

Capitalization Chronicles: Unraveling the Impact on Bank Profitability

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ABSTRACT

This study seeks to investigate the influence of capitalization on the profitability of banks, focusing on financial data of 34 Indonesian commercial public banks over the period of 2013-2022. The researcher evaluates the capital ratio, a critical measure of financial stability, for its impact on key profitability metrics such as Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), and Pre-Provision Profitability Ratio (PPR). By utilizing the Fixed Effect Model (FEM), the results of this study show mixed effects of capital ratio on profitability across profit measures. Further, the finding shows an inverted U-shaped impact of capital ratio on bank profit when ROA is used. This suggests that a higher capital ratio increases a bank's ability to generate profits on its assets up only to a critical point. A further increase in the capital ratio beyond this point tends to adversely affect profitability.

Keywords: Indonesia; capital ratio; capitalization; commercial banks; public banks; return on assets; return on Equity; net interest margin; provision profitability ratio.

INTRODUCTION

The banking industry plays a crucial role in the economy by facilitating financial intermediation, providing liquidity, and supporting economic growth. With its assets amounting to almost 78 percent of total financial assets in 2022, Indonesia's banking sector has a significant impact on the financial system's stability, which in turn will affect the economic development. The Indonesian Financial Service Authority, also known as *Otoritas Jasa Keuangan* or OJK, has released a new regulation aimed at enhancing the resilience of the banking industry. This regulation strengthens risk management and aligns with international standards, specifically Basel III: Finalizing Post-Crisis Reforms (Basel III reforms). The new regulation that was issued in 2023 is Financial Services Authority Regulation (POJK) Number 27 of 2022 concerning the Second Amendment to POJK Number 11/POJK.03/2016 concerning Minimum Capital Requirements for Commercial Banks (POJK 27/2022). One of the main regulations in POJK 27/2022 is adjustments to the Basel III Standard reforms, including the implementation of the obligation to calculate Market Risk-Weighted Assets (RWA) for all banks from January 1, 2024.

Basel III aims to strengthen banking capital by requiring banks to increase capital, including countercyclical capital buffers, that ultimately enhance financial stability. In addition to increasing banking

resilience, the implementation of Basel III is expected to mitigate bank lending procyclicality. Despite the significance of a higher capital ratio in bolstering protection against adverse shocks, equity, being a costly source of financing, has the potential to reduce a bank's profitability due to shareholders' expectation of a higher return. Examining the factors that could impact a bank's profitability is crucial, as it is one of the five key indicators that significantly influence its performance [33].

Several authors have presented empirical evidence that supports the negative association between capital ratio and profitability. [11] conducted research for the US banking sector by using the Generalized Method of Moments (GMM) Model and discovered that bigger equity financing reduces banks' profitability. Likewise, by investigating the determinants of bank profitability for Pakistani banks during 2006–2009, [24] the study sheds light on the negative effects of higher capital adequacy ratio (CAR) on profitability. In a similar vein, by using capital buffer as a measure for bank capitalization, [3] and [21] found that an increase in the capital buffer results in a decline in a bank's profitability. They suggest that a higher capital buffer can be costly for banks, leading to inefficiencies and ultimately eroding their profitability.

In the meantime, some studies had been conducted in various banking markets to examine how capital ratio (measured by equity over total assets) affects profitability and revealed that the larger a

bank's capital ratio, the higher its profit (for example: [23] for the Greek banking sector; [16] for the Chinese market; [29] for the European area; [35] for the Pakistani banks; [17] for the Bangladesh market; and [31] for Vietnamese commercial banks).

Many studies have been carried out to investigate this topic in various countries. For example, [36] sought to analyze how income diversification affects profitability for nearly 170 banks located in BRICS (Brazil, Russia, India, China, and South Africa) countries. Their study provides empirical evidence to support a positive relationship between capital ratio and profitability. Likewise, [22] explored the determinants of net interest margin (NIM) for 230 banks in South Asian countries and accentuated that a higher capital ratio leads to a bigger NIM. A more extensive study, executed for more than 10,000 banks across 118 countries over a span of 15 years, also discovered positive impacts of capital ratio on banks' profitability [13].

In regard to the measurement of bank capitalization, most studies use capital ratio as their measure, while only a few studies use Capital Adequacy Ratio (CAR). However, both measurements yielded varying results regarding the impacts on profitability. On the other hand, Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) are the most utilized measures for banks' profitability.

