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Determinants of Credit Growth: An Empirical Study of Commercial Banks in Indonesia

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Abstract. The banking sector is one of the pillars that forms the country's economy that has an important function: it channels funds in the form of credit to the public. This study aims to analyze determinants affecting credit growth in commercial banks by using a purposive sampling technique to select seven commercial banks in Indonesia with a minimum capital of 30 trillion in the 2017-2021 period. This study hypothesizes that bank size has a positive and significant effect on credit growth while non-performing loans, liquidity, third party funds and capital adequacy ratios have a negative and significant effect on credit growth. Using Generalized Method of Moments (GMM), this research finds that bank size and third-party funds have a positive and significant influence on credit growth; non-performing loans have a negative and significant effect on credit growth, loan deposit ratio has a positive and insignificant effect on credit growth, and capital adequacy ratio has a negative and insignificant effect on credit growth. This study found that Third Party Funds have a positive and significant influence on Credit Growth in Commercial Banks in Indonesia. The positive but significant causality between third party funds and credit growth indicates that the hypothesis that was put forward by the researchers is confirmed in a different direction. This study indicates that maintaining banking stability is important, especially to increase the credibility and existence of the bank in society. The theoretical and practical significance is that it provides knowledge of the determinants of credit to commercial banks in Indonesia so that it can be used as a comparison or reference.

Key words: credit growth; credit policy; non-performing loans; banks; generalized method of moments.

JEL E51, E510, E520

1. Introduction

National development is a process that seeks to spread economic progress more broadly in Indonesia. One sector that is very important is the banking sector because it functions as a source of funds for the community and a means of distribution, so banking has a significant impact on this problem. This is supported by the statement of Baoko et al. [1] that a strong banking system is an important prerequisite for the stability and growth of a country's economy.

Banking is one of the pillars that builds a nation and therefore has a significant impact on the economy. One of the actual functions of a bank as a provider of financial services is to utilize micro, small and medium enterprises to channel money to people who need working capital.

In addition, the main goal of the banking industry is to maximize profits by providing loans, this is in line with [2] that credit growth and economic growth are mutually reinforcing. Because banks are partners who directly deal with the community,

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it can be said that banks are the engine that drives the wheels of the economy, which shows that the role of banking is very vital for the community.

Considering that credit is the basis of banking activities and credit is a series of bank activities, most of the funds obtained from the general public are used for credit [3]. Interest will be paid to the bank on this loan. The business world will greatly benefit from extending credit because it has close links with bank financial institutions.

This is in accordance with the initial objectives of banking as a system, namely to establish a bank as a channel of money between those who have and those who need it, and to pursue financial benefits through bank operations [4]. As a result, banks play an important role in a country's ability to grow its economy.

Credit growth refers to the growth rate of the number of loans extended to third parties, which can lead to higher profitability and better banking performance [5]. In layman's terms, credit growth is defined as expanding the amount of money or claims supported by a loan agreement or other agreement that requires repayment of debt with interest after a certain period of time between the creditor and the debtor [6].

This is because banks earn money from interest on loans; therefore, the profit earned by the bank will increase along with the increasing demand for credit. Higher credit growth needs to be balanced with adequate supervision. Credit growth in addition to generating income can also cause losses and even bankruptcy for banks. Banking in Indonesia is one of the banks that are categorized as having a high potential for bankruptcy when compared to banks in Malaysia, Hong Kong and Singapore [7]. As a result, policy makers use credit data as the main source of information about the state of the economy.

Bank credit trends make it possible to predict future economic conditions, in which a rapid growth in the supply of credit may participate in the next financial or economic crisis, while a significant credit decline may result in a recession in economic activity. Credit growth can be calculated from the difference between the amount of credit given in the current period and the amount of credit given in the previous period, compared to the amount of credit given in the previous period expressed as a percentage [8].

Empirical Study Credit Growth at Commercial Banks in Indonesia can be seen in the following figure 1.

