

Counter-Cyclical Capital Buffer and Regional Development Bank Profitability: An Empirical Study in Indonesia

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Abstract

The study investigates the impact of the Counter-Cyclical Buffer Policy (CCB) on regional development bank profitability in Sumatra, Indonesia. CCB requires banks to hold capital at times when credit is growing rapidly so that the buffer can be reduced if the financial cycle turns down or the economic and financial environment becomes substantially worse. This study employs time series data of regional development banks (RDBs) in Sumatra Island, Indonesia. The methodology applied in this study is a panel dynamic model with Generalized Methods of Moments (GMM). The results show that increasing capital through the implementation of CCB did not have a significant effect on RDBs' profitability. The findings of this study suggest that the activation and implementation of CCB lead to an increase in the amount and cost of loans to companies but do not affect the profitability of RDBs. The value of a Non-Performing Loan (NPL) proved to have a negative and significant effect on bank profitability. The CCB policy aims to overcome the pro-cyclicality of credit growth and improve bank resilience through increased capital which is expected to reduce excessive credit growth as a source of systemic risk. This causes a lack of lending to the community so that the profits obtained by the bank decrease.

Keywords: Capital Buffer, Bank Profitability, ROA, Monetary Policy, Panel Dynamic Regression

JEL Classification Code: E50, E52, E58

1. Introduction

Bank Indonesia implements additional buffer capital requirements to mitigate the effects of pro-cyclicality. Countercyclical Capital Buffers (CCB) Policy require banks to hold capital at times when credit is growing rapidly so that the buffer can be reduced if the financial cycle turns down or the economic and financial environment becomes

substantially worse. According to Huang and Xiong (2015), if this mechanism works well, each bank will adjust the capital ratio. Changes in the ratio of capital to banks influence the distribution of credit and risk-taking levels in the banking industry. The countercyclical capital buffer aims to ensure that banking sector capital requirements take account of the macro-financial environment in which banks operate. Its primary objective is to use a buffer of capital to achieve the broader macro-prudential goal of protecting the banking sector from periods of excess aggregate credit growth that have often been associated with the build-up of system-wide risk. Due to its countercyclical nature, the countercyclical capital buffer regime may also help to lean against the build-up phase of the credit cycle in the first place. In downturns, the regime should help to reduce the risk that the supply of credit will be constrained by regulatory capital requirements that could undermine the performance of the real economy and result in additional credit losses in the banking system.

On the other hand, the monetary policy carried out by Bank Indonesia will be oriented towards the effectiveness of the banking industry in driving the real sector, but on the other hand, the banking business also competes in carrying out services oriented towards earning profits from the banking

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business (Gede et al., 2010). Surprisingly, the relationship between monetary policy and bank profitability is an area that has not been widely studied. Many other studies analyze the relationship between bank profitability and business conditions. In particular, Demirgüç-Kunt and Huizinga (1999) were the first researchers to show that differences in interest margins and bank profitability reflect a variety of determinants: bank characteristics, macroeconomic conditions, explicit and implicit bank taxation, deposit insurance regulation, overall financial structure, and underlying legal and institutional indicators. A larger ratio of bank assets to gross domestic product and a lower market concentration ratio lead to lower margins and profits, controlling for differences in bank activity, leverage, and the macroeconomic environment. Besides, Ugo and Gambacorta (2009) using aggregate data for the banking sector in 10 OECD countries found a significant relationship between net interest rate and the yield curve. They also found a positive relationship between bank losses and short-term interest rates. If the economic conditions in the situation deteriorate, the banking business faces a relatively high risk of bad credit, as such the monetary policy instrument applied by the central bank is a stimulus that national banks can use to manage the business to become more stable (Kashyap & Stein, 1997). The stability of regional banking activities is determined by the performance of Return on Assets (ROA) obtained from the difference in interest on savings, public savings, and other costs with interest on loans (Gede et al., 2010).

