediation testing on the influence of NPL on capital buffer through ROA mediation show ROA is able to mediate the influence of NPL on capital buffer. The influence of ROA mediation is indicated by the VAF value of 39% and the significant influence of NPL on ROA, ROA on Capital < 0.05.

This has an empirical understanding of increasing NPL resulting in increased costs that must be borne by banks so that profits on asset utilization / ROA will decrease, further decrease ROA then the capital buffer formed by the bank will decrease.

Research Purwoko & Sudiyatno (2013) variations in bank profitability are triggered by the emergence by NPL, when NPL increases, then bank profitability decreases. Research Latifah et al. (2012); Handayani & Sudiyatno (2018); and Funso, et al (2012), credit risk (NPL) negatively affects profitability (ROA). While said and Tumin research (2011), increased credit risk in Malaysia and in China has an impact on reducing profitability (ROA). The decrease in ROA will have an impact on reducing capital buffers, considering the main factors forming capital derived from the profits generated by banks, this statement is in accordance with the pecking order theory statement stating that banks prefer funding from internal banks. Poor credit risk management will lead to lower ROA levels as well as lower capital adequacy ratios.

V. CONCLUSION

The results of research related to buffer capital in the banking industry showed that LOTA negatively affects capital buffers while NPL and ROA have a positive effect on capital buffers. Mediation testing concluded that ROA was not able to mediate LOTA's influence on capital buffers, but ROA was able to mediate the influence of NPL on capital buffers. This study was limited to LOTA, NPL and ROA

variables to determine the factors that affect capital buffers. The research sample was studied only banks owned by the government so that it does not reflect banking behavior in determining its capital. The results of the mediation test show that ROA is not able to mediate LOTA's influence on capital buffers, so for future research agendas it is recommended to use other models to find out the consistency of LOTA's influence on capital buffers for example through MRA. For the banking industry it is necessary to pay serious attention to NPL. A high NPL will lower profits on the other hand banks must increase capital buffers in anticipation of losses. Control of non-performing loans can be done with good risk management and credit management. Credit expansion is carried out by sticking to the precautionary principle.

Reference

- Anggitasari, A. A., & Arfinto, E. D. (2013). *Hubungan Simultan antara Capital Buffer dan Resiko*. Universitas Diponegoro. Retrieved from <http://eprints.undip.ac.id/41935/>
- Antoun, R., Coskun, A., & Youssef, D. (2021). Bank-Specific, Macroeconomic, and Institutional Factors Explaining the Capital Buffer and Risk Adjustments in Banks: A Simultaneous Approach. *Eastern European Economics*, 59(2), 103–124. doi:10.1080/00128775.2020.1870406
- Atici, G., & GURSOY, G. (2012). The Determinants of Capital Buffer in the Turkish Banking System. *International Business Research*, 6(1), 224–34. doi:10.5539/ibr.v6n1p224
- Bayuseno, V., & Chabachib, M. (2014). *Analisis Faktor Yang Mempengaruhi Capital Buffer Perbankan di Indonesia (Studi Pada Bank-Bank Konvensional Go Public Periode 2010-2013)*. Universitas Diponegoro. Retrieved from http://eprints.undip.ac.id/43795/1/05_BAYUSENO.pdf
- Fauzia, N. A., & Idris, I. (2016). Analisis Faktor-Faktor Yang Mempengaruhi Capital Buffer (Studi Kasus pada Bank Umum Konvensional yang Terdaftar di BEI Tahun 2011-2014). *Diponegoro Journal of Management*, 5(2), 354–365. Retrieved from <https://ejournal3.undip.ac.id/index.php/djom/article/view/13963>
- Firdaus, J., Zamzam, F., & Romli, H. (2021). Pengaruh Determinasi Penyaluran Kredit Terhadap Profitabilitas Bank Umum Terdaftar di Bursa Efek Indonesia (BEI). *Ekonomika Sharia: Jurnal Pemikiran Dan Pengembangan Perbankan Syariah*, 6(2), 137–154. doi:10.36908/esha.v6i2.205
- Fitrianto, H., & Mawardi, W. (2012). Analisis