The researchers chose Indonesian commercial banks for this analysis, specifically those with the largest core capital of at least $30 trillion. More specifically 7 banks, namely BRI, BNI, Bank Mandiri, BCA, Bank CIMB Niaga, Bank Panin and Bank Danamon. It can be seen from Figure

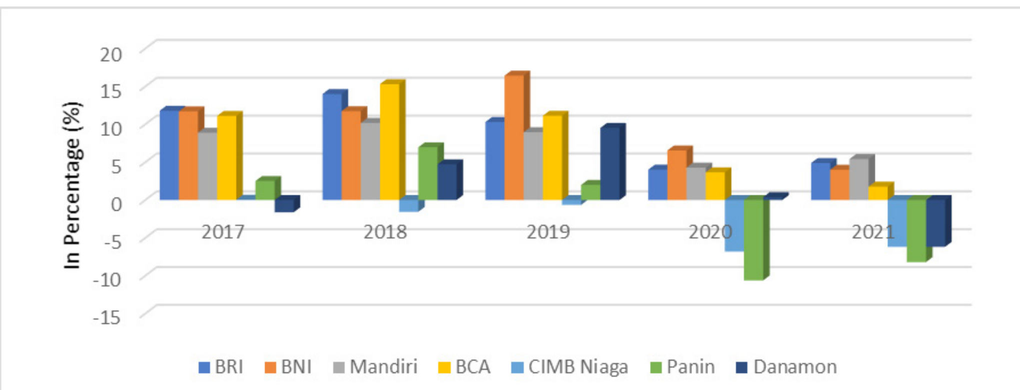

Figure 1. Credit Growth Data at Commercial Banks in Indonesia
Source: Financial Services Authority 2017-2021, data processed (2023)

1 that credit growth at the 7 banks is not too far and fluctuating, Bank CIMB Niaga and Bank Panin have very far results compared to other banks. From 2017–2019 these banks have always experienced an increase in growth, and the highest growth was 16.43% for Bank BNI in 2019, compared to the previous year it had an increase of 11.74%. The lowest growth for the past 3 years was at Bank CIMB Niaga of -1.5% in 2018. When entering the last 2-year period, namely 2020–2021, credit growth during this period has decreased for the 7 banks. The lowest peak occurred in 2020, namely Panin Bank experienced credit growth of -10.61% in 2020.

The level of capitalization and liquidity of Indonesian banks fell during the crisis. This was due to a significant decrease in assets, which resulted in lower quality assets resulting in investment losses. According to research by Kim & Sohn [9] banks will choose to use a defensive strategy during a crisis by reducing or releasing credit altogether, because riskier assets will increase as a result of high borrowing during a crisis, banks need to increase their capital and liquidity.

Along with the pandemic, the global macroeconomic slowdown and the increase in the percentage of non-performing loans have all contributed to a decline in credit growth. Slowing credit growth is usually the result of elements that can affect bank lending practices. such as substandard asset quality, high non-performing credit scores, or bank depreciation that drains capital [10].

One of the elements that usually becomes an obstacle in banking is not only how the bank distributes credit, but also how customers can return their credit according to the agreed time period and interest rate [11].

Some other literature discussing credit growth shows that the research examined by Kalesaran et al. [12], Megawati & Kesuma [13] and Rabab'ah [14] regarding the factors that influence bank credit is economic growth. Haryati [15] concludes that the factor that influences credit growth is the exchange rate, which has a significant influence. Different opinions were found in the articles studied by Kurnia [16] that the exchange rate showed a negative and insignificant relationship to credit distribution.

Based on the context above, this study will analyze the factors that influence credit growth at Indonesian commercial banks using data from 7 banks: BRI, BNI, Mandiri, BCA, Bank Cimb Niaga, Bank Panin, and Bank Danamon over the years. 2017–2021. The Generalized Method of Moment (GMM) method is the main alternative used in this study to estimate more precisely research data that has parameter uncertainty problems.