Bank profitability tends to go hand-in-hand with economic activity. Slower growth prospects may dent bank profitability through a reduction in lending activity and a possible increase in credit impairments. The magnitude of credit risk is part of a very complex banking business problem that can be affected by regional economic stability. Improper credit risk management reduces the bank profitability, affects the quality of its assets and increase loan losses and non-performing loan which may eventually lead to financial distress. Regional banks are so-called because they have historically operated within geographical regions larger than those covered by community banks but smaller than the country at large. Traditionally, they have taken deposits from within a defined geographic area and made loans to individuals and businesses in that region. Regional banking business activities are one of the important sectors in regional economic development which functions as an intermediary institution for economic actors who have excess funds with economic actors who need funds. Factors that influence bank profitability can be derived from various profitability performances as indicated by several indicators.

Phan et al. (2020) investigated the factors affecting the profitability of listed commercial banks in Vietnam. The results showed that operating efficiency, loan size, retail loans ratio, state ownership, inflation rate, and GDP growth

are factors that have a positive impact on profitability. On the other hand, variables such as capital size, credit risk, liquidity risk, bank size, and revenue diversification are statistically insignificant; hence, these variables are not statistically adequate to indicate the influence of those independent variables on banks' profitability. The findings of this study suggest that the quality of assets should be considered in the context that bad debt risks come from lending heavily to the real estate sector. Meeting Basel II's capital compliance requirements are relatively difficult for small listed commercial banks compared to bigger listed commercial banks in Vietnam.

This study has a specific purpose, among others, to analyze the impact of additional buffer capital policies on the profitability of the Sumatra regional banks and analyze the effect of the capital adequacy ratio (CAR) on bank profitability. Another goal is to analyze the relationship between CAR and the profitability of Regional Development Banks (RDBs). The capital adequacy ratio (CAR) is a measure of how much capital a bank has available, reported as a percentage of a bank's risk-weighted credit exposures. Higher capital is considered as an increase in costs for banks. This implies that higher capital reduces profitability according to the trade-off theory. It can also reduce bank risk, and the premium as compensation covers the cost of the fund. However, capital requirements imposed by regulators are binding and compel banks to have capital ratios above the established capital ratio. It is a challenge for regional banks such as the Regional Development Bank which cannot compete strongly with other commercial banks.

This study applies new econometric techniques. The latest findings show a negative relationship between capital and profitability (Osborne et al., 2012). However, the research that was recorded has not been able to capture the structural relationship between variables. Therefore, while these findings are linked to the hypothesis of "expected bankruptcy", this is difficult to distinguish from other factors that encourage capital movements and long-term profitability. Low profitability can lead to banks increasing leverage to improve return profitability (Milne & Whalley, 2002).

Besides, this study will analyze the capital ratio to bank profitability by using data from the regional banking sector of Sumatra. This relationship tends to vary between time and heterogeneity between banks depending on the ratio of actual bank capital and how these ratios are related to optimal capital ratios (i.e maximizing profits). For this reason, this research uses an empirical framework that allows substantial heterogeneity across banks over time.

2. Literature Review

One of the benchmark variables for the country's progress is economic growth. If economic growth is stable, it can be

said that the country is advanced, on the contrary, if the economic situation of a country is deteriorated or unstable, then the country cannot be said of developed countries. To support economic growth, the economic activities of a country must increase every year.

To achieve sustainable economic growth, the central bank conducts monetary policy. Monetary policy, the demand side of economic policy, refers to the actions undertaken by a nation's central bank to control the money supply and achieve macroeconomic goals that promote sustainable economic growth. It is done by maintaining exchange rate stability, controlling inflation rates, and encouraging smooth production to improve people's living standards. Looking at the relationship between monetary, the real sector, and the macro-economy, it can be said that the monetary sector is an important part of macroeconomic policy. Monetary Policy is the Central Bank's attempt to influence the development of monetary variables to achieve economic goals. In Indonesia, the monetary policy instruments commonly used are Open Market Operation, Discount Rate, Reserve Requirement Ratio, and Moral Persuasion Appeal.