Depending on the chosen measurements, some studies yielded varying results. For example, the study of [1] for European banks revealed that capitalization is negatively related to profitability when using capital ratio. However, employing CAR results in a positive relationship. Meanwhile, [6] found out that CAR in Indian commercial banks only significantly impact profitability if NIM is used. Since the impact is positive, the finding implies that a greater CAR will only strengthen the bank's operating profit and may not affect the overall bank's profitability. Nevertheless, [15] has provided empirical evidence that supports positive impacts of CAR both on ROA and NIM for banks in Croatia.

Furthermore, [5] examined banks in Ghana and found a significant positive relationship between capital ratios and both ROA and NIM, but a negative association with ROE.

The literature's conflicting evidence, as previously mentioned, highlights the need for additional research to scrutinize the effects of increased capitalization on banks' profitability. This study intends to examine how tighter equity ratios affect profitability in Indonesian commercial public banks from 2013 to 2022 by utilizing the Fixed Effect Model (FEM).

Taking into account the importance of Indonesian banking stability in facilitating the country's

economic growth while, on the other side, banks must provide minimum capital as required, this study provides fresh insights into the impact of stricter capital requirements on profitability. In addition to ROA, ROE, and NIM, which are the most extensively utilized measures of bank profits in the literature, this study uses the Pre-Provision Profitability Ratio (PPR) to explore a bank's profitability in terms of its core performance, i.e., its capability to generate profits based on daily operational activities.

The findings of this study show that a higher capital ratio leads to a bigger NIM, but a lower PPR. This study also finds an inverted U-shaped relationship between capital ratio and return on assets.

This study is structured as follows: Section 2 explains the literature review and hypotheses development. Section 3 presents data and methodology. Section 4 presents findings and discussion. Section 5 concludes the paper.

Literature Review

Based on the previously mentioned literature, this study aims to investigate the impact of bank capitalization on the profitability of Indonesian commercial public banks from 2013 to 2022.

Capitalization acts both as a buffer against losses and a foundation for growth. In general, well-capitalized banks are more resilient to economic shocks and are better positioned to meet regulatory requirements. There is extensive literature examining the impacts of capitalization on bank profitability. However, the evidence remains inconclusive, and there is no empirical consensus on how capitalization specifically affects profitability. A considerable number of studies have revealed that greater capital is associated with larger banks' profitability. [8]; [13]; [14]; [20]; [29]; [35]; [36]

In light of the positive impact of capitalization on bank profit, [8] proposed two hypotheses: the bankruptcy cost and the signaling hypothesis. The first hypothesis argues that well-capitalized banks reduce reliance on external funding, thus lowering their funding expenses while simultaneously enhancing their profitability. The signaling hypothesis assumes that banks with greater capital convey positive signals to the market about their promising future, thereby boosting their profitability.

In addition to the two abovementioned hypotheses, [37] put forward the agency hypothesis in defining the impact of capitalization on profitability. According to the agency hypothesis, since equity financing is more expensive to raise than deposits, a bigger capital ratio increases agency costs, thus restricting managers' ability to enhance shareholder value. As a consequence, the bank's profitability will decline.

Nevertheless, some studies have brought attention to the contradictory predictions about whether more restrictive capital requirements will be advantageous to bank performance. The empirical evidence shows the detrimental impact of a higher capital ratio on profitability [11]. Not only that, [1] discovered mixed results in investigating the impacts of bank capital on profitability and concluded that an increased capital requirement may not have a strong influence on profitability. In the meantime, some empirical evidence found both positive and negative impacts of a higher capital ratio on profitability [6]; [13]. Moreover, [10] insinuated that the effectiveness of capital regulation in reducing insolvency risk may be limited due to the bigger risk taken by an already well-capitalized bank as a compensation for meeting tighter capital standards. Furthermore, banks, as a financial intermediary, plays a critical role in providing liquidity. The empirical evidence shows that greater capital requirements compel banks to offer fewer deposits, therefore diminishing their capability in providing liquidity [18]. Additionally, an investigation into the impact of capital buffer on the profitability of Indonesian commercial banks from 2010 to 2020 revealed a negative correlation between capital buffer and profitability [21].

Considering the mixed results from previous research, the researcher proposes the following hypothesis:

H₁: Capital ratio significantly affects banks' profitability.