Since only a few assumptions need to be made on the so-called moment conditions, the GMM technique is also significantly more flexible. This research is expected to provide an overview for banks in developing quality and determining the best policies, especially in terms of extending credit to the public. This research also expected to be able to provide knowledge for academics regarding credit distribution at commercial banks in Indonesia so that it can be a comparison or reference for further research. Then for banks and other agencies, they can provide additional information regarding the policies to be chosen, especially for banks to be able to channel their money more wisely.

This *study aims* to analyze the determinants that affected credit growth of commercial banks using a purposive sampling technique to select 7 commercial banks in Indonesia with a minimum capital of 30 trillion in 2017–2021 period. This study focuses on the influence of the dynamics of bank internal variables on the level of credit risk or how determinant factors such as bank size, non-performing loans, third party funds, liquidity, and capital adequacy ratio affect credit growth in Indonesia.

The *hypothesis* suspected in this study is bank size in the previous period had a positive and significant effect on credit growth for the current period and non-performing loans, liquidity, third party funds, capital adequacy ratios for the previous period had a negative and significant effect on credit growth for the current period.

Article structure. The section of this papers consists of introduction, literature review which contains of articles that are relevant to this research especially regarding the credit risk, methodology and data, main result, discussion and finally conclusions.

2. Literature review

Bank size shows how big the size is owned by the bank. It referred to the size of a company, total assets, sales, and bank capitalization can be used to measure its size [17]. The bank size displays the scope or extent of the bank's economic scale. Bank-owned assets are represented by this variable and include current accounts, savings, time deposits, loans from other banks, loans from the central bank, and changes in own capital. A bank that is seen as having a large enough benchmark has the capability in terms of considerable wealth or resources. Total ownership of bank assets is proof. A large total bank asset can provide credit to more borrowers, thereby increasing the total amount of credit they provide.

Research conducted by Rabab'ah [14], Adnan et al. [18], Febrianto & Muid [19], Malede [20] and Purnamasari [21] concluding that bank size has positive results for lending. Things that are not the same were found in the journals studied by Moussa & Chedia [22], they concluded that bank size has a negative influence on lending.

When the economy is experiencing an expansion phase, the increase in capital reserves will be used as a buffer; however, it can also be used when the economy is facing a contractionary phase. This regulation is known as the capital adequacy ratio [23]. The ability of banks to absorb losses increases as the capital adequacy ratio increases [19].

Meanwhile, according to Wijangkoro [24], noted that the capital adequacy ratio takes into account total banking assets, including risks (investment credit, securities and loans to other banks). The capital adequacy ratio is the ratio that assesses the level of bank capital. The ability of banks to provide loans to the public will be hampered if CAR cannot meet capital requirements, which will reduce income. The bank's ability to meet the capital adequacy requirements for lending is indicated by the higher CAR.

Putri & Akmalia [25] and Syahputra et al. [26] stating that the capital adequacy ratio partially has a significant positive result for bank lending. Dissimilar with Firnanda [27] that concluded the capital adequacy ratio (CAR) had a significant negative result on credit growth.

This opinion was also found in research Ramadhani & Mawardi [28] and Suryanto [29], namely CAR was found to have no significant effect.

Third party funds have an influence on bank performance. When third party funds are managed properly and wisely, it will have a positive impact on bank performance, and it will keep the bank alive. If the bank is still alive and well, it will generate more income from the bank and in turn have an impact on credit growth. Third party fund instruments and inflation found positive and significant results on lending according to Kurnia [16] on the topic of lending.

In addition to the principal loan interest rate variable which has a positive and quite large influence on lending, the exchange rate instrument has no effect and is negative. An increase in third party funds and growth in bank deposits from other institutions had a fairly good impact on credit expansion in state-owned banks [30, 31].

Non-performing loan variable itself measures how healthy the bank is, which can then have an impact on the bank's own income. To avoid credit risk, banks must be able to maintain their credit; however, if this is not possible, the bank must reduce the credit provided. Suryanto [29] stated that the non-performing loan has positive results for lending to state-owned banks. This is in contrast with Pratama [32] and Satria & Subegti [33], that state the non-performing loans do not have a significant impact on lending to commercial banks in Indonesia.

