

Loan growth and bank profitability of commercial banks in Indonesia

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Abstract

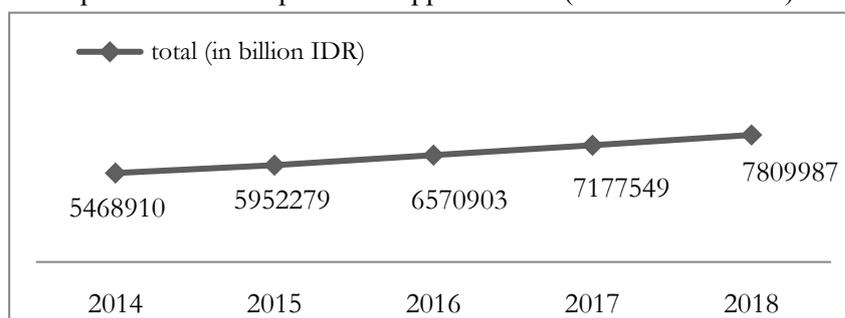
This study examines how loan growth affects profitability of commercial banks in Indonesia during the period from 2014 to 2018. The loan growth shows that banks will increase credit risk, so that is very important to manage credit quality and capital in maintaining the risk of loss. Purposive sampling method was utilized and 96 samples constitute the final samples of this study. This study uses a variance-based analysis of Structural Equation Modeling (SEM) based on variance, namely Partial Least Square (PLS). The results showed that loan growth had a significant positive effect on bank profitability, indirect loan growth had a significant positive effect on bank profitability with credit quality as an intervening variable and indirect loan growth had a negative and not significant effect on bank profitability with bank capital as an intervening variable.

Keyword: Loan growth; bank profitability; credit quality; bank capital

INTRODUCTION

In this modern era banks as one of the financial institutions in Indonesia which is very crucial in financing the country's economic activities. Almost all economic activities are inseparable from the role of banking, especially in the real sector are driven by banks directly and indirectly. Thus the country can be seen as good in its economy through banking activities, the more developed a country, the greater the role of the banking industry in the country. According act of the republic of Indonesia number 10 of 1998 concerning banking article 1 number 2 states that bank is a corporate entity mobilizing funds from the public in the forms of Deposits and channeling them to the public in the forms of Credit and/or other forms in order to improve the living standards of the common people. For commercial banks, lending is the main activity (interest-based activity). With a credit, business can provide the largest contribution to bank income in the form of credit interest in return for loans given to debtor customers (Sulhan & Siswanto, 2008). 75% of bank revenue comes from interest and the remaining 25% comes from service income such as fee-based activities in the form of commissions, fees, commitment fees, appraisal fees, supervision fees etc (Sulhan & Siswanto, 2008).

Data in figure 1 shows that there was an increase in the amount of loan growth from 2014-2018. A steady increase in loan growth can be seen from the growth of bank credit which reached 12.88% in 2018, which consisted of 11.73% growth in domestic bank loans and loans from overseas banks which grew 35.3% (CNBC Indonesia). The increase in credit in 2018 was affected by production loans (working capital loans and investment loans) which increased by 12.3%. By sector, positive loan growth occurred in all economic sectors with the highest growth in the construction sector which reached 22.1%, supported by infrastructure development in various regions (Bank Indonesia, 2018:116). Based on the Indonesian Banking Survey (SPI), the increase in national banking loan growth occurred due to the strengthening of the economy, lower lending rates, more lenient lending policies, longer credit periods and cheaper credit approval fees (finance.detik.com).



Picture 1. Loan growth of commercial banks in indonesia in 2014-2018

There are many reasons why banks expand credit expansion. For example, banks may be interested in diversifying their credit portfolios. Banks may want to try to take advantage of new credit channeling opportunities, expand market share in new geographical areas, and the Bank wants to diversify risk better (Foos et al, 2010). Therefore, to get good margin management is needed effectively and efficiently to increase bank profitability which is one of the objectives of bank credit (Andrianto et al, 2019: 88). Bank profitability can be described as an achievement or success of a company in generating profits from bank operations (Sudana, 2015: 25). Some literature has recently studied the relationship between loan growth and bank profitability, Rossi et al (2019) found that expansive credit can increase bank profitability. This is considered a positive effect of loan growth consistent with an increase in bank profitability in the following years. The results of the study are supported by Dang (2019) in his research that the expansion of bank loans leads to better profitability in the short and long term.

In Indonesia banks operate under regulations that are substantially different from non-bank companies, this can influence the effectiveness of supervisory mechanisms. In the context of banking management, regulations direct management to prudently manage banks. According to Bank Indonesia Regulation (PBI) No.13/1/PBI/ 2011 risks contained in the banking, risk profile include credit risk, market risk, operational risk, liquidity risk, legal risk, strategic risk, compliance risk, and

reputation risk. However, the most vital of these risks are credit risk and therefore require special attention and care. The long-term success of any banking institution depends on the effectiveness of the credit risk management system which involves adequate monitoring, processing, and control of credit risk and guarantees repayment of loans by borrowers thereby reducing the level of loan loss (Boahene et al, 2012).

