

Article

Does the Core Capital Requirement Affect Bank Performance?

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Abstract: In 2020, the Financial Services Authority of Indonesia (OJK) introduced Regulation No. 12/POJK.03/2020, mandating that all commercial banks maintain a minimum core capital of three trillion rupiah by the end of 2022. This regulatory change aimed to strengthen the financial resilience and stability of the banking sector. However, the potential impact of this requirement on bank performance remains a critical area of investigation. This study seeks to provide empirical evidence on the relationship between core capital requirements and the financial performance of commercial banks in Indonesia. Using banking statistical data from 2013 to 2022, we examine the extent to which core capital influences bank profitability. The study employs Common Equity Tier 1 (CET1) and Capital Adequacy Ratio (CAR) as proxies for core capital, while Return on Assets (ROA) and Return on Equity (ROE) serve as indicators of bank performance. A descriptive-explanatory research design was adopted, and a simple regression analysis was conducted to assess the relationship between these variables. The findings reveal that the core capital requirement has a statistically significant negative effect on bank profitability, suggesting that higher capital requirements may impose constraints on the financial performance of commercial banks. Based on these results, we recommend that banking regulators in Indonesia strengthen their oversight mechanisms and explore strategies to mitigate potential adverse effects, ensuring that capital requirements contribute positively to the stability and long-term performance of the banking sector.

Keywords: Bank Core Capital, Bank Profitability, Commercial Banks, Indonesia,

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INTRODUCTION

In response to the global financial crisis of 2007–2008, many countries have implemented stricter regulatory frameworks, introducing higher capital and liquidity requirements to enhance the resilience of their banking sectors. These regulations are designed to mitigate solvency risks by mandating that banks maintain higher levels of core capital. However, banks are also exposed to liquidity risk, which arises when there is a mismatch between long-term assets and short-term liabilities. The imposition of stricter capital and liquidity requirements is likely to influence overall bank performance (Imbierowicz & Rauch, 2014). From the perspective of the banking industry, more stringent capital reserves increase funding costs and constrain liquidity creation, potentially leading to reduced lending and investment capacity, which, in turn, may negatively impact economic growth. Higher capital requirements shift funding from readily available liquid deposits to less liquid capital reserves, potentially limiting banks' ability to provide liquidity and thereby affecting their profitability (Li & Liu, 2005). In Indonesia, the fundamental role of commercial banks is to function as financial intermediaries, channeling savings from the public and redistributing them into the economy, as stipulated in Law of Indonesia No. 10 of 1998. However, banks are inherently exposed to multiple financial risks, including credit risk, market risk, and liquidity risk. If not effectively managed, these risks can lead to bank failures, causing significant disruptions to businesses, depositors, and the broader economy (Lelissa, 2014).

To enhance the resilience and competitiveness of Indonesian banks, strengthening their capital structure is essential. A robust capital base not only supports financial stability but also contributes to sustained economic growth. In recent years, the relationship between bank capital and profitability has become an area of growing concern. According to Barth et al (2008) highlight that several Asian countries, including the Philippines, Singapore, and Indonesia, have been reinforcing their capital requirements to ensure a more stable financial system. Recognizing the importance of capital adequacy, the Financial Services Authority of Indonesia (OJK) introduced Regulation No. 12/POJK.03/2020 in 2020. This regulation mandates that all commercial banks maintain a minimum core capital of three trillion rupiah by the end of 2022. The primary objective of this requirement is to enhance the banking sector's ability to absorb financial shocks, mitigate potential losses during periods of economic uncertainty, and prevent

financial crises from spilling over into the broader economy. The recent loan crisis has further underscored the importance of understanding the key determinants of bank risk, particularly in contexts where capital adequacy is insufficient (Festić et al., 2011).