The last factor is the loan to deposit ratio, which shows how much a bank can pay for depositors' withdrawals using credit that has been extended as a source of liquidity. That is, this refers to the extent to which the bank's commitment to as soon as possible complete depositor's requests in issuing funds that have been used by the bank in extending credit can be countered by extending credit to credit customers. The money received by the bank will have a significant impact on the quantity of credit disbursed, which in turn will have an impact on the level of liquidity. Some research state that liquidity had a positive impact on credit growth in Nigeria [34–37]. Different things were found in researchof Putri & Akmalia [25] and Yuliana [38] which concluded that the loan to deposit ratio had no effect on lending.

Based on the literature review above, the variable determinants that can affect credit have been described. It is known that many previous studies are related to the variables that play a role in the movement of credit by banks in a country.

However, this topic is still very open for further research because over time there have been changes both from the wishes of the people who are always changing, and the systems and forms of services provided by banks must keep up with developments. The form of this parameter uncertainty becomes a reference in this study to obtain more precise results related to the dynamic causality relationship of bank internal variables on credit growth in Indonesia.

3. Methods

3.1. Data

This research examines the effect of credit growth on 7 commercial banks in Indonesia with the variables studied are bank size, non-performing loans, third party funds, loan to deposit ratio, capital adequacy ratio as the independent variable (X) and for the credit growth variable as the variable dependent (Y). The data used in this study covers from 2017-2021 in the form of quarterly data, which is then reprocessed into annual data, where the data can be found directly through the official Bank Indonesia Web. The data is obtained through an annual report which is officially published through the website of Bank Indonesia and the Financial Services Authority.

The technique chosen for the bank sample used purposive sampling at Commercial Banks in Indonesia. The sample banks are Bank BRI, Bank BNI, Bank Mandiri, Bank BCA, Bank Cimb Niaga, Bank Danamon and Bank Panin. This study used a data analysis technique, namely the Generalized Method of Moments (GMM), which was processed from the STATA.17 application program.

The Generalized Method of Moments (GMM) analysis technique in this study is used to measure the magnitude of the influence of the dynamics of bank internal variables on the level of credit risk where the procedure used provides several advantages to the development of a panel model that involves a bounded deadline variable.

The Generalized Method of Moments (GMM) model is a dynamic panel model with a marked lag of the dependent variable between the independent variables, and is a refinement of the variable instrument method [39].

3.2. Empirical model

In this study, a data quality test will be carried out to produce a good analytical output. This test is carried out on data that will be used to analyze what things affect credit growth. The data quality tests that will be carried out include unit root tests, cointegration, and instrument validity tests. The selection of the three tests refers to research conducted by Louzis et al. [40].

The model equation of the Generalized Method of Moments (GMM) used in this study is show in equation 1.

$$PK_{i,t} = \beta_1 BS_{i,t} + \beta_2 NPL_{i,t} + \\ + \beta_3 DPK_{i,t} + \beta_4 LQ_{i,t} + \beta_5 CAR_{i,t} + \\ + \beta_6 PK_{i,t-n} + \mu_{i,t} . \qquad (1)$$

Where: i is a sample bank (i = 7 banks), t is time, $PK_{i,t}$ is credit growth i, $BS_{i,t}$ is a bank size i, $NPL_{i,t}$ is a non-performing loan i, $DPK_{i,t}$ is third party funds i, $LQ_{i,t}$ is liquidity i, $CAR_{i,t}$ is capital adequacy ratio i, $PK_{i,t-n}$ is credit growth i, $\beta_{1,2,3,\ldots,n}$ is a coefficient $x_{i,1,2,3,\ldots,n}$ and is an error term.

4. Results

Table 1 below shows descriptive statistics on 7 commercial banks in Indonesia, which includes each variable, both independent and dependent. Each variable shows the mean or average of each variable, the standard deviation, the lowest value for each variable, the highest value for each variable and the number of observations.