These four factors greatly affect the economic activities in the country. Then there are not only four policies that affect a country's economic activities. One of the central bank's policies is the Countercyclical Capital Buffers (CCB) additional capital policy that functions as a buffer to anticipate losses in the event of excessive credit growth and/or bank financing that has the potential to disrupt the financial system stability. The CCB is a time-varying capital requirement that applies to banks and investment firms. By increasing regulatory capital requirements in line with the cyclical systemic risk environment, the CCB looks to ensure additional capital is in place to absorb losses when risks materialize. Bank Indonesia will increase the amount of Countercyclical Buffer when the economy is expanding, whereas Bank Indonesia will reduce the Countercyclical Buffer when the economy is contracting.

CCB policy implemented through additional capital buffers that can reduce the risk of insolvency. It can be achieved by increasing the level of capital from the minimum capital requirement limit. Besides, banks maintain capital buffers as signals to the market or rating agencies to become competitive in terms of getting more efficient funding. On the other hand, Jokipii and Vähämaa (2006) explained that this CCB policy is applied by the central bank, commercial banks cannot change the minimum capital immediately, because commercial banks need adjustment costs related to the increase in new capital.

According to Hellwig (1981), the return investors ask for market equity is a negative linear function of the ratio of equity to debt because higher leverage increases the return requested by shareholders. Most academic research argues

that deviations from the MM theorem are very relevant for banks. Therefore, banks have optimal capital ratios that maximize their value. The corporate income tax rewards banks (and other firms) for leverage, because interest is tax-deductible. Deposit insurance rewards leverage, because funding with deposits means that the shareholders get the upside but the taxpayers get the downside. Higher profitability creates incentives for banks to limit risk-taking, including having a higher capital ratio and reducing portfolio risk (Milne & Whalley, 2002). Banks with a higher capital ratio have more opportunities to survive in the future so that they have a greater incentive to observe borrowers. Allen et al. (2011) argued that banks hold capital in excess of regulatory minimums. This did not prevent the financial crisis and underlines the importance of understanding bank capital determination. Market discipline is one of the forces that induce banks to hold positive capital.

In the pecking order theory, managers display the following preference of sources to fund investment opportunities: first, through the company's retained earnings, followed by debt, and choosing equity financing as a last resort. The pecking order theory states that a company should prefer to finance itself first internally through retained earnings. If this source of financing is unavailable, a company should then finance itself through debt. This can result in an optimal capital ratio because companies may also pay attention to financial sluggishness to take advantage of investment opportunities in the future (Calem & Rob, 1999). Therefore, banks that have high profitability can maintain a low capital ratio because they can fund future investments from income. Qayyum and Noreen (2019) examined the effect of capital structure on profitability of Islamic and conventional banks; second, it determines that whether the capital structure of Islamic and conventional banks is the same or not. Results showed that the capital structure of both types of banks was similar except for bank size which differed significantly. Moreover, ROA was negatively correlated to the capital structure of both conventional and Islamic banks. In contrast, ROE was positively correlated to the capital structure of both conventional and Islamic banks. In addition to that, two explanatory variables were positively correlated while two were negatively correlated to EPS for both Islamic and conventional banks. This study proves the existence of prominent theories of capital structure (pecking order theory and trade-off theory) for both conventional and Islamic banks in Pakistan and also validates the economies of scale.

The choice of bank capital ratio may also depend on their business plan. A bank with an aggressive business strategy that aims to gain market share quickly has a lower capital ratio. Banks that plan to acquire other banks may have an incentive to maintain a higher capital ratio, to satisfy regulators that the resulting entity will be capitalized adequately (Berger & Bouwman, 2013). A bank that increases its market share

may have a lower capital ratio that is consistent with a higher risk strategy or simply because of loan growth to increase or maintain capital.

Some previous studies have analyzed the relationship between capital and bank credit growth. Tabak et al. (2012) addressed the effects of bank competition on the risk-taking behaviors of banks in 10 Latin American countries between 2003 and 2008. Unlike previous findings, this paper concluded that competition affects risk-taking behavior in a non-linear way as both high and low competition levels enhance financial stability, while we find the opposite effect for average competition. Besides, bank size and capitalization are essential factors in explaining this relationship. On the one hand, the larger a bank is, the more it benefits from competition. On the other hand, a greater capital ratio is advantageous for banks that operate in collusive markets, while capitalization only enhances the stability of larger banks under high and average competition. These results are of extreme importance when considering bank regulations, especially in light of the recent turmoil in the global financial markets.

