Corporate Social Responsibility and Financial Performance: The Moderating Role of Firm Size

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ABSTRACT

The study aims to investigate the impact of Corporate Social Responsibility (CSR) and other bank-specific factors, namely Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), and Loan Deposit Ratio (LDR) on financial performance moderated by company size. Financial performance is proxied by Return on Asset (ROA). The research sample consisted of 13 conventional banks listed on the Indonesia Stock Exchange from 2019 to 2023. The study's results found that CAR negatively impacted ROA, but if interacted with company size, the relationship became positive. NPL had a negative effect on ROA in a model without a moderator role, and vice versa; it had a positive impact. The interaction of NPL and company size had a negative effect on ROA. LDR had a negative relationship with ROA, but if it interacted with company size, it had a positive impact. CSR positively impacted ROA in a model without moderation, but vice versa had a significant relationship. The interaction of CSR with company size also had no impact on ROA. Company size directly affected ROA. The implications of the empirical findings provide recommendations for policymakers, corporate management, academics, and investors to pay attention to the importance of CSR practices and specific factors to improve bank financial performance.

Keywords: Corporate Social Responsibility, Financial Performance, Firm Size, Bank, Indonesia
JEL Classifications: G11, G21, L25, M14

1. INTRODUCTION

The banking sector plays a vital role in the Indonesian economy because it functions as a financial institution that collects funds from the public in the form of deposits and redistributes them in the form of loans (Annas et al., 2024). The Return on Assets (ROA) value shows that banking financial performance fluctuates yearly from 2019 to 2023. In 2020, banking profitability worsened with a significant decrease in ROA to 1.50%, although it was still above the minimum limit set by Bank Indonesia Regulations. ROA is a ratio that shows the results of the amount of assets used in the company and provides a better measure of the company's profitability because it shows the effectiveness of management in using assets to generate income. In 2023, financial performance proxied by the ROA value increased by 0.07% to 2.39% from the previous profit in 2022 of 2.32%.

Capital adequacy ratio (CAR) measures the extent to which a bank's risky assets (loans, investments in securities, and bills to other banks) are financed by the bank's capital in addition to receiving external funding. NPL is a credit that has decreased value analysis by two factors: the bank side and the analysis side—clients who intentionally or unintentionally fail to pay their obligations (Endri et al., 2020). The definition of non-performing loans (NPL) is one of the indicators of the bank's business risk ratio and is an indicator of the risk of non-performing loans in a bank (Ozili, 2019). Loan deposit ratio (LDR) is the ratio of total loans provided by the bank to funds received by the bank. The wealth or asset structure is a bank asset account closely related to the bank's money structure. This relationship provides an overview of the bank's liquidity, namely an overview of its ability to meet its obligations at any time. The amount of payment instruments owned by the bank and owed to its asset account is its ability to pay off existing financial obligations. CSR is interpreted

as a company or organization's commitment to continuously act ethically, operate legally, contribute to economic growth, improve the quality of life of employees and their families, and improve the quality of local communities and society more broadly. CSR implementation is expected to positively impact the company's economy, society, and environment (Mandagie et al., 2024a). In general, the company's size is the size of the company, which can be seen from the amount of equity value, sales value, or asset value (Harahap et al., 2020).

Studies related to the effect of the probability ratio on ROA have several different findings. Findings regarding the effect of CAR on ROA show different views. Kusumastuti and Alam (2019) found that CAR has a significant positive effect on ROA, meaning that an increase in CAR is in line with an increase in ROA. Fahlevi et al. (2019) revealed that CAR significantly negatively affects financial performance, meaning that an increase in CAR can reduce financial performance. Chandra and Anggraini (2020) show that CAR does not significantly affect financial performance. Findings regarding the effect of LDR on ROA show different views. Mukhibad and Khafid (2018) proved that LDR has a significant positive effect on financial performance, meaning that the higher the LDR, the bank's profit will increase, improving bank performance. Beni et al. (2023) found that LDR significantly negatively affects financial performance. The higher the LDR ratio, the lower the rate of return on profit, which results in a decline in banking financial performance. Liyana and Indrayani (2020) found that LDR does not significantly affect financial performance because LDR values that are not too high or low do not impact changes in profit. Findings regarding the effect of NPL on ROA show different views.