Literature review

Profitabilitas bank

Profitability measures the company's ability to generate profits by using the resources needed by the company, such as buying, capital or selling the company (Sudana, 2015: 25). According to Kasmir (2010:196) profitability is a ratio to assess the company's ability to look for profits. This ratio also provides a measure of the effectiveness of the management of a company. This is indicated by the profits generated from sales and investment income. The point is the use of this ratio shows the efficiency of the company. Profitability ratio has a goal that is not only for the business owner or management but also for parties outside the company, especially those who have a relationship or interest with the company (Kasmir, 2010:197).

Profitability can be measured in several ways that can be used, namely the Return On Assets, Return On Equity, Net Profit Margin, Operating Profit Margin, and Gross Profit Margin. But in this study, the measure of profitability used is Return on Assets (ROA) and Return On Equity (ROE) (Sudana, 2015: 25). Return On Assets (ROA) determines the ability of a company to use all assets owned to generate profits after tax. This ratio is important for management to evaluate the effectiveness and efficiency of company management in managing all company assets (Sudana, 2015: 25). The greater ROA means more efficient use of company assets or in other words with the same amount of assets can produce greater profits, and vice versa. According to Prihadi (2008:68), Return On Assets is to measure the rate of return on assets used in generating profits. Return On Assets are often used by top management to evaluate business units within a multidivisional company. as revealed by Hempel & Simonson (1998:63) that many regulators believe that ROA is the best measure of bank efficiency. This is reinforced by studies conducted by Bilal et al (2013) that ROA explains better profitability in the banking sector compared to other calculations, and ROA also measures the ability of the Bank's management to obtain profitability and manage the overall level of efficiency of the Bank's business (Mahrinasari, 2003). The second measure is Return on Equity (ROE) showing the ability of companies to generate profits after tax using their capital needed by the company. This ratio is important for shareholders, to find out the compatibility and efficiency of their capital carried out by the company's management. The higher this ratio the higher the use of own capital by the company management (Sudana, 2015: 25). Return on equity is a ratio to measure net income after tax with own capital. This ratio shows the efficiency of using their capital, the higher this ratio means that the position of the owner of the company is getting stronger (Kasmir, 2010: 204).

Loan growth

Credit comes from the word credere, which means trust, meaning that if someone obtains credit it means they gain trust. As for the lender means giving confidence to someone that the money lent must be returned (Kasmir, 2001:71). Credit is very important in the operational activities of a bank. The biggest contribution to a bank's business income comes from lending because most banks still rely on their main source of income from the credit business (Andrianto et al.,2019:84). Thus the more the number of loans extended to the community will contribute to the source of income of a bank. Some recent literature that has studied the relationship between loan growth and bank profitability (Rossi et al., 2019, Dang, 2019, Negara & Sujana, 2014, Gul et al.,2011 and Antoni & Nasri, 2015) provides empirical evidence that there is a relationship positive relationship between credit and ROA. This is considered a positive effect of loan growth consistent with an increase in bank profitability in the following years. However on the other hand research conducted by Fahlenbrach et al., (2018) and Sukmawati & Purbawangsa (2016). Then research conducted by Paul et al., (2016) and Menicucci & Paolucci (2016) showed that bank loan growth had a positive impact on profitability but the effect was not significant. Therefore it is hypothesized that:

H1: *Loan growth has a positive effect on bank profitability*

Credit quality

Credit quality influences decisions in granting credit in banks. That is, the more quality the credit is given or is feasible to be distributed will reduce the risk of the possibility of credit problems (Kasmir, 2014:113). To ensure that the loans disbursed do not cause problems, in releasing credit so that the quality of the banking sector needs to pay attention to the following matters: first, the level of profit (return). This means that the amount of profit to be obtained from lending. The amount of profit must meet the applicable provisions if you want to be assessed good health. Second, the level of risk. This means that the level of risk that will be faced against the possibility of missed profit generated by the bank credit.

In this research, to measure credit quality, a Non-Performing Loan (NPL) ratio shows the ability of bank management to managing non-performing loans provided by the Bank. According to Arthesa & Erdia Handiman (2006:181), non-performing loans are loans that contain weaknesses or do not meet the quality standards set by the Bank. Non-performing loans will result in bank losses, i.e. losses due to the non-receipt of funds channeled, as well as interest income that cannot be received. That is, the Bank loses the opportunity to get interest, which results in a decrease in total income (Ismail, 2010:123). So with an NPL ratio, a bank will be able to describe credit risk in banks.