Bank size variable is used to measure the size of a bank, seen from the total value of assets such as current assets and fixed assets. The larger the company, the greater its financial resources. Large amounts of money will certainly have an impact on the amount of credit spread in banking organizations [18]. Table 1 shows that the average bank size is 20.01, with a standard deviation of 0.81. The lowest value is 18.82, while the highest value is 21.11.

Non-performing loan variable is used to measure bad loans or the non-performing loan ratio which is used to calculate the rate of return on loans provided by depositors to banks. The smaller the NPL, the greater the profit that will be obtained by the bank from the credit return rate provided by depositors to the bank. As a result of a bad credit return rate, banks will experience losses if the number of non-performing loans is high [41]. It can be seen from table 1 that the average non-performing loan is 2.87 with a standard deviation of 0.69. The lowest value is 1.45 and the highest value is 3.9.

The variable third party funds is used to measure sources of financing originating from the general public in the form of current accounts, deposits and deposits before being returned to the public in the form of credit [42]. Table 1 show that the average of third-party funds is 21.07 with a standard deviation of 0.86. The lowest value is 19.79 and the highest value is 22.19.

Loan to deposit ratio is a variable used to assess commercial bank liquidity by comparing the amount between credit and funds channeled to the public through funds received by the bank. The table 1 shows that the average is 88.10 with a standard deviation of 8.11, with the lowest value being 62.88 and the highest value being 104.81.

The capital adequacy ratio shows the capital ratio that shows the capability of a bank in supporting the company's development needs with funding while at the same time accommodating the risk of

Table 1. **Descriptive Statistics of 7 Commercial Banks**

Variable	Means	Standard Deviation	Min	Max	Number of Observations
BankSize	20.01	0.81	18.82	21.11	35
NPLs	2.87	0.69	1.45	3.9	35
DPK	21.07	0.86	19.79	22.19	35
LDR	88.10	8.11	62.88	104.81	35
CAR	20.99	4.85	4.8	29.09	35
P. Credit	4.58	6.94	-10.61	16.43	35

Source: STATA.17, Data Processed (2023)

Table 2. **GMM Bank Size Assumptions Test, NPL, DPK, LDR, CAR and Credit Growth**

GMM Assumption Test	Variable		Results
	BankSize	Zstat	2.08
		Prob	0.037**
	NPLs	Zstat	–2.48
		Prob	0.013**
	DPK	Zstat	–0.12
Serial Correlation T		Prob	0.09***
	LDR	Zstat	2.55
		Prob	0.134
	CAR	Zstat	–1.14
		Prob	0.256
	PKcredit $_{t-1}$	Zstat	–2.40
		Prob	0.016**
Sargan Test (ST)	Chi-Squared (X^2)		6.70
	Prob		0.56

Note: * ,** and *** represent significant level at 1%, 5% and 10%
Source: STATA.17, Data Processed (2023)

funding losses caused by operational activities such as lending [43]. The average value is 20.99 with a standard deviation of 4.85, with the lowest value being 4.8 and the highest value being 29.09.

Credit growth refers to the growth rate of the amount of loans extended to third parties, which can lead to higher profitability and better banking performance. The average credit growth is 4.58 with a standard deviation of 6.94, the lowest value is -10.61 and the highest value is 16.43.

Based on table 2, the GMM assumption test for this empirical model shows that there is a serial correlation in the independent variable bank size with a z-stat probability value of 0.037, non-performing loans with a value of 0.013, and third-party funds with a value of 0.09 to the dependent variable Credit Growth at 7 Commercial Banks in Indonesia.

Based on table 2 through the Sargan Test (ST), carried out by testing the validity of the instrumental variable shows its Chi Squared X^2 value of 6.70 with a probability value of 0.56. That is, the instrument used in the empirical model in this study is valid. Based on the regression results and the explanations listed above, it can be concluded that there is no problem with the basic assumptions of Arellano-Bond's GMM.

Based on table 3 it is shown that the results of the Bank Size variable have a significant positive relationship to Credit Growth with a coefficient of 26.95 with a probability of 0.037, which means that every 1 percent increase in Bank Size will result in an increase in Credit Growth by 26.97 percent.