Given the potential for a non-linear relationship between capitalization and profitability, [38] and [20] have incorporated the square of bank capitalization into their respective studies. Both studies indicate that capitalization significantly influences profitability both linearly and nonlinearly. Accordingly, the studies confirm the inverted U-shaped relationship of capitalization with profitability.

Further, following [20] and [38], this study also investigates the non-linear relationship between bank capitalization and profitability to see the possibility of whether the nexus is not linear. Thus, the second hypothesis for this study is:

H₂: There is an inverted U-shaped relationship between capital ratio and banks' profitability.

RESEARCH METHOD

The purpose of this study is to examine the impact of capital ratios on the profitability of a bank. To test the hypotheses as derived in the previous section, this study employs a strongly-balanced panel data of dataset extracted from the website of Otoritas Jasa Keuangan (OJK) or the Indonesian

Financial Service Authority (www.ojk.go.id) and banks' websites.

The sample covers 34 Indonesian commercial public banks across ownership types: government-owned banks, private banks, regional development banks, and joint venture banks. The period of this study spans from 2013 to 2022, leading to 340 bank-year observations. The dependent variable is banks' profitability, which is measured by Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM) and Pre-Provision Profitability Ratio (PPR).

ROA is one of the widely used measures for profitability. The calculation of ROA compares net income to total assets, demonstrating the bank's ability to generate profits from its assets. Previous studies commonly use ROE as another measure of profitability. ROE is net profits divided by the average of shareholders' equity and it reveals how effectively a bank uses funds from its shareholders to generate profits.

In addition to ROA and ROE, this study also uses NIM and PPR as dependent variables. NIM is the differences between Interest Income and Interest Expense over Total Assets while PPR is calculated as the Operating Profit against Total Assets.

The key variables of interest in this study are CR and its square, which are measures of bank capitalization and are formulated as the ratio of equity to total assets and the square of the ratio.

The other explanatory variables are as follows:

- bank size (SIZE) to capture the effect of bank size and measured as the natural logarithm of total assets.
- non-performing loan (NPL) which is the ratio of non-performing loan to total loan.
- ratio of cost to income (CIR), expressed as non-interest expense over Total Income.
- funding cost (FC) that is calculated as Interest Expense over the sum of Total Deposits and Borrowings.
- revenue diversification (RD), calculated as the proportion of Total Non-Interest Income against Total Income.
- bank age (AGE), which is a logarithm natural of the differences between Current Year and Year of Expenses.

This study also includes covid as a dummy variable that is one for the covid-19 pandemic period (2020 to 2022) and zero otherwise, to control for the effect of the pandemic that may influence the results. [26] suggested the inclusion of macroeconomic indicators in analyzing a bank's financial performance; hence, the covid period is added to the model. Table 1 reports descriptive statistics for the variables used in the analysis.

Table 1. Descriptive Statistics*

Var.	No. of Obs.	Mean	Std. dev.	Min.	Max
ROA	338	1.39	1.85	-8.50	13.01
ROE	338	7.47	10.35	-54.71	34.11
NIM	338	5.06	2.42	-3.52	19.30
PPR	339	-2.96	2.26	-20.44	2.57
CR	339	18.24	12.24	3.21	92.51
SIZE	339	17.48	1.94	12.09	21.28
NPL	330	1.50	1.20	-0.61	8.83
CIR	339	50.20	23.51	14.36	235.50
FC	339	4.82	2.05	0.30	13.00
RD	339	12.87	9.01	0.05	59.35
AGE	340	3.83	0.48	2.71	4.84
covid	340	0.3	0.5	0	1

*in percentages, except for size, age, and covid

As presented in Table 1, on average, the banks in the sample have a ROA of 1.39 percent over the entire period from 2013 to 2022. The overall average ROE over the research period is 7.47 percent, whereas in terms of NIM, Indonesian commercial public banks exhibit an average NIM of 5.06 percent. On average, the banks in the sample show an average PPR of nearly minus 3 percent, indicating that, on average, the banks incur operating losses.

Moreover, Indonesian commercial public banks in the sample on average have an 18.24 percent equity-to-assets ratio, well above the required capital adequacy ratio. The best-capitalized bank in the sample has nearly 93 percent of its assets financed by equity, while the least capitalized bank has a capital ratio of only 3.21 percent.

The banks in the sample have an average NPL ratio of 1.50 percent, indicating a relatively low credit risk. Regarding a bank's efficiency as measured by the ratio of cost to income, the banks in the sample have an average CIR of 50.20 percent. The least efficient bank has a non-interest expense of 235 percent as a proportion of its total income, which implies the bank's operational inefficiency.