Numerous studies have demonstrated the critical role of capital regulation in shaping bank performance and stability. Based on research by Demirgüç-Kunt & Huizinga (2001), Rime (2001), Iannotta et al (2007), (Pasiouras & Kosmidou (2007), Lee & Hsieh (2013), Tan (2016), and Bitar et al (2018) provide empirical evidence suggesting a positive relationship between bank capital ratios and profitability. These findings indicate that well-capitalized banks tend to be more resilient, enjoy lower funding costs, and have greater capacity to absorb financial shocks, ultimately leading to improved financial performance. Moreover, the role of central banks in enforcing capital regulations to enhance banking sector performance has also been widely examined. Research by (Naceur & Kandil, 2009) investigated the impact of capital requirements on bank performance in Egypt and found that stricter capital regulations contribute to greater financial stability by ensuring banks maintain sufficient buffers to withstand economic uncertainties. Their study underscores the importance of capital adequacy policies in fostering a more robust and efficient banking system while mitigating the risks associated with financial distress and economic downturns. These insights highlight the broader implications of capital regulation, not only for individual banks but also for the stability and sustainability of the financial system as a whole. Building upon the identified research gap, it is essential to examine the impact of regulatory capital and capital adequacy on bank profitability. To address this issue, the present study seeks to answer the following key research questions:

(1) What is the relationship between core capital requirements and the profitability of the banking industry in Indonesia?

(2) To what extent do core capital requirements impact the financial performance of banks in Indonesia?

This study aims to provide empirical evidence on the relationship between bank core capital requirements and overall bank performance. Utilizing banking statistical data from 2013 to 2022, we test our hypothesis by analyzing the relationship between core capital (measured through Common Equity Tier 1 (CET1) and Capital Adequacy Ratio (CAR)) and bank performance (measured by Return on Assets (ROA) and Return on Equity (ROE)). Based on existing literature and theoretical frameworks, we

anticipate that a positive relationship will emerge between core capital requirements and bank profitability, highlighting the crucial role of adequate capitalization in enhancing financial stability and operational efficiency within Indonesia's banking sector.

LITELATURE REVIEW

The efficiency of a bank is largely determined by its ability to utilize financial resources effectively to generate revenue, which is reflected in its overall income and expenditure. Bank profitability is typically assessed using key financial indicators, including Return on Assets (ROA) and Return on Equity (ROE), which serve as fundamental measures of a bank's financial health and performance (Berger, 1995; Dan Dang, 2019; Lee & Hsieh, 2013; Naceur & Omran, 2011). Among the critical factors influencing profitability is equity capital, which acts as a financial buffer, ensuring that a bank can absorb potential risks and remain solvent during periods of economic uncertainty. A higher equity capital ratio enhances public confidence, reassuring both creditors and depositors that the institution maintains sufficient financial strength to meet credit demands, irrespective of economic fluctuations. In addition, financial regulators have established capital adequacy requirements to ensure the stability and security of banking operations, with regulatory bodies, such as the Financial Services Authority (OJK) in Indonesia, closely monitoring banks' capital adequacy ratios to safeguard the financial system. One of the primary functions of equity capital is to protect banks against asset devaluation, which could otherwise lead to insolvency and financial distress. According Dan Dang (2019) banks with higher equity ratios tend to engage in more conservative risk-taking behaviors, which, while reducing overall financial risk, may also lead to lower profitability. Interestingly, Dan Dang's study found a nonlinear relationship between equity capital and profitability, indicating that credit risk moderates the impact of equity capital on financial returns.

Several empirical studies support the notion that higher bank equity capital positively influences profitability. Berger (1995) conducted an extensive analysis of over 80,000 observations on U.S. commercial banks from 1983 to 1989, employing Granger causality tests to demonstrate that increases in stock capital lead to higher profitability, and vice versa. Similarly, Lotto (2016) investigated the relationship between capital and risk in Tanzanian commercial banks from 2009 to 2014, concluding