Non-Performing Loan variable has a significant negative coefficient on Credit

Table 3. **Empirical Model Estimation Results**

Dependent Variable: Credit Growth	Coeff	Prob
Credit Growth ($_{t-1}$)	–0.96	0.016**
Bank Size	26.96	0.037**
Non-Performing Loan	–2.61	0.013**
The Third Party Fund	0.96	0.090***
Loan To Deposit Ratio	12.46	0.134
Capital Adequacy Ratio	–3.64	0.256
Constant	–119.29	0.065
Wald-Stat (4)	51.21	
Number of Instrumental Variables	15	
Number of Observation	35	
Number of Groups (Banks)	5	

Note: * ,** and *** represent significant level at 1%, 5% and 10%
Source: STATA.17, Data Processed (2023)

Growth with a coefficient value of -2.61 with a probability value of 0.013. That is, if there is an increase of 1 percent from non-performing loans it will cause a decrease in the value of Credit Growth by 2.61 percent. Vice versa, if there is a decrease of 1 percent from non-performing loans, it will result in an increase in the value of Credit Growth by 2.61 percent.

The Third-Party Fund variable has a positive and significant coefficient on Credit Growth, where the coefficient value is 0.96 with a probability value of 0.09. That is, every 1 percent increase in Third Party Funds will cause Credit Growth to increase by 0.67 percent.

Loan to Deposit Ratio variable has a positive and insignificant coefficient on credit growth, where the coefficient value is 12.46 with a probability of 0.134. This means that every 1 percent increase in the Loan to Deposit Ratio will increase Credit Growth by 12.46 percent, meaning that changes in the Loan to Deposit Ratio do not significantly affect the increase in Credit Growth in this study.

Capital Adequacy Ratio variable has a negative and insignificant coefficient on credit growth. The coefficient value is –3.64 with a probability value of 0.256. meaning that every 1 percent increase in Capital Adequacy Ratio will cause a decrease in Credit Growth by 3.64 percent. Changes in the Capital Adequacy Ratio have no significant effect on the increase in credit growth in this study.

Based on the Wald-Statistics test, the result is an X2 value of 51.21 and significant at a significant level of 1 percent. That is, in the empirical model of this simultaneous research the independent variables Bank Size, Loan to Deposit Ratio have a significant positive effect and Non-Performing Loans have a significant negative effect on the dependent variable Credit Growth at 7 Commercial Banks in Indonesia.

Meanwhile, the independent variable Third Party Funds and Capital Adequacy Ratio have a negative and insignificant effect on the dependent variable Credit Growth at 7 Commercial Banks in Indonesia.

5. Discussion

Based on the results of the analysis that has been examined, it is found that bank size has a positive and significant influence on credit growth. This finding is in accordance with the hypothesis formulated by the researcher.

The same thing was found in research that had been conducted by Purnamasari [21] and Shingjergji & Hyseni [44] where bank size had a positive and significant effect on credit growth. That is, if the size of the bank or bank size is getting bigger, then the volume of credit disbursed will also be bigger too.

Danismanet al. [45], Adnan [18] and Rabab'ah [14] also state that bank size has a significant influence on credit growth. The bigger the company, the bigger the financial resources and large amounts of money will certainly have an impact on the amount of credit spread in the banking sector.

Different results were found in another study conducted by Moussa & Chedia [22] which states that bank size does not have a significant effect on lending. It means that it was not certain that companies with large assets would also be willing to extend large amounts of credit, there were still many factors other than total assets that were prerequisites for a company to be willing to extend more credit.

Non-Performing Loans have a negative and significant influence on Credit Growth. Similar findings were found in research by Dao et al. [46] which states that Non-Performing Loans have a negative and significant effect on Credit Growth. That is, if the Non-Performing Loan increases it will reduce the value of Credit Growth at Commercial Banks in Indonesia. Non-Performing Loans are an indicator as an assessment of the health of the bank. If the non-performing loan of a bank is high, indicating that the bank has high problem loans and it can be said that the bank is professionally unable to work properly [47].