Regarding the cost of a bank's acquisition of funds it lends out to borrowers, the banks in the sample have an average funding cost of 4.82 percent. They also have an average revenue diversification rate of 12.87 percent, which indicates relatively low variability in banks' revenue.

In addition, the banks in the sample have an average age of around 45 years since their inception; however, the age differs among banks. The oldest bank was founded more than a hundred years ago. Table 2 shows the pairwise correlation coefficients needed to detect any relationship between the explanatory variables. The table shows no higher values of correlation coefficients between explanatory variables, and hence multicollinearity among the regressors is not an issue.

To investigate how bank capitalization affects profitability, this study employs the following baseline model:

$$Profit_{it} = \alpha_i + \beta CR_{it} + \gamma X_{it} + \theta Covid_t + \varepsilon_{it} \quad (1)$$

i and t refer to bank and year, respectively. $Profit$ is bank profitability, measured by ROA, ROE, NIM, and PPR; the main coefficient of interest is β , which captures the relationship between capital ratio (CR) and the change in bank profitability; X is a vector of bank characteristics that include SIZE, NPL, CIR, FC, RD, and AGE. Moreover, $covid$ is a dummy variable that is included to control the effect of crisis due to the Covid-19 pandemic as mentioned earlier.

Table 2. Correlation Matrix

	ROA	ROE	NIM	PPR	ETA	SIZE
ROA	1.00					
ROE	0.84*	1.00				
NIM	0.31*	0.29*	1.00			
PPR	0.47*	0.43*	-0.61*	1.00		
ETA	0.03	-0.17*	0.39*	-0.33*	1.00	
SIZE	0.32*	0.46*	-0.04	0.27*	-0.47*	1.00
NPL	-0.43*	-0.45*	-0.15*	-0.23*	-0.02	-0.24*
CIR	-0.42*	-0.40*	-0.12*	-0.27*	0.12*	-0.09
FC	-0.29*	-0.29*	-0.03	-0.16*	0.01	-0.44*
RD	0.16*	0.17*	-0.06	0.15*	-0.12*	0.43*
AGE	0.27*	0.18*	0.03	0.14*	-0.04	0.44*
COVID	-0.08	-0.11*	-0.22*	0.10	0.09	0.15*

	NPL	CIR	FC	RD	AGE	COVID
NPL	1.00					
CIR	0.12*	1.00				
FC	0.33*	-0.08	1.00			
RD	-0.18*	0.19*	-0.41*	1.00		
AGE	-0.19*	-0.07	-0.32*	0.16*	1.00	
COVID	-0.13*	0.27*	-0.31*	0.23*	0.11*	1.00

* represents statistical significance at 5%

Furthermore, to examine the possibility of a non-linear relationship between bank capitalization and profitability, the second baseline model of this study is as follows:

$$Profit_{it} = \alpha_i + \beta CR_{it} + \delta CRSQR^2_{it} + \gamma X_{it} + \theta Covid_t + \varepsilon_{it} \quad (2)$$

where $CRSQR$ is the squared term of capital ratio to examine the possibility of inverted U-shape relationship between capitalization and profitability.

RESULTS AND DISCUSSION

Table 3 reports the main results of this study by using various profit measurements of Equation 1, with standard errors reported in parentheses below each coefficient estimate.

This study employs the Fixed Effect Model, and the dependent variables, as mentioned previously, are ROA, ROE, NIM, and PPR in Columns 1, 2, 3, and 4, respectively.

Columns 1 to 3 of Table 3 show that capital ratio has positive impacts on profits measured by ROA, ROE, and NIM, respectively. However, the

impact is only statistically significant for NIM at 5 percent significance (Column 3).

The positive and significant effect of the equity-to-asset ratio on NIM is in line with previous studies [12]; [13]; [19]. The fact that a higher capital ratio makes NIM go up may support the bankruptcy cost hypothesis, which says that having more capital lowers the cost of bankruptcy and interest, which makes the business more profitable [8]. Given that NIM assesses the profit from interest-related activities [8], a higher capital ratio amplifies the efficiency and effectiveness of a bank's investment.