The effect of bank capital on lending is a critical determinant of the linkage between financial conditions and real activity and has received special attention in the recent financial crisis. Berrospide and Edge (2010) studied the lending of large bank holding companies (BHCs) and found small effects of capital on lending. They considered the effect of capital ratios on lending and found modest effects of bank capital ratio changes on lending. These results are in marked contrast to estimates obtained using simple empirical relations between aggregate commercial bank assets and leverage growth, which have recently been very influential in shaping forecasters' and policymakers' views regarding the effects of bank capital on loan growth. Their estimated models are then used to understand recent developments in bank lending and, in particular, to consider the role of Troubled Asset Relief Program (TARP)-related capital injections (a program of the US government to purchase toxic

assets and equity from financial institutions to strengthen its financial sector) in affecting these developments.

Furthermore, there is a study about the effect of capital adequacy policy on banking performance. Drehmann and Gambacorta (2012) provided a simulation on how the countercyclical capital buffer designed in the Basel III package could impact bank lending. They found that the buffer could help to reduce credit growth during booms and attenuate the credit contraction once it is released. This would help to dampen pro-cyclicality in addition to the beneficial effects of higher capital levels in terms of higher banking sector resilience to shocks.

Figure 1 shows the conceptual framework between capital buffer policy and profitability through the capital channel. The tightening of monetary policy can reduce commercial bank reserves and increase the bank's cost of funds, reduce third party funds and reduce interest margin as a result the bank's profitability will decrease. Different banks have very different target capital ratios in the long run. Berger and Bouwman (2013) examined how capital affects a bank's performance (survival and market share) and how this effect varies across banking crises, market crises, and normal times that occurred in the US over the past quarter-century. Results showed that capital helps small banks to increase their probability of survival and market share at all times (during banking crises, market crises, and normal times). Second, capital enhances the performance of medium and large banks primarily during banking crises. Additional tests explore channels through which capital generates these effects. Numerous robustness checks and additional tests are performed.

A bank with an aggressive business strategy aimed at gaining a larger market share has a lower capital ratio (Osborne et al., 2012). Optimal capital buffer tends to increase at the level of portfolio risk. Risk-resisting banks may have higher capital and lower portfolio risks whereas banks with low capital allowance have a higher risk (Milne & Whalley, 2002). Also, the choice of the capital buffer is a

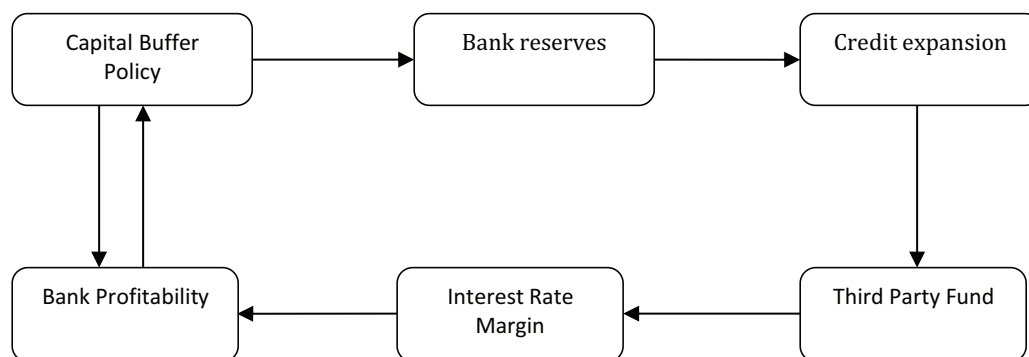


Figure 1: Capital Channel

function of profitability, because very profitable banks can withdraw internal funds to protect them from being under minimum rules.

Therefore, capital requirements tend to be an important influence on the choice of bank capital. If the capital requirements are binding, the regulator can force banks to have capital above the maximum level determined. This implies a negative long-term and short-term relationship between bank capital and profitability. If the regulator does not bind the bank, the relationship may be positive, flat, or negative because there is no capital requirement. Whether capital requirements are binding depends on the amount of the capital ratio determined and shows the variation between regions, banks, and periods. The relationship between capital buffer and profitability is still ambiguous where several studies find positive relationships (Francis & Osborne, 2012) while several other studies state that large buffers are held by banks as evidence that capital requirements are not binding (Gropp & Heider, 2010; Berger et al., 2008).