Annas et al. (2024) demonstrated that NPL has a significant negative effect on financial performance, which means that an increase in NPL results in a decrease in ROA. Ahsana and Swandari (2024) found that NPL significantly positively affects bank financial performance, where the Provision for Productive Asset Write-offs (PPAP) can still cover non-performing loans. Rahman and Shaon (2021) show that NPL does not significantly affect financial performance due to uncertainty between increases and decreases in NPL, which are followed by changes in the company's financial performance. Findings regarding the effect of CSR on ROA show different views. Mukhibad et al. (2020) found that CSR does not significantly affect financial performance; instead, it pays more attention to labor and management relations to improve company performance. Sulbahri et al. (2021) showed that CSR positively affects ROA, which means that the more disclosure of CSR activities in the annual report, the higher the financial performance of banking companies. Firm size can moderate the effect of profitability ratios on ROA by providing insight into how factors such as CAR, NPL, LDR, and CSR interact across various company scales. This study adds Firm Size as a moderator variable, which is new and different from previous empirical studies. Another contribution is that most related studies are conducted in developed countries, so the findings cannot necessarily be applied in developing countries, including Indonesia.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. The Effect of CAR on ROA
A bank's survival depends on the capital adequacy level to control its operations. CAR measures the extent to which a bank's risky assets (loans, investments in securities, and receivables to other banks) are financed by the bank's capital in addition to receiving external funding. The less risk a bank's capital has, the more opportunities it has to increase profitability. The effect of CAR on asset returns is based on an increase in bank credit interest rates where banks charge large profits to protect their profit targets (Sugianto et al., 2020). Tangngisalu et al. (2020) support this hypothesis by stating that the higher the capital ratio, the stronger the bank's ability to bear the risk of each credit or risky productive asset. This allows the bank to better finance its operations, which contributes positively to its profitability, as measured by ROA. Thus, the research hypothesis is:

H_1: CAR has a positive effect on ROA.

2.2. The Effect of NPL on ROA
The NPL ratio shows the ability of bank management to manage non-performing loans provided by the bank. The higher the NPL ratio, the worse the credit quality, which causes the number of non-performing loans to increase, which can increase the possibility of a bank being in a problematic condition. So, in this case, the higher the NPL ratio, the lower the bank's profitability. This is supported by research by Dewi and Badjra (2020), which states that NPL has a negative effect on (ROA). The greater the NPL, the lower the ROA, which also means a decrease in the bank's financial performance. Likewise, if the NPL decreases, the ROA will increase, and the bank's financial performance can be improved. Thus, the research hypothesis is:

H_2: NPL has a negative effect on ROA.

2.3. The Effect of LDR on ROA
LDR shows a bank's ability to provide funds to its debtors with capital owned by the bank or funds that the public can collect. The higher the LDR, the higher the bank's profit, assuming it can distribute its credit effectively. As bank profits increase, bank performance will also increase. LDR is a ratio that shows a bank's health, especially in meeting short-term obligations. Conversely, the lower LDR ratio indicates the bank's ineffectiveness in distributing credit, resulting in the loss of the bank's opportunity to make a profit (Saleh & Winarso, 2021). Beni et al. (2023) state that LDR positively affects ROA. If the ratio is at the standard set by Bank Indonesia, then profit will increase. Increasing profits will also increase ROA because profit is a component that forms ROA. In this case, a high LDR does not exceed the specified limit, so it will increase profitability from credit interest income. Thus, the research hypothesis is:

H_3: LDR has a positive effect on ROA.

2.4. The Effect of CSR on ROA
CSR is a company's commitment to long-term contributions to a particular societal issue or the environment to create a better

environment (Fathony et al., 2020). The research results by Sulbahri et al. (2021) stated that CSR positively affects ROA. ROA measures a company's financial performance that reflects short-term profitability or efficiency of managing the company's resources. Thus, companies that disclose social responsibility activities or CSR can increase their ROA because ROA is used to measure the company's wealth. Thus, potential new investors will be interested in investing in companies with a considerable ROA value. Thus, the research hypothesis is:

H_4: CSR has a positive effect on ROA.