Table 3. Regression Results on How Capital Ratio Affects Profitability

	ROA (1)	ROE (2)	NIM (3)	PPR (4)
CR	0.010 (0.011)	0.004 (0.057)	0.022** (0.008)	-0.030** (0.011)
SIZE	0.097 (0.262)	0.481 (1.378)	-0.135 (0.214)	0.549* (0.285)
NPL	-0.280*** (0.075)	-1.963*** (0.392)	0.007 (0.061)	-0.293*** (0.079)
CIR	-0.019*** (0.004)	-0.119*** (0.020)	-0.011*** (0.003)	-0.012*** (0.004)
FC	-0.092* (0.053)	-0.370 (0.280)	-0.016 (0.044)	-0.094 (0.058)
RD	0.023* (0.013)	0.142** (0.068)	-0.046*** (0.010)	0.064*** (0.014)
AGE	-0.817 (1.809)	-14.572 (9.516)	-0.164 (1.481)	-2.882 (1.963)
covid	-0.356 (0.232)	-0.972 (1.222)	-0.700*** (0.190)	0.309 (0.252)
Cons	4.308 (5.305)	64.319** (27.900)	9.084** (4.342)	-0.353 (5.728)
No of Obs	329	329	329	330
R-squared	0.174	0.260	0.316	0.216
No of Banks	34	34	34	34

***, **, * represent statistical significance at 1%, 5%, and 10% levels, respectively

On the contrary, Column 4 shows the inverse relationship between capital ratio and profitability when calculated by PPR. It suggests an unfavorable impact of capitalization on profitability, specifically in terms of operating profits to total assets.

This finding aligns with the findings of [19], who used the Generalized Method of Moment (GMM) estimator in their study on the impact of equity-to-assets ratio on PPR in the Indian banking sector during the pre-crisis period.

In the meantime, Table 4 reveals the empirical results when the squared of capital ratio is included in the model as specified in Equation 2. The parentheses in the table show standard errors of each coefficient estimate. By utilizing the Fixed Effect Model (FEM). Columns 1, 2, 3, and 4 uses ROA, ROE, NIM, and PPR as dependent variables, respectively.

As shown in Table 4, all columns indicate positive coefficients for CR, implying that the bigger the

capital ratio of a bank, the more profitable it becomes. However, the coefficients are statistically significant (at the 5 percent level) only in Columns 1 and 3, insinuating an increased capitalization is associated with bigger profits measured by ROA and NIM. These findings support the results of previous studies [7]; [13]; [29]. While [34] found that capital ratio only positively and significantly impacts ROA.

Table 4. Regression Results on How Capital Ratio Affects Profitability with the Squared Capitalization Included

	ROA (1)	ROE (2)	NIM (3)	PPR (4)
CR	0.067** (0.030)	0.037 (0.161)	0.054** (0.025)	0.013 (0.033)
CRSQR	-0.0006** (0.0003)	-0.0004 (0.002)	-0.0003 (0.0002)	-0.0005 (0.0003)
SIZE	0.230 (0.269)	0.560 (1.424)	-0.059 (0.220)	0.649** (0.293)
NPL	-0.296*** (0.075)	-1.973*** (0.395)	-0.001 (0.002)	-0.303*** (0.080)
CIR	-0.019*** (0.004)	-0.119*** (0.020)	-0.011*** (0.003)	-0.012*** (0.004)
FC	-0.069 (0.054)	-0.356 (0.287)	-0.003 (0.045)	-0.077 (0.059)
RD	0.024* (0.013)	0.142** (0.068)	-0.045*** (0.010)	0.065*** (0.014)
AGE	-1.931 (1.884)	-15.231 (9.975)	-0.795 (1.547)	-3.765* (0.056)
covid	-0.315 (0.232)	-0.947 (1.228)	-0.677*** (0.191)	0.345 (0.252)
Cons	5.402 (5.306)	64.967** (28.095)	9.703** (4.358)	0.624 (5.760)
No of Obs	329	329	329	330
R-squared	0.185	0.261	0.320	0.221
No of Banks	34	34	34	34

***, **, * represent statistical significance at 1%, 5%, and 10% levels, respectively

Taking into consideration the non-linear relationship between capitalization and profitability, Column 1 of Table 4 exhibits a positive and significant coefficient of the squared capital ratio on ROA. This indicates that greater capitalized banks tend to have larger returns on assets up to a certain point, but excess equity in a bank's capital structure greater than this point may impair its ability to generate profits from the assets.