- Pengaruh Kualitas Aset, Likuiditas, Rentabilitas, dan Efisiensi terhadap Rasio Kecukupan Modal Perbankan yang Terdaftar di Bursa Efek Jakarta. *Jurnal Studi Manajemen Organisasi*, 3(1), 1–11. doi:<https://doi.org/10.14710/jsmo.v3i1.4178>
- Guidara, A., Lai, V. S., Soumaré, I., & Tchana, F. T. (2013). Banks' Capital Buffer, Risk and Performance in the Canadian Banking System: Impact of Business Cycles and Regulatory Changes. *Journal of Banking & Finance*, 37(9), 3373–3387. doi:10.1016/j.jbankfin.2013.05.012
- Handayani, D., & Sudiyatno, B. (2018). Kualitas Kredit pada Industri Perbankan dan Dampaknya terhadap Profitabilitas Bank (Studi Empirik pada Bank Umum Konvensional yang Terdaftar di Bursa Efek Indonesia). *Jurnal Bisnis Dan Ekonomi*, 24(2), 150–61. Retrieved from <https://www.unisbank.ac.id/ojs/index.php/fe3/article/view/5880>
- Haryanto, S. (2015). Determinan Capital Buffer: Kajian Empirik Industri Perbankan Nasional. *Jurnal Ekonomi MODERNISASI*, 11(2), 108. doi:10.21067/jem.v11i2.872
- Jiang, H., Zhang, J., & Sun, C. (2020). How Does Capital Buffer Affect Bank Risk-Taking? New Evidence from China Using Quantile Regression. *China Economic Review*, 60, 101300. doi:10.1016/j.chieco.2019.04.008
- Jokipii, T., & Milne, A. (2011). Bank Capital Buffer and Risk Adjustment Decisions. *Journal of Financial Stability*, 7(3), 165–178. doi:10.1016/j.jfs.2010.02.002
- Latifah, N. M., Rodhiyah, R., & Saryadi, S. (2012). Pengaruh Capital Adequacy Ratio (CAR), Non Performing Loan (NPL) dan Loan to Deposit Ratio (LDR) terhadap Return on Asset (ROA) (Studi kasus pada Bank Umum Swasta Nasional Devisa Go Public di Bursa Efek Indonesia Periode 2009-2010). *Jurnal Ilmu Administrasi Bisnis*, 1(2), 57–66. doi:<https://doi.org/10.14710/jiab.2012.834>
- Menicucci, E., & Paolucci, G. (2016). The Determinants of Bank Profitability: Empirical Evidence from European Banking Sector. *Journal of Financial Reporting and Accounting*, 14(1), 86–115. doi:10.1108/JFRA-05-2015-0060
- Muin, S. A. (2017). Analisis Faktor-Faktor yang Memengaruhi Rentabilitas pada P.T. Bank Rakyat Indonesia (Persero) Tbk. Periode 2011-2016. *Jurnal Economix*, 5(2), 137–147. Retrieved from <https://ojs.unm.ac.id/economix/article/view/5353/3093>
- Nasikin, Y., & Yuliana, I. (2022). Peran Retrun On Assets (ROA) Sebagai Variabel Mediasi Pada Pengaruh Non Performing Loan (NPL) Dan BI Rate Terhadap Harga Saham Bank BUMN Periode 2011 – 2020. *Owner*, 6(1), 400–415. doi:10.33395/owner.v6i1.616
- Nitzl, C., Roldán, J. L., & Cepeda, G. (2017). Mediation Analyses in Partial Least Squares Structural Equation Modeling, Helping Researchers Discuss More Sophisticated Models: An Abstract (pp. 693–693). doi:10.1007/978-3-319-47331-4_130
- Noreen, U., Alamdar, F., & Tariq, T. (2016). Capital Buffers and Bank Risk: Empirical Study of Adjustment of Pakistani Banks. *International Journal of Economics and Financial Issues*, 6(4), 1798–1806. Retrieved from <https://www.econjournals.com/index.php/ijefi/article/view/3077>
- Purwanti, J., Suwaryo, S., & Sudarto, S. (2017). Analisis Hubungan Jangka Panjang dan Jangka Pendek antara NPL, ROE, SIZE dan LOTA terhadap Capital Buffer. *Performance*, 23(1), 67. doi:10.20884/1.performance.2016.23.1.281
- Purwoko, D., & Sudiyatno, B. (2013). Faktor-Faktor Yang Mempengaruhi Kinerja Bank (Studi Empirik Pada Industri Perbankan di Bursa Efek Indonesia). *Jurnal Bisnis Dan Ekonomi*, 20(1), 25–39. Retrieved from <https://www.unisbank.ac.id/ojs/index.php/fe3/article/view/2344>
- Rahadian, R., & Permana, D. (2021). The Impact of Non-Performing Loans, Return on Assets, Return on Equity, and Loan to Deposit Ratios on Minimum Capital Adequacy Requirement Based on Commercial Banks for Business Activities (BUKU) I 2015-2020. *European Journal of Business and Management Research*, 6(6), 42–46. doi:10.24018/ejbmr.2021.6.6.1084
- Rizal, M., Mus, A. R., & Nurnajamuddin, M. (2020). Pengaruh Debt To Equity Ratio (DER), Non Performing Loan (NPL), Loan To Deposit Ratio (LDR) dan Pertumbuhan Perusahaan terhadap Profitabilitas pada Perusahaan Sektor Perbankan yang Terdaftar di Bursa Efek Indonesia. *PARADOKS : Jurnal Ilmu Ekonomi*, 3(2), 97–111. doi:10.33096/paradoks.v3i2.471
- Sadalia, I., Ichtiani, H., & Butar-Butar, N. A. (2017). Analysis of Capital Buffer in Indonesian Banking. *ICOI*, 131, 128–33. Retrieved from <https://www.atlantispress.com/article/25880033.pdf>
- Saeed, S., & Akhter, N. (2012). Impact of Macroeconomic Factors on Banking Index in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), 1200–1218. Retrieved from <https://journal-archives24.webs.com/1200-1218.pdf>
- Seenaiah K, Rath, B. N., & Samantaraya, A. (2015). Determinants of Bank Profitability in the Post-reform Period: Evidence from India. *Global Business Review*, 16(5), 82S–92S. doi:10.1177/0972150915601241
- Shim, J. (2013). Bank Capital Buffer and Portfolio Risk: The Influence of Business Cycle and Revenue Diversification. *Journal of Banking*