Aliodžić & Ekşi [10] and Abdi et al. [48] concluded that non-performing loans have a negative effect. That is, if the NPL is high, investors will be reluctant to invest in the bank, total assets will decrease so that the bank will extend less credit and result in decreased profitability.

It is different with Awdeh [49], Ivanović [50], Amrozi & Endang [35] and Haryanto & Widyarti [51] which states that non-performing loans may not necessarily affect credit distribution. The greater the level of non-performing loans, it shows that the bank is good at managing its credit. The negative and significant causality between non-performing loans and credit growth is confirmed the hypothesis that has been suspected by researchers.

A healthy bank is a bank that has adequate capital, adequately maintained levels of liquidity, and high quality credit [52]. Banks with stable liquidity conditions have sufficient current assets to meet requests for rapid withdrawal of deposits and can contribute money in response to debtors' credit requests. When credit levels are low that are not directed properly, one of the best ways for banks to make money is through proper, profitable, and healthy deployments of funds (non-performing loans). Most of the customers who borrow money from the bank, not all of them can return the loan and also the interest in a timely manner [53].

This study found that Third Party Funds have a positive and significant influence on Credit Growth in Commercial Banks in Indonesia. The positive but significant causality between third party funds and credit growth indicates that the hypothesis that has been suspected by researchers is confirmed in a different direction.

This is in line with research conducted by Barraza & Civelli [54] and Firnanda [27] which states that third party funds have a positive and significant influence on credit growth. They stated that when the funds collected by the banking sector are large, it will increase the amount of lending to the public. The increase in lending can increase credit growth. The higher the third party fund, the greater the distribution of credit, in which credit distribution became the main priority for banks in allocating their funds [44]. This resulted in the large amount of credit disbursed by banks very dependent on the amount of funds originating from the public.

Loan to Deposit Ratio has a positive and insignificant effect on Credit Growth. This result is not in accordance with the hypothesis that has been suspected by researchers.

This opinion is supported by research conducted by Bassett et al. [55], Heider et al. [56] and Putri & Akmalia [25] which concluded that LDR has a positive effect but the effect is not significant. This condition reflects that banks are not efficient in maximizing income from funds lent to the public. This can be caused by the large number of credit failures, the result being a burden on the bank [9].

A similar opinion is also supported by research by Chakraborty, Goldstein, & MacKinlay [57] and Carpinelli & Crosignani [58] which states that there are still many banks that have not fully implemented their prudence in extending their loans. This is because there are still many banks whose LDR values are too high above the LDR limit set by Bank Indonesia [59].

Capital Adequacy Ratio has a negative and insignificant effect on Credit Growth. According to Putri & Akmalia [25] and Ekinci & Poyraz [5], they state that the Capital Adequacy Ratio has a negative and insignificant effect on Credit Growth because CAR may not necessarily increase lending to banks. The insignificant effect allows the bank to prefer to strengthen the capital structure in maintaining the level of adequacy of the fulfillment of the capital they have and not allocate it in full to lending which has a big risk.

This is supported by research conducted by Umar et al. [59] which states that the capital adequacy ratio has no effect on credit distribution, he states that if CAR decreases, it means that there has been a decrease in capital that is smaller than the increase in RWA. The decrease in capital means that there are fewer opportunities for banks to distribute credit, so that the increase in total credit disbursed will decrease.

However, according to research conducted by Ghenimi, Chaibiet al. [60] and Yoel [23] which states that the capital adequacy ratio has a positive and significant effect on credit distribution. They argue that an increase in the capital adequacy ratio has an effect on the amount of credit extended by banks, causing an increase in lending.

The insignificant effect of capital adequacy ratio on credit growth is non confirmed the hypothesis that researcher suspected.