According to Suhardjono (2003:74), Credit risk is the risk of loss caused by defaults (debtors) that can not be predicted or because the debtor can not meet its obligations according to the agreement or a decrease in customer credit quality. In measuring credit risk not only depends on the amount of credit but also determined by the quantity of risk (or nominal amount of loss) and the quality of risk (or the possibility of default). Among the risks inherent in the banking business, credit risk is generally the most important risk, because the inability to meet the obligations of some core customers can lead to bankruptcy. In Bank Indonesia Regulation (PBI) No. 17/11/PBI/ 2015, Bank Indonesia has determined the value of Non-performing Loans (NPL) is less than 5%. The smaller the Non-Performing Loan (NPL), the smaller the credit risk borne by the Bank (Diyanti and Widyarti, 2012). If the Bank can reduce the NPL ratio below 5%, the potential profit will be even greater, because the Bank can save the money needed to form a reserve for loss of problem loans. Thus the Bank's management can manage the quality of credit provided by the Bank for the possibility of NPL or the risk of possible uncollectible loans.

Credit quality is very necessary when a bank is going to extend credit. This means that a large amount of credit extended must also be followed by the quality of the credit. Because the higher the quality of the credit or is worthy of distribution, it will reduce the risk of the possibility of the problematic credit. Therefore declining credit quality has a negative effect on banks. Increasing problem loans will increase the formation of credit loss reserves. Research conducted (Shahzad et al., 2019, Kashif et al., 2016, Amador et al., 2013, and Foos et al., 2010) supports that high loan growth undermines bank performance and worsens bad loans. However, in contrast to studies by Ebenezer et al. (2019) loan growth has a positive relationship with NPL, the results of this study are contrary to many previous studies. The higher credit risk means worse the quality of the Bank's credit will cause the number of bad loans. The provision of credit without considering the level of credit quality can cause future losses (Darmawi, 2014:126). Thus the existence of credit risk and increased exposure to credit risk will cause a decline in the Bank's performance and profitability. So it is very important to maintain credit quality because it is very important in making a profit. Several studies have shown that there is a positive relationship between credit quality and bank profitability (Serwadda, 2018; Saeed & Zahid, 2016; Boahene et al, 2012 and Soares & Yunanto, 2018). On the other hand, several studies have shown that there is a negative relationship between NPL and bank profitability (Rahman et al, 2015; Million et al, 2015 and Kayode et al, 2015) where the higher the ratio results in the lower quality of bank credit, and problem loans the higher it is. NPL increases, bank profits will decrease because the more trouble the lender is having in that portfolio. Therefore it is hypothesized that:

H2: *Loan growth indirectly has a positive effect on bank profitability through credit quality.*

Capital

Capital is defined as something that represents the interests of the owner in a company. Based on book value, capital is defined as net worth, which is the selection between the book value of assets minus the book value of liabilities (Arifin, 2002:157). At a bank, the source of bank capital acquisition

can be obtained from several sources. At the beginning of the establishment, bank capital was obtained from the founders and shareholders. Shareholders place their capital in the Bank in the hope of obtaining a profit in the future. Capital is one of the most important aspects of banking. Without banking capital, it will not be able to carry out its operational activities. According to (Darmawi, 2014:84) bank capital funds originating from owners or shareholders plus agio shares and operating results from operational activities of the Bank.

In this study, to measure the Bank's capital the Capital Adequacy Ratio (CAR) ratio is used. Financial ratios that show the ability to carry out their business activities effectively by indicating bank capital (Menicucci & Paolucci, 2016). According to Dendawijaya (2009:121) CAR is a ratio that shows how far all the Bank's assets that contain risks (loans, investments, securities, bills to other banks) are also financed from the Bank's capital funds, besides obtaining funds from sources outside the Bank, such as public funds, loans, etc., CAR is an indicator of the Bank's ability to cover the decline in assets as a result of Bank losses caused by risky assets. Banks with high CAR ratios are increasingly able to assume risks or reduce risks as minimum as possible and can finance the Bank's operational activities as efficiently as possible which will have a significant impact in generating profitability, so this high ratio tends to be considered safer compared to Banks that have a low CAR.

Provisions regarding minimum capital for commercial banks that apply in Indonesia follow the standards of the Bank for International Settlements (BIS). This provision is stipulated in Indonesia by Bank Indonesia, based on Bank Indonesia Regulation (PBI) No.15/12 / PBI / 2013 stipulates that Banks are required to provide minimum capital according to risk profile, the lowest capital supply is 8% of Risk-Weighted Assets (RWA) for Banks with risk profiles of rank one, 9% to less from 10% of RWA for Banks with risk rating two ranks, then 10% to less than 11% of RWA for Banks with risk rating three, and 11% to 14% of RWA for Banks with risk rating four rank or rank five. The higher the CAR, the better the Bank's ability to bear the risk of any noisy credit / productive assets. If the CAR value is high, the Bank can finance operational activities and make a significant contribution to profitability.