2.5. The Effect of CAR on ROA with Firm Size as a Moderating Variable

The considerable CAR value indicates that the company can cover possible losses, so the possibility of the company being liquidated is also smaller (Sunaryo et al., 2020). Stating that firm size describes the size of the company in terms of the assets owned, so that the greater the assets owned, the greater the capital owned so that banking operational activities can run efficiently and generate optimal profits and dividends and can increase financial performance. Previous studies have proven the effect of company size on CAR and also the effect of CAR on company performance. Nguyen and Nguyen (2020) prove that CAR positively and significantly affects company value. The results of this study prove that the higher the CAR, the better the company's performance. This is because investors tend to prefer banks with sufficient capital. With sufficient capital, management will be free to make higher profits. Thus, the research hypothesis is:

H_5: Firm Size moderates the effect of CAR on ROA.

2.6. The Effect of NPL on ROA with Firm Size as a Moderating Variable

The NPL ratio is a proportion that shows the management's ability to control non-performing loans provided by the bank. The company's large size shows that its banking assets are also significant. This is considered to have a very positive prospect in the long term, so investors are interested in the stock and give it a high value. Previous studies have proven the effect of company size on non-performing loans (NPL) and the effect of NPL on company performance. Hapsari (2018) and Karismaulia et al. (2023) prove that NPL negatively and significantly affects company value. The results of this study prove that increasing NPL values will have a negative impact on the quality of credit provided; it can cause losses for the bank, so the ROA will decrease; conversely, if the NPL level is low, the bank's profit or ROA will increase. Thus, the research hypothesis is:

H_6: Firm size moderates the effect of NPL on ROA.

2.7. The Effect of LDR on ROA with Firm Size as a Moderating Variable

LDR is the ability for customers to pay bank withdrawals by relying on loans as a source of liquidity. From this definition, it can be concluded that LDR is the financial ratio of a banking company related to the liquidity aspect (Purwaningsih, 2023). Previous studies have proven the effect of company size on the Loan Deposit Ratio (LDR) and also the effect of LDR on company performance. The research results by Sugianyto et al. (2020) prove that LDR has a positive and significant effect on firm value. The results of this study prove that if a bank can distribute its credit within the specified tolerance limit, it can distribute its funds efficiently. Suppose the bank's LDR ratio is at the standard set by Bank Indonesia. In that case, the profit obtained by the bank will increase (assuming the bank can distribute its credit effectively). With increasing profits, ROA will also increase. Thus, the research hypothesis is:

H_7: Firm Size moderates the effect of LDR on ROA.

2.8. The Effect of CSR on ROA with Firm Size as a Moderating Variable

In CSR, companies voluntarily integrate social and environmental concerns into their operations and relationships with stakeholders. In the development of CSR, there is increasing awareness that responsible behavior will contribute to sustainable business success (Mandagie et al., 2024b). The influence of firm size on CSR disclosure is reflected in agency theory, which explains that large companies have enormous agency costs, so they disclose more information than small companies (Cherian et al., 2020). This statement is in line with research by Sulbahri et al. (2021), the larger the company size, the more stock investment information. Also strengthened by research by Suraya and Gantino (2022), found a positive effect on firm size on CSR disclosure. Thus, the research hypothesis is:

H_8: Firm Size Moderates the Effect of CSR on ROA.

3. METHODOLOGY

3.1. Sample and Population

The study analyzes the effect of CAR, NPL, LDR, and CSR on ROA with FS as a moderator variable in 13 conventional banks, KBMI III and KBMI IV, listed on the Indonesia Stock Exchange (IDX) for the 2019-2023 period. The sampling method uses a purposive sampling technique based on three established criteria, namely: 1) KBMI III and IV banks listed on the IDX, 2) KBMI III and IV banks that always generate profits for the 2019-2023 period, 3) KBMI III and IV general banks that are not included in the Sharia Bank category. Research data is collected from audited and published annual reports. Based on the three sample selection criteria, 17 KBMI III and IV banks were listed on the IDX for the 2019-2023 period, and 13 banks were selected as research samples. Thus, because the study uses panel data, where there are 5 years of observation periods and 13 banks, there are 65 observations.