The discussion above shows that the relationship can be positive or negative depending on the state of the bank. But research is limited because the relationship between capital and profitability is linear and homogeneous between banks and periods. In the next section, this study will determine the specification of the relationship between capital and profitability that allows heterogeneity across time and interaction with the level of interbank capital.

2.2. Hypotheses

In this study, profitability is measured of bank performance. The investigation is based on the following hypotheses:

H1: Capital Adequacy Ratio is significantly and positively related to Bank Profitability in Regional Development Bank.

H2: Countercyclical Capital Buffer Policy is significantly related to Bank Profitability in Regional Development Bank.

H3: Economic Activity is significantly and positively related to Bank Profitability in Regional Development Bank.

H4: Loan to Deposit Ratio is significantly and positively related to Bank Profitability in Regional Development Bank.

H5: Net Interest Margin is significantly and positively related to Bank Profitability in Regional Development Bank.

H5: Non-Performing Loan is significantly and negatively related to Bank Profitability in Regional Development Bank.

3. Research Methods and Materials

3.1. Materials

This study uses Regional Development Banks (RDBs) individual banking data and Indonesian macroeconomics in the period 2005Q1 to 2017Q2 in quarterly data. The number

of banks involved in this study is five regional development banks in Sumatra i.e. Aceh, North Sumatra, West Sumatra, South Sumatra, and Bangka Belitung. The RDBs of the Sumatra region has declined in the last five years. Besides, the RDBs for the Sumatra region has never received an award as the RDBs with the best performance. In this case, the RDBs on the island of Java is always superior and has very good performance compared to the RDBs on the island of Sumatra. Therefore, this research is expected to be able to provide a good picture of the opportunities and challenges faced by regional banks in Sumatra. Furthermore, the data is constructed in the form of panel data because the research uses the panel regression method. The use of panel data aims to obtain more varied data so that it can explain more informative and complex equations. This study uses the profitability ratio as the dependent variable. This variable shows that how much the company uses its assets to generate profits. Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives a manager, investor, or analyst an idea as to how efficient a company's management is at using its assets to generate earnings. Return on assets is displayed as a percentage; the higher the ROA the better. Data was obtained from various sources such as bank financial reports, publications, and website statistics for each bank, Bank Indonesia, and the Financial Services Authority (FSA).

3.2. Model Specifications

The basic model used comes from Osborne et al. (2012) which is summarized by Equation (1). The method used to analyze the impact of CCB policy on banking profitability is a dynamic panel, namely, profitability is influenced by profitability in the past. If the dynamic panel equation is estimated using the fixed effects approach or random-effects it can cause endogeneity problems. As a result, the estimator produced can be biased and inconsistent (Vella & Verbeek, 1999). A generalized method of moments (GMM) approach is suggested which is an improvement of the instrumental variable method (IV) for estimating dynamic panel equations. The GMM method will produce parameter estimators that are unbiased, consistent, and efficient. GMM provides accurate and fast estimations of unknown parameters of reaction networks. The accuracy increases when also moments of order higher than two are considered. Besides, the variance of the estimator decreases, when more samples are given or when higher-order moments are included. This method is consistent with Widarjono et al. (2020) that estimates Islamic rural bank profitability in Indonesia with dynamic panel regression with the GMM method.

Equation (1): to analyze the relationship between CAR and bank profitability.

$$ROA_{it} = \beta_0 + \beta_1 ROA_{it-1} + \beta_2 CAR_{it} + \beta_3 \theta_{it} + \varepsilon_{it} \quad (1)$$

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev	Min	Max
ROA	96	2.744687	0.8949824	0.41	5.07
CAR	96	19.60208	1.781732	15.79	23.46
CCB_CAR	96	10.07292	10.18343	0	22.43
NPL	96	1.008958	1.140761	0.01	4.29
NIM	96	1.561435	1.561435	1.56	11.82
LDR	96	78.79094	14.74596	54.47	125.19
LNPDRB	96	17.05548	2.493751	11.5776	19.4558

Source: Data processed, 2018.