Bank capital is essential for a bank because it is a factor that must be considered in assessing the safety and health of a bank. The size of the capital indicates the level of the Bank's ability to finance assets that contain risks (Pandia, 2012:28). Thus, if the bank will expand/extend credit, it must pay attention to the amount of capital owned at that time, which means whether the Capital Adequacy Rationya level is limited or close to the maximum provisions, then the credit expansion must be accompanied by additional capital. Research conducted by Ebenezer et al., (2019) shows that there is a positive relationship between loan growth and bank capital. This means that the greater the amount of capital, the higher the financial ability to anticipate the emergence of losses caused by the large number of loans extended to customers. On the other hand, several studies have shown that there is a negative relationship between loan growth and bank capital (Dang, 2019, Shahzad et al., 2019 and Kashif et al., 2016). A high CAR ratio to reduce risk to a minimum and to finance the Bank's operations as efficiently as possible which will have a significant impact on generating profitability. Several studies have shown that there is a positive relationship between CAR and Bank profitability (Menicucci & Paolucci, 2016 and Anggreni & Suardhika, 2014). On the other hand, several studies have shown that there is a negative relationship between CAR and bank profitability (Ali et al, 2011). Then a study by Gul et al., (2011) showed an insignificant relationship. Therefore it is hypothesized that:

H3: *Loan growth indirectly has a positive effect on bank profitability through bank capital.*

METHOD

This research is a type of quantitative research, that emphasizes testing theories through research variables using numbers and analyzing data with statistical procedures (Indriantoro & Supomo, 1999:12). The population in this study was all Commercial Banks in Indonesia in 2014-2018 who participated in 115 banks. The sample selection is used by the Purposive Sampling method, the sample criteria in this study are: Commercial Banks in Indonesia in 2014-2018, Sharia Commercial Banks in 2014-2018 were not included in the sample and Banks that publish financial statements in a row for 5 years following the study period, starting from 2014 -2018 and can be accessed by the

public. 96 bank samples were obtained. The samples consisted of 4 Government Banks (BUMN), 22 Regional Development Banks, 52 National Private Banks, 8 Foreign Banks and 10 Mixed Banks (Attachment 1). The type of data used is secondary data. Secondary data for this study are in the form of banking reports on the Indonesian Banking Directory 2014-2018 reported on the official website of Bank Indonesia (www.bi.go.id), the official website of the Indonesia Stock Exchange (www.idx.co.id) and financial reports and annual report on the official website of the bank which is used as a research sample. Secondary data was obtained through the Islamic Investment Gallery of Maulana Malik Ibrahim State Islamic University of Malang.

Table 1. Definition of variable (proxies)

No	Variabel	Concept	Indicator	Source
1	Dependent Variable	Profitability	ROA = Net income to total asset of Bank i in time t ROE = Net income to total equity of Bank i in time t	Sudana (2015: 25)
2	Independent Variable	Loan growth	The change in current years loans as a percentage of those of the previous years	Kashif et al.,(2016) and Shahzad et al., (2019)
3	Intervening Variable	Credit Quality	NPL = The non-performing loans to loans ratio and then dividing that total by the total amount of loans in the portfolio	Kasmir (2013:155)
		Capital	CAR = capital bank to risk-weighted assets (RWA) of Bank i in time t	Dendawijaya (2009:144)

In this study, the analysis technique used is the Partial Linear Square (PLS) analysis which is a multivariate statistics by comparing the dependent variables and the multiple independent variables with the help of the Smart PLS software program version 3.2.9. PLS is one of the variance-based statistical methods of Structural Equation Modeling (SEM) that is designed to solve multiple regression when specific data problems occur, such as small study sample sizes, missing data, and multicollinearity (Abdillah & Hartono, 2015:161). Two reasons underlie SEM. First, SEM can estimate relationships between variables that are multiple relationships. This relationship is formed in the structural model (the relationship between the dependent and independent latent constructs). Second, SEM can describe the pattern of relationships between latent (unobserved) and manifest variables (indicator variables). The PLS analysis method is used for the analysis of variance-based structural equations simultaneously by testing structural models. The measurement model is used to test the validity and reliability, while the structural model is used to test causality (hypothesis testing with predictive models) (Abdillah & Hartono, 2015:164).

RESULT AND DISCUSSION

Pls analysis results

There are two stages of modeling in Partial Least Square (PLS) namely the measurement model and structural model. The measurement model (outer model) is an evaluation to see the relationship between indicators and their latent variables. This evaluation includes two stages, namely the evaluation of convergent validity and discriminant validity. Then after checking the measurement model is fulfilled, then the next is an examination of the structural model (inner model) which functions to test the hypothesis between variables. The step that must be done is to compile a path diagram that connects the measurement model and the structural model in one diagram.

Evaluation of the measurement model (outer model)

The initial evaluation of the measurement model is reflective, which includes two stages are the evaluation of the validity test (convergent and discriminatory validity) and the reliability test.