6. Conclusion

The research is aims to analysis determinant of credit growth in 7 commercial banks in Indonesia for the 2017–2021 period. The research is aims to analysis determinant of credit growth in 7 commercial banks in Indonesia for the 2017–2021 period. From Generalized Method of Moments (GMM) that used in this research to confirm the hypothesis. It can be seen that bank size significantly has a positive effect on credit growth of commercial bank in Indonesia and it is in accordance with the hypothesis suspected by the researcher. Where if the bank size is larger, then the bank own more assets and credit disbursed will also be bigger too.

Besides the bank size, third party funds also have a significant and positive effect on credit growth. This finding is accordance with the hypothesis formulated but in different line namely positive. It means when the fund that bank collecting is increases, the amount of lending to the public also increases and furthermore the credit growth increasing. Meanwhile, the non-performing loans have a significant and negative effect on credit growth. Where an increase in Non-Performing Loans will reduce the value of credit growth at commercial banks because a high NPL indicates that these banks cannot work properly. The negative effect of

NPL on credit growth is in accordance with the hypothesis suspected by the researcher.

On the other hand, there are variables that reject the research hypothesis, namely the loan to deposit ratio and capital adequacy ratio. the loan to deposit ratio has a positive effect on credit growth but not significant, this occurs due to the inefficiency of banks in maximizing their income due to a lack of supervision such as bad debt expenses that are not supervised, the LDR value is higher than the LDR set by the central bank. Then the capital adequacy ratio also rejected the hypothesis that researcher suspected before. Where the CAR has a negative and insignificant effect on credit growth. It's because the capital adequacy ratio cannot accurately reflect credit growth, so CAR may not necessarily increase lending to banks, then it is possible that banks prefer to strengthen the fulfillment of their capital and not distribute it optimally.

Therefore it is important for the banking sector to maintain public trust by increasing its credibility and existence as a collector of public funds which has an impact on bank size, managing their capital which is more focused on the assets distributed with their best use of their third party funds, ensuring that non-performing loans remain stable so that banks must apply the precautionary principle, apply risk management, and sound banking principles in their operational activities so that public trust in banks increases. For future researchers, it is hoped that they can use more variables other than those that have been studied in this study and use a larger number of bank samples with longer and newest year periods.

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Детерминанты роста кредитования: эмпирическое исследование коммерческих банков в Индонезии

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Аннотация. Сектор банкинга является одним из столпов, на которых строится экономика страны. Он выполняет важнейшую функцию, направляя средства в виде кредитов населению. Данное исследование направлено на анализ детерминант, влияющих на рост кредитования в коммерческих банках Индонезии. Используется метод целенаправленной выборки для выбора 7 коммерческих банков Индонезии с минимальным капиталом в 30 триллионов долларов. Период анализа 2017–2021 гг. Гипотезы исследования: 1) размер банка оказывает положительное и значительное влияние на рост кредитования; 2) неработающие кредиты, ликвидность, средства третьих лиц и коэффициенты достаточности капитала оказывают также значительное, но при этом отрицательное влияние на рост кредитования. С помощью обобщенного метода моментов (GMM) установлено, что размер банка и средства третьих лиц оказывают положительное и существенное влияние на рост кредитования. Неработающие кредиты оказывают отрицательное и существенное влияние на рост кредитования. Коэффициент депозитных кредитов имеет положительное и существенное влияние, а коэффициент достаточности капитала – отрицательное и незначительное влияние на рост кредитования. Исследование показало, что сторонние фонды оказывают положительное и значительное влияние на рост кредитования коммерческими банками Индонезии. Положительная, но значимая причинно-следственная связь между сторонними фондами и ростом кредитования указывает на то, что гипотеза, которую выдвигали исследователи, подтверждается в другом направлении. Исследование показывает, что поддержание банковской стабильности имеет важное значение, особенно для повышения доверия и успешного функционирования банка в обществе. Теоретическая и практическая значимость исследования заключается в том, что оно предоставляет коммерческим банкам Индонезии знания о детерминантах кредита для использования в практической деятельности.

Ключевые слова: рост кредитования; кредитная политика; неработающие кредиты; банки; ГММ.

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