Equations (2) added some banking and macroeconomics variables.

$$ROA_{it} = \beta_0 + \beta_1 ROA_{it-1} + \beta_2 CAR_{it} + \beta_3 \delta_{it} + \beta_4 \theta_{it} + \varepsilon_{it} \quad (2)$$

Equations (3) used time dummy variable to analyze the relationship between capital adequacy ratio when CCB is activated

$$ROA_{it} = \beta_0 + \beta_1 ROA_{it-1} + \beta_2 CAR_{it} + \beta_3 CAR_{it} \times D_CCB_{it} + \beta_4 \delta_{it} + \beta_5 X_{it} + \varepsilon_{it} \quad (3)$$

X_{it} is a vector of control variables including the Loan to Deposit Ratio (LDR), Non-Performing Loan (NPL), and Net Interest Margin (NIM). CCB rate buffer is the result of calculations using the main indicators as found in the main study of CCB with the CCB rate being in the range of 0%–2.5%. ROA is a proxy of banking profitability, while Size is a proxy of banking. This study also will discuss how banking behavior when changes in capital regulations such as CCB. Besides being influenced by the banking factor itself, credit growth is also influenced by macroeconomic factors, such as GDP and interest rates. Economic growth can trigger credit pro-cyclicality, namely increasing credit growth. Meanwhile, high-interest rates can reduce credit growth. CAR will also be used as a bank capital measure that can affect profitability.

4. Results and Discussion

Based on the equations defined above, the impact of CCB policy on bank profitability in general (using regional development banking industry data) will be analyzed. Return on Assets (ROA) in this study is used as a proxy for bank profitability. The average profitability of the Sumatra Regional Development Bank (RDB) is 2.7% with the highest ROA in Aceh and the lowest in Aceh in the first and second

quarters of 2014. Table 1 shows that the average CAR value of a regional development bank in Sumatra is 19.60%. The lowest value of the capital adequacy ratio is 15.79% while the highest value is 23.46%. While the maximum value of Net Interest Margin (NIM) is obtained by Bank Aceh and the minimum value of NIM is obtained by Bank Sumsel Babel.

Table 2 describes the detailed estimation results for each equation that uses the Regional Development Bank. Based on the results of testing with the dynamic panel method with the Generalized Method of Moment (GMM), the capital adequacy ratio does not affect the profitability of the bank. This Finding is not consistent with Suyanto (2021) who showed capital adequacy has a positive impact on bank profitability in banking listed Indonesia Stock Exchange. Capital adequacy as an intervening variable has mediated partially the effect of bad credit and liquidity on bank performance. Besides, capital adequacy has a strong effect on credit distribution. Capital Bank capital is not proven to have a real influence on bank profitability. It can be seen in the consistency of the results of equations (1) and (2), wherein equation (2) has added several control variables as a robustness test. The estimation results of equation (2) show that the countercyclical capital buffer policy has no significant effect on bank profitability. While Net Interest Margin (NIM), Non-Performing Loan (NPL), and regional economic growth have a significant influence (see Table 2).

In equation (3), the dummy CCB variable that is interacted with CAR is added. The Dummy CCB is worth 0 when the CCB policy is not active and 1 when the CCB is inactive. The estimation results of equation (3) still produce estimation values that are consistently negative but not significant. In this study, the CCB dummy was interacted with CAR assuming all prudential regulations relating to capital would also move. In Basel III regarding Indonesian banking regulation standards, additional banking capital is not only the Countercyclical Buffer, there is also a Capital Conservation Buffer and Capital Surcharge for D-SIB.