Table 2. Convergent validity test with loading factor

Indicator	Loading faktor	Explanation
LG <- Loan growth	1,000	Valid
NPL <- Credit quality	1,000	Valid
CAR <- Bank capital	1,000	Valid

Indicator	Loading faktor	Explanation
ROA <- Profitability	0,974	Valid
ROE <- Profitability	0,968	Valid

The loading factor value for the loan growth variable shows that the LG indicator has a value of 1,000 as well as the credit quality variable with the NPL indicator and the capital variable with the CAR indicator having a value of 1,000 because the loan growth construct, credit quality and bank capital only have one measuring indicator. The variable loading factor values for the ROA indicator (0.974) and ROE (0.968). Based on the resulting loading factor values it can be seen that all indicators each have a loading factor value greater than 0.5. Thus the indicator can be declared valid as a measure of its latent variable.

Discriminant validity evaluation is carried out in two stages, which are looking at the value of cross loadings and comparing the square of the correlation between the variable and the AVE value or the correlation between the extract with the \sqrt{AVE} . The criterion in cross loadings is that each indicator that measures the construct must correlate higher with the construct than the other construct. The extract has good discriminatory validity if the cross loadings value is more than 0.7. The output cross loadings are as follows:

Table 3. Discriminant validity test with cross loadings

Indicator	Credit quality	Bank capital	Loan growth	Profitability
NPL	1,000	-0,174	-0,214	-0,506
CAR	-0,174	1,000	0,319	0,031
LG	-0,214	0,319	1,000	0,091
ROA	-0,519	0,084	0,098	0,974
ROE	-0,460	-0,029	0,078	0,968

The correlation of NPL with the credit quality construct is 1,000. The correlation value of the indicator is higher with the credit quality construct compared to other constructs. Similarly, the CAR indicator correlates higher with bank capital extracts and the LG indicator that correlates higher with loan growth. Then the correlation value of ROA and ROE is 0.974 and 0.968 higher with the construct of bank profitability compared to other constructs. Based on the results of the cross-loadings table above, each indicator correlates higher with each construct compared to other constructs and the cross-loadings value is more than 0.7 so it is said to have good discriminatory validity. The next examination is to compare the correlation between constructs and \sqrt{AVE} of each extract. The results are as follows:

Table 4. Discriminant validity test with \sqrt{ave}

Construct	\sqrt{AVE}	Credit quality	Bank capital	Loan growth	Profitability
Credit quality	1,000	1,000			
Bank capital	1,000	-0,174	1,000		
Loan growth	1,000	-0,214	0,319	1,000	
Profitability	0,971	-0,506	0,031	0,091	0,971

Based on the results of the table above, \sqrt{AVE} for credit quality constructs is 1,000, while the maximum correlation between credit quality and other constructs is -0,174 (with bank capital constructs). Because the AVE value of credit quality (1,000) is higher than the correlation with other constructs, it is said that discriminant validity is good. \sqrt{AVE} for constructing bank capital is 1,000, while the maximum correlation between bank capital and other constructs is 0.319 (with the loan growth construct). Because the AVE value of bank capital (1,000) is higher than the correlation with other constructs, it is said that discriminant validity is good. \sqrt{AVE} for constructing loan growth is 1,000, while the maximum correlation between loan growth and other constructs is 0.091 (with the construct of bank profitability). Because \sqrt{AVE} loan growth (1,000) is higher than the correlation with other constructs, it is said that discriminant validity is good. Next is reliability testing, namely testing instruments to see the consistency of the research variables.

Table 5. *Composite reliability and cronbach's alpha*

Konstrak	Composite Reliability	Cronbach's Alpha
Loan growth	1,000	1,000
Credit quality	1,000	1,000
Bank capital	1,000	1,000
Profitability	0,970	0,939

From the output above shows the loan growth construct, credit quality and bank capital have composite reliability and Cronbach's alpha 1,000 (above 0.7), as well as bank profitability constructs, have composite reliability value (0.970) and Cronbach's alpha (0.939) more than 0.7 then said to be reliable. Thus it means that the constructs in this study have met the composite reliability and internal consistency reliability.

After the convergent validity and discriminant validity checks are fulfilled, it can be concluded that the consistent consistency test in this study is said to be valid (has acceptable validity) and is reliable. Next is the evaluation of structural models.

Evaluation of the structural models (inner model)

This evaluation includes the significance value of each path coefficient which states whether or not there is (significant) influence between the constructs which are hypothesized by looking at a t statistic value of more than 2.0. Next is to look at the value of R Square (R^2) to illustrate the magnitude of the ability of exogenous latent extracts to explain endogenous latent extracts (Yamin & Kurniawan, 2011:216).