When using ROA, ROE, and PPR as dependent variables, all the regression models in Table 3 show inverse relationships between non-performing loans and profits that are significant at the 1-percent level with respect to the other explanatory variables. These findings convey detrimental effects of negative debts on a bank's profit.

Regarding the bank size, this study finds different impacts of size on a bank's profitability, depending on the measure of profit. The influence is statistically significant when PPR is used, as exhibited in Column 4 of Tables 3 and 4, implying that larger banks tend to enhance their operating profit in relation to their assets.

Moreover, all empirical results in Tables 3 and 4 exhibit negative and statistically significant associations (at the 1 percent significance level) between CIR and bank profits across all measures. We also discover an inverse relation between funding cost and profitability, with only ROA showing a significant impact in Column 1 of Table 3. The negative association between funding cost and profitability is in accordance with [12] and [32]. According to [12], banks can enhance their profits only if they succeed in raising low-cost funds.

While analyzing how diversification of banks' activities affects their profits, the coefficient on RD in Tables 3 and 4 show beneficial effects of revenue diversification on bank profits, which are significant at various levels when ROA, ROE, and PPR are used as profit measures. These suggest that the greater revenue diversification in a bank is associated with increased profitability and confirm the findings of previous literature [7]; [25]; [27]; [28]; [30]; [32].

The positive impact of diversification on return on assets contradicts previous research, which suggests that banks with higher income from non-interest activities are less profitable as measured by ROA [2], [4], [9], and [12].

When NIM is used as a profit measure, Column 3 of Tables 3 and 4 reveals that more diversified banks tend to have lower profits. Since NIM measures how efficient a bank is in utilizing their funds, greater revenue diversification may reduce a bank's efficiency in making investment decisions. These results provide empirical evidence to support some studies that found a negative association between revenue diversification and profitability.

Regarding bank age, all AGE coefficients in Tables 3 and 4 are negative; however, only the ones in Column 4 of Table 4 are statistically significant. The adverse relation between bank age and profitability exhibited in this study is in contrast with the findings of [12], which accentuated that profitability enlarges as the bank age increases.

Considering the effect of the Covid-19 pandemic, the empirical findings in Tables 3 and 4 indicate that larger capitalization has reduced profitability measured by NIM during the pandemic.

CONCLUSION

This study has investigated how bank capitalization affects the profitability of 34 Indonesian commercial public banks over the period from 2013 to 2022 by employing the Fixed Effect Model (FEM).

The empirical results of this study report the significant influence of capitalization on banks' profitability, measured by ROA, NIM, and PPR. Nevertheless, the effects are not uniform across profit measures.

The empirical results show that a greater capital ratio leads to an increase in profits from interest-earning activities (as measured by net interest margin) but brings about lower operational profits when non-interest income is included (as showed by the pre-provision profitability ratio).

The Indonesian banking authority's enforcement of tighter bank capitalization in accordance with Basel III, which is positively associated with NIM, will not negatively impact the bank's profits from its interest-bearing activities. This enforcement is crucial for strengthening the financial stability and resilience of banks. However, to ensure that all banks comply with the Basel III requirements, the banking authorities should implement strict measures and closely monitor banks' adherence to these standards.

Meanwhile, concerning the negative influence of capital ratio on PPR, a higher capitalization level could potentially reduce the profitability of banks that generate substantial non-interest income. Notwithstanding this, the banking authority should promote revenue diversification among banks, as it positively contributes to their overall profitability.

This study also shows an inverted U-shaped relation between capital ratio and bank profits measured by ROA. This suggests that profits increase as the banks use more capital to finance the assets up to an inflection point, at which a further increase in the use of capital will decrease the profits. The policy implication regarding this finding is that regulators must carefully evaluate capital requirements, as an excessively high capital buffer could hinder bank profitability beyond a certain threshold.

Furthermore, this study examined the impact of the Covid-19 pandemic, taking into account both the non-Covid period up to 2019 and the Covid period, specifically the years 2020-2022. The results show that the crisis harmfully influences the beneficial relationship between capitalization and profitability.

This study has some limitations. First, it relies solely on publicly listed banks with large assets. Therefore, further studies may include private and smaller banks to enhance and enrich the findings. Second, this study does not differentiate between types of bank ownership. Therefore, we can expand our research to explore the impact of capitalization on profitability in different types of bank ownership. Furthermore, this study solely concentrates on Indonesian banks, but it has the potential to expand to other countries, especially emerging ones.

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