Table 2: Estimation Results

Variable	Eq. 1	Eq. 2	Eq. 3
ROA	0.5727196 (0.000)***	0.4530191 (0.000)***	0.4585453 (0.000)***
CAR	0.0058347 (0.875)	0.042066 (0.126)	0.0444559 (0.111)
CCB		-0.11226876 (0.175)	
LnPDRB		0.0539439 (0.044)**	0.0544082 (0.039)**
NIM		0.1252606 (0.001)***	0.1231048 (0.001)***
NPL		-0.2146592 (0.001)***	-0.21300899 (0.001)***
LDR		-0.0005653 (0.862)	
CCB_CAR			-0.0054214 (0.243)
_cons	0.970036	-0.8651877	-0.96827235
Number of Obs	84	90	90
Number of Groups	6	6	6
Number of Instruments	85	166	166

Note: ***, ** and * indicates significant at 1%, 5% and 10% level of significance based on *t*-statistics.

However, in this study, the Sumatra Regional Development Bank was not subject to the regulation of the Capital Conservation Buffer and Capital Surcharge. This is because RDB Sumatra is not included in the category of BOOK 3, BOOK 4, and banks that are systemic at risk. Thus, the effect of the CCB policy on ROA was not proven significantly.

The estimation results of the three equations above are following several empirical studies that have been done before, namely that capital will have a negative relationship with credit, both through lending channels and capital channels. This result is supported by the findings of Wibowo et al. (2013) who stated that CAR does not have a significant effect on ROA. The results of this study indicate that the size of bank capital adequacy (CAR) does not necessarily cause the size of the bank's profits. Banks that have large capital but cannot use their capital effectively to generate profits will not have a significant effect on bank profitability. These findings, however, are not consistent with Olalere et al. (2017) who stated that banks can improve their profitability through increasing capital and liquidity, decreasing operating costs with a conscious effort to maintain transparency in their operations. Besides, a good economic environment for financial institutions fosters an increase in bank profitability. The regulation of Bank Indonesia states that a minimum CAR of 8% must be met by the bank. The 8% CAR is only intended by Bank Indonesia to adjust conditions with international banking. The high capital ratio can provide increased public trust in the bank.

In this study, the value of NPL proved to have a negative and significant effect on bank profitability. The higher level of non-performing loans of banks the lower the profits

obtained by the bank. This result is supported by Widarjono et al. (2020) who stated that the level of bad credit influences bank profitability. Jatmiko et al. (2017) showed that NPL does not affect the profitability of banks because banks can manage the NPL ratio well. The high NPL ratio will reduce the amount of bank capital because the income received by banks will be used to cover high NPLs.

Public trust in the banking world is also due to government guarantees for their funds held in banks. Therefore, people still believe in using banking products so that profitability can still be increased. It is because the significant effect of Non-Performing Finance (NPF) on ROA is related to determining the level of financing congestion provided by a bank. This financing is the main source of bank income. On the other hand, the existence of a high NPF will depend on the turnover of working capital from the bank. When the bank has a high amount of bad financing, the bank will try to evaluate its performance by temporarily stopping the distribution of funding until the NPF decreases. From the data obtained, NPF Islamic banks are relatively small, as such, NPF does not affect the profitability of Islamic banks.

5. Conclusion

The study focuses on analyzing the impact of the Countercyclical Capital Buffer (CCB) Policy on the Regional Development Banks in Sumatera, Indonesia. In recent years, the profitability ratio of Sumatra regional banks is quite fluctuating. The profitability performance of RDB in Aceh and North Sumatra is declining from year to year whereas in South Sumatra and Bangka Belitung and West Sumatra

the ROA is more volatile. With the enactment of additional buffer capital policies and the increase in minimum statutory reserves, bank profitability as reflected in ROA tends to decrease. This empirical research uses data based on CCB activation, time, and variation between banks.

This study finds that the activation and implementation of CCB lead to an increase in the amount and cost of loans to companies but does not affect the profitability of regional development banks. The CCB policy aims to overcome the pro-cyclicality of credit growth and improve bank resilience through increased capital which is expected to reduce excessive credit growth as a source of systemic risk. This causes a lack of lending to the community as such the profits obtained by the bank decrease.

Based on the results of this study, increasing capital through the implementation of CCB did not have a significant effect on bank profitability. Some banks in this study were not subject to additional capital regulation other than CCB. The targeted macro-prudential policy seems to be able to suppress lending in one place. For policy implications, macro-prudential policies have to be applied in the future to prevent excessive credit growth during the economic expansion phase.

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