Tabel 6. *Path coefficients*

Variabel	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)
Credit quality -> Profitability	-0.516	-0.516	0,056	9,225
Bank capital -> Profitability	-0.059	-0,055	0,041	1,443
Loan growth -> Credit quality	-0.214	-0.219	0,045	4,769
Loan growth -> Bank capital	0.319	0,303	0,126	2,524
Loan growth -> Profitability	0,091	0,096	0,037	2,486

Evaluation of structural models begins by looking at the significance of the inter-extract relationship shown by the t-statistic value. In the table above shows the relationship of each construct. The first direct effect coefficient has a statistical value of $9,225 > 2.0$; so it can be said that credit quality has a significant relationship with bank profitability. The second direct effect coefficient has a t value of $1.443 < 2.0$; it means that bank capital has no significant relationship with bank profitability, so it can be said that when bank capital increases it does not have an effect on increasing bank profitability. The third direct effect coefficient has a t value of statistics $4.769 > 2.0$; so it can be said that loan growth has a significant relationship with credit quality. The fourth direct effect coefficient has a t value of $2.524 > 2.0$; so it can be said that loan growth has a significant relationship with bank capital. The fifth direct effect coefficient has a t value of statistics $2.486 > 2.0$; it means that loan growth has a significant relationship with bank profitability. Next is to look at the value of R Square (R^2) to construct bank profitability.

Tabel 7. *R square (R^2)*

Variabel	R Square	R Square Adjusted
Bank capital	0,102	0,100
Credit quality	0,046	0,044
Profitability	0.259	0.254

Based on table 4.10 the test results show that together the growth of loan growth, credit quality, and bank capital are able to explain the variability of the bank profitability variability of 25.9% (R^2), the remaining 74.1% is explained by other constructs that are not hypothesized in the research model this.

Hypothesis testing results

Hypothesis testing is used to test the causality relationship developed in the model, namely the influence of exogenous variables and moderating variables on endogenous variables. Hypothesis testing can be determined through t-statistics and p-values in the following table:

Tabel 8. Hypothesis testing

Variabel	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Loan growth -> Profitability	0,091	0,096	0,037	2,486	0,013
Loan growth -> Credit quality -> Profitability	0,110	0,113	0,027	4,115	0,000
Loan growth -> Bank capital-> Profitability	-0,019	-0,017	0,016	1,196	0,232

In hypothesis testing the bootstrapping resampling method on SEM-PLS. Based on the results of hypothesis testing as table, the PLS bootstrapping analysis results are obtained as follows:

First hypothesis testing (H1)

The first hypothesis testing result is the effect of loan growth on bank profitability which shows the coefficient value (0.091) with p-value (0.013) and t-statistic (2.486), while the t-table value (1.64). The results showed that the P-value $0.013 < 0.05$ and t-statistic $2.486 > 1.64$. This shows that loan growth has a positive and significant effect on bank profitability and the hypothesis is accepted.

Second hypothesis testing (H2)

The second hypothesis test result is loan growth indirectly affects bank profitability through credit quality as an intervening variable that shows a coefficient value (0.110) with a p-value (0,000) and t-statistic (4.115), while at-table value (1.64). The results show that P-value $0,000 < 0.05$ and t-statistic $4.115 > 1.64$. This shows that loan growth indirectly has a positive and significant effect on bank profitability through credit quality and the hypothesis is accepted.

Third hypothesis testing (H3)

The third hypothesis test result is loan growth indirectly affects the profitability of banks through bank capital as an intervening variable that shows the coefficient (-0.019) with p-value (0.232) and a t-statistic (1.196), while the value of t-table is 1.64. The results showed that P-value $0.232 > 0.05$ and t-statistic $1.196 < 1.64$. This shows that loan growth indirectly has a negative and insignificant effect on bank profitability through bank capital and the hypothesis is rejected.

The effect of loan growth on bank profitability

Based on the results of hypothesis testing conducted, loan growth has a significant positive effect on bank profitability which is proxied by return on assets (ROA) and return on equity (ROE). In the opinion of Sulhan & Siswanto (2008) said that credit is the biggest contributor to bank income. The increasing demand for credit, the profit that will be obtained by banks will also increase because this bank gets the results of interest on the distributed credit loans. The results of this study support the findings of Negara & Sujana (2014) which imply that banks with higher lending tend to be more profitable because the interest charged on loans constitutes a sizable portion of bank assets. Rossi et al., (2019) reveals the tendency in increasing credit is usually considered an indicator of good health for banks and is one of the most important drivers in increasing the profitability of commercial banks in subsequent years because companies able to gain market share in the credit market so that it becomes a good signal for banks and therefore is considered a positive element to increase profits. Dang (2019) saying that bank loan expansion causes better profitability to be offset by ROA and ROE, both in the short and long term. This finding is supported by Gul et al., (2011) and Antoni & Nasri (2015) revealed that loans are the main asset held by banks, this study shows a positive and significant loan relationship with ROA. This shows that with more loans, the opportunity to return assets will be high. Then research conducted by Paul et al., (2016) and Menicucci & Paolucci (2016) showed that bank loan growth had a positive effect on return on assets (ROA) but the effect was not significant.