3.2. Measurement of Variables

3.2.1. Return on aset (ROA)

ROA is one of the profitability ratios used to measure how efficiently a company (including banks) uses its assets to generate profits. This ratio is significant because it provides an overview of the company's ability to utilize its assets to generate profits. ROA is often used in banking to assess a bank's financial performance. A higher ROA indicates that the bank is more efficient in using its assets to generate profits. Conversely, a low ROA may indicate that the bank's assets must be utilized optimally or that high-cost burdens are reducing net income.

$$ROA = \frac{\text{Net income}}{\text{Total asset}} \times 100\%$$

3.2.2. Capital adequacy ratio (CAR)
CAR is a ratio used to measure the adequacy of a bank's capital when facing financial risks, such as credit, operational, and market risks. It is an important indicator that shows how well a bank can absorb losses without having to disrupt its operations or sacrifice customer funds. CAR measurement is very important in measuring a bank's financial resilience. A healthy CAR value indicates the stability of the bank and its ability to absorb losses without disrupting operations or customer funds.

$$CAR = \frac{\text{Bank capital}}{\text{Risk weighted asset}} \times 100\%$$

3.2.3. Non-performing loan ratio (NPL)
NPL is a ratio used to measure the quality of credit a bank provides by showing the percentage of non-performing loans compared to the total credit disbursed. Non-performing loans are loans whose payments have been stalled or delayed beyond the specified period. The NPL ratio is an essential indicator for assessing the credit risk faced by a bank. A high NPL indicates increased credit risk and a more significant potential for financial loss, while a low NPL indicates more effective credit risk management and better credit quality. Banks must constantly monitor their NPL ratio to ensure good asset quality and financial stability.

$$NPL = \frac{\text{Non performing loans}}{\text{Total asset}} \times 100\%$$

3.2.4. Loan to deposit ratio (LDR)
LDR is a financial ratio used to measure the liquidity and efficiency of a bank's credit distribution. LDR compares the total amount of credit the bank provides to the amount of third-party funds (deposits) collected. This ratio illustrates how much of the funds collected by the bank from customers are used to distribute credit, thus providing an overview of the bank's ability to manage its liquidity. An LDR that is too high or too low can indicate liquidity risk or inefficiency in credit distribution, ultimately affecting the bank's overall financial performance.

$$LDR = \frac{\text{Total loan}}{\text{Third part fund}} \times 100\%$$

3.2.5. Corporate social responsibility (CSR)
CSR is a company's commitment to improving society's and the environment's welfare through sustainable business practices. In the context of banking, CSR is a social responsibility activity carried out by banks to positively impact society, the environment, and the economy in addition to its core activities as a financial institution. CSR variables are measured in financial research through several approaches involving various qualitative and quantitative indicators. CSR measurement in the banking sector can be done through various methods such as disclosure indexes, CSR costs, surveys, international standards, or the number of CSR activities. CSR provides an overview of the bank's commitment to positively impacting society and the environment. Although its measurement can be subjective and non-standardized, CSR is an essential factor in assessing the reputation and sustainability of a bank's business.

$$CSR = \frac{\sum X}{N}$$

3.2.6. Firm size
Firm size is a moderating variable in research that influences the relationship between the independent variable and the dependent variable. In other words, firm size moderates the influence of the independent variable on the dependent variable by strengthening or weakening the relationship. In this case, firm size can strengthen or weaken the impact of certain variables on financial performance. Total assets or total sales usually measure firm size in logarithmic form.

$$Size = Ln \text{ (Total asset)}$$

This study uses panel data regression methods, including the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Panel data analysis is a prevalent form of longitudinal data in finance to investigate corporate behavior and reactions. Diagnostic testing is carried out to determine the most appropriate method to investigate the effect of CAR, NPL, LDR, and CSR in models 1 and 2 on ROA. On this basis, three tests are carried out: First, the Breusch–Pagan multiplier test (LM test) is carried out to choose between CEM and REM estimates. Second, if there is a panel effect, the Hausman test is selected between the FEM and REM models. The test determines whether there is a significant correlation between unobserved specific random effects and regression. Third, the Chow test to determine whether the model used is CEM or FEM Aminda et al. (2024).