that more profitable banks retain earnings to strengthen their capital base, thereby reinforcing financial stability. Further supporting this relationship, Demirgüç-Kunt & Huizinga (2001) utilized bank-level data from 80 countries between 1988 and 1995, establishing a positive correlation between bank equity capital, net interest margin (NIM), and pre-tax profits (EBT) relative to total assets. Additionally, Goddard et al (2004) examined six major European banking sectors throughout the 1990s, finding a strong and positive association between capital-to-assets ratios and ROE, suggesting that well-capitalized banks tend to achieve greater financial returns. In a more recent study, Lee & Hsieh (2013) expanded the scope of profitability measurement by incorporating ROA, ROE, NIM, and net interest revenue as a percentage of average assets (N.R.) as key financial proxies. Their findings revealed variations in the impact of capital across different banking environments: banks in middle-to-high-income countries exhibited the strongest positive capital effects on ROE, whereas investment banks showed weaker capital effects on NIM and N.R. Distinctively, the effect of equity capital on profitability was more pronounced in lower-income countries, underscoring the importance of capital accumulation in emerging economies. Across their sample, a positive correlation was consistently observed between bank capital and profitability, excluding ROE. Similarly, Bitar et al (2018) conducted an empirical study covering 1,992 banks across 39 OECD (Organization for Economic Co-operation and Development) nations from 1999 to 2013, concluding that higher equity capital ratios significantly enhance bank productivity and profitability. However, their study also found that high-liquidity institutions utilize equity capital less efficiently compared to large banks, particularly "too big to fail" institutions, which experience a stronger profitability impact from equity capital. Their results further indicated that highly capitalized banks maintain greater loan loss reserves, higher net interest margins, and lower operating costs during economic downturns. These findings align with Coccoresse & Girardone (2021), who analyzed 4,414 banks from 77 countries between 2000 and 2013 and observed that in lower- and middle-income countries, particularly those with higher levels of corruption and larger banks, the relationship between capital and profitability strengthens during financial crises.

Further research into the relationship between capital structure and profitability was conducted by Hutchison & Cox (2007), who examined U.S. banks over two regulatory periods—1983 to 1989 (a less

regulated era) and 1996 to 2002 (a more regulated period). Their findings revealed a positive relationship between financial leverage and ROE, as well as between equity capital and ROA, suggesting that capital structure plays a crucial role in determining financial performance. Additional empirical studies by (Abbas et al., 2019; Islam & Nishiyama, 2016; Pervan et al., 2015) further reinforce the positive association between bank equity capital and profitability, highlighting its significance across different banking systems and regulatory environments. Building upon the research questions and objectives outlined in this study, and drawing from the extensive body of literature reviewed, the following hypothesis is formulated:

H1: There is a positive and significant relationship between core capital and bank performance.

METHODOLOGY AND DATA

The research is descriptive explanatory, which is a type of study aimed at providing a detailed explanation of the impact of core capital requirements on bank profitability. This methodology seeks to explore the relationship between capital adequacy measures, particularly core capital, and the financial performance of banks. In this context, the study uses both descriptive and explanatory approaches to offer a clear understanding of how regulatory changes in capital requirements can affect the banking industry, with a particular focus on profitability (Mauro C. Hernandez & Afonso Mazzon, 2007). A descriptive approach is employed to present a comprehensive overview of the current state of the banking sector in relation to core capital requirements. This includes a thorough analysis of the capital ratios (such as CET1 and CAR) and performance indicators (such as ROA and ROE) over a specific time period. The descriptive analysis helps identify trends, patterns, and general relationships without necessarily delving into causal mechanisms. It provides a solid foundation for further inquiry into the subject by giving context to the existing regulatory environment and the broader financial landscape of the banking sector in Indonesia. On the other hand, the explanatory component of the research aims to establish a clearer understanding of the causal links between core capital and profitability. By applying various statistical techniques, such as regression analysis, the study investigates how changes in core capital impact the financial performance of banks. Specifically, the study seeks to determine whether an increase in capital requirements leads to higher or

lower profitability, which is critical for policymakers and financial regulators in understanding the broader implications of capital adequacy standards. The research uses data from a period spanning 2013 to 2022, focusing on the performance of commercial banks in Indonesia. The study tests several hypotheses regarding the relationship between core capital and profitability, expecting to find that a positive and significant relationship exists between core capital ratios (measured by CET1 and CAR) and bank performance indicators such as ROA and ROE. This approach is based on the premise that well-capitalized banks are more resilient and able to generate higher returns, thus contributing to the overall economic stability and growth. By utilizing quantitative data and adopting a descriptive explanatory methodology, the study provides empirical evidence that informs both the academic community and banking regulators. It not only contributes to the growing body of literature on capital adequacy and banking performance but also offers valuable insights into how regulatory policies can shape the dynamics of profitability and financial stability within the banking industry. To empirically test these insights, the data used in this study was sourced from the Statistics of Indonesia Banking and the Financial Services Authority of the Republic of Indonesia. Specifically, the data from Statistics of Indonesia Banking was obtained through the regular reports submitted by commercial banks, covering a period from 2013 to 2022.