The results of this study differ from the results of research by Fahlenbrach et al., (2018) and Sukmawati & Purbawangsa (2016) which show that high loan growth will lead to poor performance with low return on assets (ROA) and increase loan loss reserves. Then Foos et al., (2010) and Amador

et al., (2013) also provide evidence that excessive loan growth negatively affects bank profitability because it tends to increase the ratio of loan loss provisions which also increases bank costs. A high amount of credit from the results of this study increased bank profitability. This is inseparable from the function of the bank, which functions as a financial intermediary to then be distributed back to the people who need it in the form of credit. Credit distribution is one of the goals of banks to get profits so that banks will not idle funds just like that. Banks tend to channel their funds as much as possible to obtain maximum profits as well. Seen in the 2018 Indonesia Economic Report shows an increase in the intermediation function as seen from loan growth increased to 11.8% in 2018 from 8.2% in 2017. Amid improving loan growth, credit risk is well managed which is reflected in the NPL ratio remained low at 2.4% (gross) or 1.0% (net) and was at a healthy level below 5%. Based on the type of usage, the increase in 2018 credit was affected by production loans (working capital loans and investment loans) which increased by 12.3%. By sector, positive loan growth occurred in all economic sectors with the highest growth in the construction sector which reached 22.1%, supported by infrastructure development in various regions (Bank Indonesia, 2018: 116). With the increase in banking intermediation in the last five years, about 70% of economic financing comes from bank loans (Bank Indonesia, 2018: 91). The increase in credit was mainly contributed by loans that supported the production process in the form of working capital loans and investment loans which increased by 12.3% (Bank Indonesia, 2018: 108). This achievement underpins domestic financing for economic activities, amid a decline in nonbank financing and financial markets. So it can be concluded that the largest financing of economic financing comes from bank credit, the more developed a country, the greater the role of the banking industry in the country.

The indirect effect of loan growth on bank profitability through credit quality

Based on the results of mediation tests through the Sobel test, it can be seen that there is a significant positive effect between loan growth on profitability through credit quality. A bank paying attention to credit quality will influence the decision in granting credit (Kasmir, 2014:113). This means that the higher the quality of the credit provided or is appropriate to be distributed later will reduce the risk of the possibility of problem loans. The results of this study are in line with Shahzad et al., (2019), Kashif et al., (2016), Foos et al., (2010) and Amador et al., (2013) states that high loan growth is significantly positive towards bad credit in the future, when a bank competes between banks, the maximization of short-term profits by managers causes an increase in bad loans. And not in line with the findings of Ebenezer et al. (2019) loan growth has a negative and significant impact on the ratio of problem loans. When a bank's credit risk increases, banks can increase their profitability, possibly despite high overhead costs and considerable provision, because of large NPLs, banks' pre-tax returns on assets and equity remain high. The higher the NPL value, the lower the profit received by the bank (Suhardjono, 2003:74). Because when more customers fail to pay for loans, debtors cannot fulfill their obligations according to the agreement or decrease the quality of the customer's credit, the bank's profitability should decrease. The results of this study found a positive relationship between NPL and profitability that is contrary to existing theories, these results are in line with research (Serwadda, 2018; Saeed & Zahid, 2016; Boahene et al, 2012 and Soares & Yunanto, 2018) a positive NPL relationship towards profitability.

In contrast to the results of studies by (Putrianingsih & Yulianto, 2016; Rahman et al, 2015; Gizaw et al, 2015; Kayode et al, 2015; Edo & Wiagustini, 2014; Anggreni & Suardhika, 2014; Bilal et al, 2013 and Ali et al, 2011) stated that Non-Performing Loans (NPL) had a negative effect on profitability. These results indicate that the increase in Non-Performing Loans (NPLs) that reflect bad loans in bank credit management, will reduce the level of bank income, causing smaller ROA. The positive relationship between loan growth and profitability through bank capital in this study is that the more credit expansion, the Non-performing Loan (NPL) ratio that describes the quality of lending to a problematic party is also high. Therefore the higher the NPL at a bank, it can be concluded the worse the credit distribution and will affect the performance of a bank. The maximum NPL is 5% set by Bank Indonesia. In this case, because during the study period several banks had NPL values above 5%. During the national non-performing loans (NPL) research period, there was an increasing trend when loan growth. Unstable domestic economic conditions due to sluggish demand for goods and services slowed loan growth. In September 2016, it had reached 3.1 percent. The slowdown in the

domestic economy is the impact of the global economy, the fall in the price of crude oil and other commodities, and the prohibition of exports of mining goods to make the banking NPL penetrate above 3 percent in 2016 (Databoks.katadata.co.id).

There are several reasons why banks with high NPLs can increase profitability. First, banks (knowing full well the inherent risks in the facilities provided can increase the proportion of the default risk component in the interest rates charged on loans far more than the actual default risk. Finally, banks that adopt this behavior are more likely to increase their profitability, even though credit risk may be high. In other words, an increase in NPLs allows banks to charge very high loan interest rates which always leads to high profitability. an increase in NPL values tends to increase ROA. Second, bank profits can still increase with high NPLs because banks can still obtain sources of profit not only from interest but also from other sources of income such as fee-based income which also has a relatively high effect on ROA levels.