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics
Table 1 presents a statistical summary based on the indicators of average, maximum, minimum, standard deviation, skewness, and kurtosis values for the variables analyzed for the impact of CAR, NPL, LDR, and CSR on profitability, the banking subsector of the conventional general bank category KBMI III and KBMI IV listed on the Indonesia Stock Exchange for the period 2019-2023 which is moderated by the FS variable. As measured by ROA, profitability shows an average value of 0. 020568, a maximum value of 0.042200, and a minimum of 0.001300. CAR has an average value of 0. 245712, with a range of values from 0.167800 to 0.387000. NPL has an average value of 0.009695, with a range of values from 0.002000 to 0.029600. LDR has an average value of 0.873262, with a range of values from 0.600400 to 1.630000. CSR has an average value of 0.644923, with a range of values from 0.480000 to 0.780000. FS

has an average value of 33.56197, with a range of values from 32.24420 to 35.31545. The standard deviation value of each variable is smaller than the average value, which indicates that the standard deviation reflects the deviation of the data from the mean, and the mean value can be used as a representation of the entire data.

4.2. Correlation Analysis
Table 2 presents the correlation matrix between variables in pairs. The correlation analysis of 15 variables shows that the low closeness relationships have the exact total, namely six pairs of variables for each closeness relationship, and there are many opposing (negative) relationship patterns. Only one pair of variables has a robust and positive correlation coefficient of 121.64 percent, namely between CAR and LDR. The variables with the lowest correlation coefficients are CAR and ROA, with a coefficient value of 0.57 percent or a shallow and negative closeness relationship.

4.3. Results Estimation
4.3.1. The effect of CAR, NPL, LDR, and CSR on ROA
Panel data regression estimation on ROA is conducted on two research models: model one without moderation and model two with moderation. The panel data regression model uses three methods, namely CEM, FEM, and REM. Table 3 presents the diagnostic results of model selection based on the LM test, F-test, and Hausman, which conclude that FEM is the most appropriate method. Thus, the interpretation and Analysis of the study are based on the results of the FEM estimation. Table 4 presents the estimation of the panel data regression model for the CEM, FEM, and REM methods with different results.

The proper FEM method chosen for Analysis proves that CAR has a negative effect on ROA, which means CAR increases if ROA decreases. NPL has no effect on ROA, meaning asset quality is independent of ROA. LDR positively affects ROA, which indicates that the more efficiently a company uses its liquid assets, the more ROA it can increase. CSR positively affects ROA, which indicates that the more efficiently a company manages its environmental responsibilities, the more ROA it can increase.

4.3.2. Analysis of the moderating effect
Tables 5 and 6 present the results of estimating the impact of CAR, NPL, LDR, and CSR on ROA by making FS a moderator variable. The results of the diagnostic test of the selection of the panel data regression model, then FEM is the proper method to analyze. The test results show that CAR has a negative effect on ROA, even after interacting with FS, and also has the same results, which means that CAR increases if ROA decreases. NPL does not affect ROA, even after interacting with FS, and also has the same results, meaning asset quality is independent of ROA. LDR positively affects ROA, which indicates that the more efficiently the company uses its liquid assets, the more ROA can be increased. However, the test results are different if LDR interacts with FS, it does not affect ROA. CSR positively affects ROA, which indicates that the more efficiently the company manages its environmental responsibility, the more ROA can be increased. However, the test results differ if CSR interacts with FS; it does not affect ROA.

4.2. Discussion
Bank capital proxied by CAR has a negative effect on ROA, even after interacting with FS, which also has the same result, which means that CAR increases if ROA decreases. Large companies often have more complex organizational structures and higher operating costs. When CAR is high, large companies may focus more on maintaining sufficient capital to meet regulatory requirements and maintain stability rather than maximizing asset use efficiency to generate profits. This can reduce flexibility in investment decision-making and credit distribution, which can ultimately reduce profitability as measured by ROA. The results of the study are in line with the findings of Alazis (2020) and Tangngisalu et al. (2020), which state that CAR has a negative effect on ROA. Thus, the role of firm size is to moderate the effect of CAR and ROA by influencing how banks manage their capital.