In order to rigorously assess the relationship between core capital requirements and bank performance, it is essential to clearly define and measure the key variables involved in the study. The operationalization of variables ensures that abstract concepts such as core capital and bank performance are translated into measurable indicators that can be empirically tested. This section outlines how the primary variables are defined, their respective proxies, and the measurement methods used to capture the effects of core capital requirements on bank profitability and overall performance describe by table 1.

As part of the descriptive approach, this study will first describe descriptive statistics regarding the variables involved in the study, namely core capital and bank performance. Descriptive statistics provide basic information regarding the mean, standard deviation, maximum, and minimum for each variable. This step aims to provide an overview of the distribution of the data as well as to see its trend over time in the period under study (2013-2022). Descriptive analysis will also include the depiction of graphs and tables to show emerging patterns in

the relationship between core capital (represented by CET1 and CAR) and bank performance (represented by ROA and ROE). In this way, the researcher can see the potential relationship between the two variables before proceeding to further analyses using regression techniques. Having gained a basic understanding of descriptive analysis, the next step is to use regression analysis to test the hypotheses that have been proposed. In this case, regression is used to identify the relationship between core capital as the independent variable and bank performance as the dependent variable. This regression aims to measure the extent of the influence of core capital on bank profitability. The regression model used in this study is simple linear regression, where ROA and ROE will be used as proxies of bank performance, while CET1 and CAR are used as indicators of core capital. As a first step, the researcher will examine the relationship between the two variables, with the aim of seeing whether there is a statistically significant positive or negative effect.

The main hypothesis tested in this study is H1: There is a significant positive relationship between core capital and bank performance. In the regression test, the coefficient of the core capital variable will be analysed to determine whether its effect on ROA and ROE is statistically significant. If the results of the regression analysis show a p value smaller than 0.05, then the alternative hypothesis (H1) will be accepted, indicating that core capital does have an effect on bank performance. Conversely, if the results are not significant, then the null hypothesis (H0) stating that there is no significant relationship between core capital and bank performance will be accepted.

ANALYSIS AND FINDINGS

Descriptive Statistics

The study utilizes a time series dataset spanning from January 2013 to December 2022. For the analysis, the statistical software STATA is employed to conduct various tests, including descriptive statistics and regression analysis. The regression models, which represent the functional relationships between the variables, are expressed econometrically as follows:

$$ROA = \beta_0 + \beta_1 CET1 + \varepsilon$$

$$ROA = \beta_0 + \beta_1 CAR + \varepsilon$$

$$ROE = \beta_0 + \beta_1 CET1 + \varepsilon$$

$$ROE = \beta_0 + \beta_1 CAR + \varepsilon$$

Where:

ROA : Return on Assets

ROE : Return on Equity

CET1 : Common Equity Tier 1 Ratio

CAR : Capital Adequacy Ratio

To understand the basic characteristics of the data used in this study, descriptive analysis was conducted to describe the distribution and trends of the variables involved, namely core capital and bank performance. This analysis provides an overview of the basic statistical values, such as mean, standard deviation, maximum, and minimum, as well as the patterns that emerged in the period under study (2013-2022). As such, it provides initial insights into the behavior and fluctuations of core capital and bank performance in the Indonesian banking sector. Additionally, the descriptive analysis highlights any significant trends or deviations over time, allowing for a better understanding of how core capital requirements and bank performance have evolved in response to regulatory changes and economic conditions. By examining the central tendencies and variations within the data, this analysis also serves as a foundation for the subsequent regression analysis, which aims to explore the potential relationships between core capital ratios and profitability indicators. This initial examination helps to identify any patterns or anomalies in the data that could inform the deeper econometric analysis, ensuring a more comprehensive understanding of the impact of core capital requirements on bank performance in Indonesia.

Table 2 provides a summary of the statistical factors used in the analysis. The average values for the dependent variables, ROA and ROE, are 0.0234 and 0.1552, respectively. For the independent variables, CET1 and CAR, the average values are 0.2055 and 0.2237. The standard deviations for ROA and ROE are 0.0034 and 0.0303, respectively, suggesting that the data is relatively consistent and exhibits low variability. Similarly, the standard deviations for CET1 and CAR, which are 0.0214 and 0.025, indicate a comparable degree of homogeneity within these variables.