- & *Finance*, 37(3), 761–772. doi:10.1016/j.jbankfin.2012.10.002
- Tabak, B. M., Noronha, A. C. B. T. F., & Cajueiro, D. O. (2011). Bank Capital Buffers, Lending Growth and Economic Cycle: Empirical Evidence for Brazil. *Bank for International Settlements*, 5, 1–20. Retrieved from <https://www.bis.org/events/ccconf2011/tabak.pdf>
- Tasman, A. (2020). Capital Buffer dan Faktor Penentunya di Indonesia. *Jurnal Inovasi Pendidikan Ekonomi (JIPE)*, 10(2), 132. doi:10.24036/011098000
- Utami, D., Santoso, E. B., & Pranaditya, A. (2017). Pengaruh Struktur Modal, Pertumbuhan Perusahaan, Profitabilitas, Ukuran Perusahaan, Kinerja Keuangan Perusahaan, Terhadap Nilai Perusahaan (Studi Kasus Perusahaan Manufaktur Sektor Aneka Industri yang terdaftar di Bursa Efek Indonesia Tahun 2011-2015). *Jurnal Ilmiah Mahasiswa SI Akuntansi Universitas Pandanaran*, 3(3), 1–20. Retrieved from <https://jurnal.unpand.ac.id/index.php/AKS/article/view/799>
- Wu, C., Guo, K., Xu, H., & Huang, S. (2016). Cyclical Behavior Study of Capital buffer Based on the Evidence of City Commercial Bank. *Scientific Decision Making*, 7.