As proxied by NPL, asset quality does not affect ROA, even after interacting with FS, which also has the same results, which means that asset quality is independent of ROA. Larger companies have a better capacity to manage credit risk and absorb the impact of non-performing loans. Larger companies usually have better portfolio diversification and more sophisticated risk management systems,

Table 1: Descriptive statistics

	ROA	CAR	NPL	LDR	CSR	FS
Mean	0.020568	0.245712	0.009695	0.873262	0.644923	33.56197
Median	0.019100	0.240200	0.007900	0.842500	0.630000	33.15151
Maximum	0.042200	0.387000	0.029600	1.630000	0.780000	35.31545
Minimum	0.001300	0.167800	0.002000	0.600400	0.480000	32.24420
Std. Dev.	0.009990	0.045727	0.006157	0.186465	0.077402	0.912672
Skewness	0.385432	0.852751	1.387378	1.748930	−0.071061	0.668706
Kurtosis	2.335524	3.609989	4.423253	7.153742	2.477731	1.914592

Table 2: Correlation matrix

	CAR	NPL	LDR	CSR	FS	ROA
CAR	1.000000					
NPL	−0.217616	1.000000				
LDR	−0.121644	−0.062176	1.000000			
CSR	0.022259	0.294754	0.060320	1.000000		
FS	−0.368754	−0.338158	−0.178222	−0.050193	1.000000	
ROA	−0.005736	−0.335634	−0.229525	−0.402737	0.384241	1.000000

Table 3: Diagnostic test results without moderation

Effects test	Statistic	Prob	Result
LM test	41.3179	0.0000	Random>Pooled
Chow-F test	12.1560	0.0000	Fixed>Pooled
Hausman	18.0605	0.0029	Fixed>Random

Table 4: Comparison of three panel models CEM, FEM, and REM without moderation

Variable	CEM	FEM	REM
CAR	0.018098	−0.040804**	0.019302
	(0.632573)	(−3.214655)	(0.795299)
NPL	−0.181579	−0.183245*	−0.232201
	(−0.834309)	(−2.676436)	(−1.314379)
LDR	−0.007827	0.020868***	0.013095
	(−1.277930)	(6.643050)	(1.781615)
CSR	−0.044663	0.294772***	−0.029082
	(−3.057092)	(6.130517)	(−0.976920)
FS	0.003651	0.023550***	0.006421
	(2.430161)	(4.632352)	(2.510793)
Constant	−0.069013	−0.966337***	−0.190099
	(−1.213533)	(−5.167424)	(−2.090824)
Observations	65	65	65
R-squared	0.338139	0.899930	0.170355
Adjusted R-squared	0.282049	0.863735	0.100046
F-test	6.028526	24.86305	2.422951

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

Table 5: Diagnostic test result with moderation effect

Effects test	Statistic	Prob	Result
LM test	14.9217	0.0001	Random>Pooled
Chow-F test	9.2596	0.0000	Fixed>Pooled
Hausman	44.2322	0.0000	Fixed>Random

Table 6: Comparison of three panel models CEM, FEM, and REM with moderation effects

Variable	CEM	FEM	REM
CAR	0.492420	−1.242276**	−0.491650
	(0.486767)	(−3.656669)	(−1.653024)
NPL	29.91695	12.90626*	16.64428
	(3.088957)	(2.372882)	(2.174970)
LDR	0.689520	−0.479293*	−0.144193
	(1.959497)	(−2.456490)	(−0.469130)
CSR	−1.664645	0.080656	0.258329
	(−2.561517)	(0.398490)	(0.455925)
CAR*FS	−0.014732	0.036084*	0.045519
	(−0.484039)	(3.448334)	(1.677704)
NPL*FS	−0.908928	−0.396699*	−0.509439
	(−3.102191)	(−2.408825)	(−2.200249)
LDR*FS	−0.020970	0.015010*	0.004492
	(-1.966295)	(2.572973)	(0.483142)
CSR*FS	0.049189	0.005200	−0.009071
	(2.494059)	(0.771234)	(−0.525525)
Constant	0.045740	−0.153467**	0.039957
	(3.660205)	(-3.656669)	(3.014343)
Observations	65	65	65
R-squared	0.491043	0.932261	0.282128
Adjusted R-squared	0.418334	0.901471	0.179575
F-test	6.753608	30.27780	2.751038

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

which can reduce the negative impact of NPL on profitability. The results of the study are in line with the findings of Tangngisalu et al. (2020), Konde and Hijrah (2018), which stated that the NPL

ratio does not affect ROA. Thus, Firm Size cannot moderate the effect between NPL and ROA because banks with a significant asset base generally mitigate the risk of loss, resulting in a stable non-performing loan value. This is consistent with Yuhasril's research (2020).