However, despite the relatively homogeneous distribution of the data, the normality tests conducted using the Skewness and Kurtosis tests reveal that the data does not follow a normal distribution. This non-normality may present challenges in terms of applying certain statistical methods that assume normality, such as parametric tests. On the other hand, it can provide insights into the real-world characteristics of the data, especially in financial sectors where distributions may often be skewed or exhibit kurtosis. While this could limit the applicability of some statistical procedures, it also highlights the need for alternative or robust statistical techniques that can better handle such data distributions.

Regression Analysis

As presented in table 3, all independent variables exhibit statistical significance at both the 5% and 1% levels, as indicated by the P-values ($P > t$) being less than 0.000. Specifically, ROA demonstrates a negative correlation with both CET1 (-0.1073) and CAR (-0.1182), suggesting that increases in these core capital ratios are associated with a decline in ROA. Similarly, ROE also shows a negative relationship with CET1 (-1.128) and CAR (-1.2375), further supporting the negative association between capital adequacy and bank profitability. These findings suggest that, within the scope of this analysis, higher core capital ratios may be inversely related to both ROA and ROE, implying that as banks increase their capital reserves, their profitability indicators decrease. This relationship may be indicative of banks allocating more resources to meet regulatory requirements, potentially reducing their capacity for high-return investments or increasing their risk aversion.

Based on the results of the regression analysis, the following regression equations were developed to express these relationships quantitatively (Table 3). According to table 3, all independent variables indicated significance statistically at the 5% and 1%, shown by $P > t$ 0.000. ROA had a negative correlation with CET1 (-0.1073) and had a negative correlation with CAR (-0.1182). Similarly, ROE had a negative correlation with CET1 (-1.128) and had a negative correlation with CAR (-1.2375). Based on the results above, the regression equation created is:

$$ROA = \beta_0 + \beta_1 -0.1073 + \varepsilon$$

$$ROA = \beta_0 + \beta_1 -0.1182 + \varepsilon$$

$$ROE = \beta_0 + \beta_1 -1.1282 + \varepsilon$$

$$ROE = \beta_0 + \beta_1 -1.2375 + \varepsilon$$

These equations provide a statistical foundation for understanding the negative impact of core capital requirements on the performance indicators of ROA and ROE. While this negative correlation might suggest potential challenges for profitability, it also opens avenues for further exploration into the broader economic implications of capital adequacy regulations on the banking sector.

DISCUSSION

The results indicate that CET1 and CAR exhibit a statistically significant negative relationship ($p = 0.000$) with both ROA and ROE. As a result, the hypothesis is not supported. These findings align with the research conducted by Supriyono & Herdhayinta (2019), which examined the determinants of bank profitability in regional development banks in Indonesia. Their study

revealed a negative relationship between CAR and both ROA and ROE, with coefficients of -0.167 (significant at the 5% level) and -0.264 (significant at the 1% level), respectively. This suggests that as the Capital Adequacy Ratio (CAR) increases, the Return on Assets (ROA) and Return on Equity (ROE) tend to decrease, indicating a potential trade-off between maintaining higher capital buffers and achieving higher profitability. The negative relationship observed in their study further emphasizes the possible economic constraints faced by banks when required to hold larger capital reserves, which may reduce their ability to invest in high-return opportunities or result in more conservative risk-taking behavior. These findings are consistent with the results of our study, reinforcing the notion that stricter capital requirements could potentially constrain the profitability of banks by limiting their operational flexibility and capital allocation.

This research investigated the relationship between core capital requirements and the profitability of the banking sector in Indonesia, utilizing time series data from January 2013 to December 2022. The findings indicated that CET1 and CAR are significantly negatively correlated with both ROA and ROE, highlighting an inverse relationship between capital adequacy ratios and bank profitability. These results suggest that higher core capital requirements, as reflected in CET1 and CAR, may constrain the profitability of banks by limiting their ability to take on profitable investments or engage in high-return activities. The negative correlation between these capital adequacy ratios and both ROA and ROE indicates that, while regulatory measures aim to strengthen financial stability, they may have unintended consequences on the banks' operational efficiency and profitability. This highlights the complex trade-off between maintaining robust capital reserves and achieving high financial performance, which warrants further investigation into the broader implications of capital regulation on banking operations and the overall economy. Based on the analysis, it is recommended that Indonesian banking regulators ensure that core capital requirements are effectively structured to positively influence banking performance. However, as discussed in the preceding literature review, core capital plays a crucial role in mitigating potential losses, thereby enhancing the resilience of banks and reducing the risk to their long-term viability. Therefore, while core capital requirements are essential for maintaining financial stability and protecting against risks, it is important for regulators to strike a balance that does not hinder banks' profitability or

operational flexibility. Excessively stringent capital requirements may lead to reduced lending capacity and lower returns, which could negatively impact the broader economy. Regulators should continuously monitor and adjust the capital adequacy framework to ensure that it not only safeguards against financial instability but also promotes a competitive and profitable banking environment that supports sustainable economic growth.