Liquidity proxied by LDR positively affects ROA, which indicates that the more efficiently the company uses its liquid assets, the more ROA it can increase. However, the test results are different if LDR interacts with FS, it does not affect ROA. When LDR positively affects ROA, it shows that the bank can channel its credit effectively. This can increase interest income from credit, increasing bank profits. Thus, ROA will also increase. However, when LDR is moderated by company size, its effect on ROA can be insignificant because company size can affect operational efficiency and risk management strategies. Larger companies may have more complex cost structures and diverse sources of income, so the effect of LDR on ROA becomes less dominant. The results of the study are in line with the findings of Alazis (2020), Sunaryo (2020), and Sugianto et al. (2020), which state that LDR does not affect ROA. Thus, firm size cannot moderate the effect of LDR and ROA because larger banks have more resources to manage risk. This is consistent with the research of Hartanto and Syarif (2022) and Pratiwi and Sulhan (2024).

Social responsibility proxied by CSR has a positive effect on ROA, which indicates that the more efficient a company is in managing its responsibility towards the environment, the more ROA it can increase. However, the test results differ if CSR interacts with FS and does not affect ROA. When CSR has a positive effect on ROA, it is because CSR can improve the company's reputation, attract investors, and increase consumer loyalty, which can increase ROA. However, when CSR is moderated by company size, its effect on ROA can be insignificant. This can happen because larger companies already have a strong reputation and a loyal customer base, so the additional effect of CSR on financial performance becomes less visible. Thus, firm size cannot moderate the effect of CSR and ROA because company size may not provide additional benefits in utilizing CSR activities to improve financial performance. This is consistent with research by Kabir and Thai (2017), and Bidhari et al. (2013).

5. CONCLUSION

The study aims to analyze the effect of solvency ratio (CAR), asset quality (NPL), liquidity (LDR), and social responsibility (CSR), as well as the role of the moderator variable firm size (FS) on profitability (ROA) of the Banking sub-sector of the Conventional Commercial Bank Category KBMI III & KBMI IV listed on the Indonesia Stock Exchange. The research findings reveal that CAR, with or without the moderator role of FS, hurts ROA. NPL with the moderator role of FS or without the moderator role of FS has no effect on ROA. LDR without the moderator role of FS has a positive effect on ROA, but if with the moderator role of FS, CAR has no effect on ROA. CSR without the moderator role of FS has a positive effect on ROA, but if with the moderator role of FS, CSR has no effect on ROA.

The study involved CAR, NPL, LDR, CSR, and the role of the moderator variable FS as essential factors in influencing ROA in the Banking sub-sector of the Conventional Commercial Bank Category KBMI III & KBMI IV. Thus, this study provides new insights into that company size cannot moderate NPL, LDR, and CSR in determining ROA performance. This can happen because the research sample used has significant assets. However, company size can moderate CAR in determining ROA performance. Therefore, investors can pay attention to banks with good capital management if they want to invest. It is recommended that bank management maintain capital adequacy because banks with sufficient CAR can utilize this capital to increase profitability. After all, economies of scale, risk diversification, and access to technology and markets will improve. Moreover, even though Company Size is not able to moderate NPL, LDR, and CSR in determining ROA performance, banks must still ensure that the NPL and LDR rating predicates remain in a safe position and consistently maintain social and environmental activities (CSR) because, in addition to providing benefits to society in general, they can also provide sustainable benefits.

The research conducted is not free from limitations and becomes a suggestion for future work agendas. First, this study only uses research samples with significant total assets, so the study's results cannot describe the influence of the variables used in the study on banks with small total assets. The variables used in the study are only a tiny part of the various variables that exist, so there is a possibility of getting different research results if other variables are used. The period of the research sample is when the company's assets are in strong financial performance. However, it is not known whether the banking company's assets are still in the same position in other periods. Therefore, future studies are also suggested to be able to increase the scope of the sample by including banks with smaller total assets, expand the scope of the variables used, as well as external factors (such as macroeconomic conditions and monetary policy), and further research can use a more extended period to see how the impact of research variables in various economic conditions, including times of economic instability.

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