CONCLUSION AND RECOMMENDATION

In conclusion, this study investigates the relationship between core capital requirements and bank performance in the Indonesian banking sector, using time series data from January 2013 to December 2022. The findings reveal a significant negative correlation between core capital ratios, namely CET1 and CAR, and key profitability indicators, ROA and ROE. This suggests that while core capital is essential for mitigating risks and ensuring financial stability, higher capital adequacy requirements may constrain banks' profitability by limiting their capacity for high-return investments and operational flexibility. As a result, banks may adopt more conservative strategies, reducing their risk-taking behavior in favor of maintaining higher capital reserves. While this may contribute to greater stability in the short term, it could also lead to reduced growth opportunities and a decrease in competitive advantage. Consequently, the banking sector may face a trade-off between risk management and profitability, which could have broader economic implications. It is essential for policymakers to carefully consider these dynamics, ensuring that capital adequacy regulations are designed in a way that balances the need for stability with the imperative for banks to remain efficient, innovative, and profitable. The results indicate that regulatory capital requirements, though necessary for safeguarding the banking sector against potential losses and enhancing its resilience, can have unintended negative effects on profitability. These highlights the delicate balance regulators must maintain to ensure that capital requirements both secure financial stability and allow banks to remain competitive and profitable. Therefore, it is recommended that Indonesian banking regulators carefully structure core capital requirements to ensure they contribute positively to bank performance while also maintaining the overall stability of the financial system. Future research could further explore the long-term implications of capital adequacy regulations on bank performance,

considering additional factors such as economic conditions and changes in regulatory frameworks.

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LIST OF TABLES

Table 1.
Operationalization of Variables

Variable & Acronym	Proxies	Definition	Measurement	Related Studies
Core Capital Requirement	Capital Adequacy Ratio (CAR)	Bank's financial strength by using its capital and assets.	(Tier 1 Capital + Tier 2 Capital) / Risk Weighted Assets	(Olalekan & Adeyinka, 2013), (Mwai, 2017), (Goddard et al., 2013), (Lee & Hsieh, 2013), (Tan & Floros, 2013), (Kanga et al., 2020)
	Common Equity Tier 1 Ratio (CET1)	The ratio uses Tier 1 capital to judge how leveraged a bank is in relation to its consolidated assets.	Tier 1 Capital / Risk Weighted Assets	(Distinguin et al., 2013), (Hutchison & Cox, 2007), (Datta & Al Mahmud, 2018)
Bank Performance	Return on Assets (ROA)	The percentage of profit that a bank earns in relation to its overall resources.	Profit Before Tax / Total Assets	(Ajayi et al., 2019), (Dan Dang, 2019), (Lotto, 2016)
	Return on Equity (ROE)	The percentage of profit that a bank earns in relation to its equity.	Profit Before Tax / Total Equity	(Dietrich & Wanzenried, 2011), (Abbas et al., 2019), (Dan Dang, 2019)

Source: Author Data Processing 2025

Table 2.
Summary Statistics for Variables

Variable	Observation	Mean	Std. Dev.	Min	Max
ROA	120	0.0239273	0.0033849	0.0153210	0.0315705
ROE	120	0.1552496	0.0303314	0.0988908	0.2303917
CET1	120	0.2054657	0.0214245	0.1630140	0.2427586
CAR	120	0.2236645	0.0204928	0.1801612	0.2587631

Source: STATA 2025

Table 3.
Regression Analysis

Variable	CET1	CAR
ROA		
Coefficient	-0.1073	-0.1182
t	-10.05	-11.13
P > t	0.000	0.000
ROE		
Coefficient	-1.1282	-1.2375
t	-14.33	-16.56
P > t	0.000	0.000

Source: STATA 2025