The indirect effect of loan growth on bank profitability through bank capital

Based on the results of mediation tests through the Sobel test, it can be seen that there is no significant negative effect between loan growth on profitability through bank capital. CAR is a ratio that shows how far all bank assets that contain risks (loans, investments, securities, bills to other banks) are financed from the bank's capital funds in addition to obtaining funds from sources outside the Bank, such as funds from the public, loans, and others, CAR is an indicator of the ability of the Bank to cover the decline in assets as a result of bank losses caused by risky assets (Dendawijaya, 2009:121).

The results of this study indicate that when a bank expands its business such as lending with a greater CAR value, the higher the bank's capital ability to maintain the possibility of risk of loss of business activities, but not necessarily significantly affect the increase in the amount of bank lending during the study period. Because of the high CAR value, banks can have sufficient capital, but the use of profitable capital has not yet been followed and is related to the efforts of banks to continue to strengthen their capital adequacy. The findings of this study differ from Ebenezer et al., (2019) the growth of loans in banks in Malaysia was found to have a positive and significant relationship with the bank's capital adequacy ratio. This means that the greater the amount of capital, the higher the financial ability to anticipate the emergence of losses caused by the large number of loans extended to customers. The results of the research conducted (Shahzad et al., 2019) states that excessive loan growth tends to reduce the bank's capital ratio. Kashif et al., (2016) revealed the fact that Vietnamese commercial banks after an excessive lending period faced bank capital burdens and took a long time to settle because under the pressure of the state authorities in requesting capital adequacy ratios. Research conducted by Dang (2019) emphasizes the importance of prudence in expanding credit expansion activities and has implications for banks in terms of risk management and capital management.

Dendawijaya (2009:122) revealed in his book that when CAR has increased, bank profitability will also increase and or vice versa. However, the results of the study indicate that the increase or decrease in CAR during the study period did not significantly influence the profitability of banks. The results of this study are in line with research conducted by Gul et al., (2011) the capital ratio shows an insignificant impact on ROA, which means that banks that have a large enough capital experience negative returns but because the relationship is not significant, the relationship is not conclusive. This finding is supported by Soares & Yunanto (2018) that CAR does not have an influence on ROA, inhibiting business expansion caused by high CAR which will ultimately affect the financial performance of banks. After review, CAR does not affect ROA from possible possibilities because the banks operating in this research period strongly maintain the amount of capital that is available or owned. Then the results of a study by Putrianiingsih & Yulianto (2016) revealed that CAR does not influence bank profitability because in general banking companies also do not want to set CAR values that are too high in their companies because high capital will reduce the income earned. The effect of capital adequacy causes an increase in profitability is relatively small, therefore the results of the study do not have a significant effect. But the results of this study contradict the research conducted by Menicucci & Paolucci (2016) and Anggreni & Suardhika (2014) showing that capital ratios have a

positive effect on profitability, which means that banks with good capital experience higher returns, thereby reducing funding costs and facing lower risk of bankruptcy. Edo & Wiagustini (2014), Rahman et al (2015) and Bilal et al., (2013) found that capital ratios have a positive but not significant relationship with bank profitability. Then Gizaw et al., (2015), Akhtar et al., (2011) and Ali et al (2011) found a negative relationship between capital adequacy and bank profitability.

Capital circulation in the banking world, preferably for investment activities, where it can be seen from the daily activities of banks, namely receiving funds from the public and channeling them in the form of credit/financing to the public who need these funds for a business or certain purposes. In general, capital-related banking companies do not want to set a CAR value that is too high in their companies because high capital will reduce the income earned. Besides, a high CAR can reduce the ability of banks to expand their business due to the increasing capital reserves used to cover the risk of loss. This is due to the existence of Bank Indonesia regulation number 15/12 / PBI / 2013 which requires a minimum CAR of 8% which makes banks always try to maintain their CAR following applicable regulations. Seen in the 2018 Indonesia Economic Report shows a high bank capital ratio with a bank capital adequacy ratio (CAR) which reached 22.9% at the end of 2018. In line with this, lending also increased and credit risk was controlled. The CAR value is derived from bank capital in Risk-Weighted Assets (RWA). Thus, the greater the RWA will decrease the CAR value and conversely the smaller the RWA will increase the CAR value. On the other hand, loans provided to the public can open up opportunities for banks to earn income from loan interest. Therefore, another possibility that CAR does not affect ROA is that banks have not been able to provide credit according to the requirements or are not optimal so that profits are not optimal.

CONCLUSIONS

The conclusions that can be drawn from the results of the analysis and discussion of the direct and indirect effects of loan growth on bank profitability with credit quality and bank capital as intervening variables in Conventional Commercial Banks in Indonesia in 2014-2018 are as follows: First, Loan growth has a positive and significant effect on bank profitability. This means that with the increase in credit demand, the profits to be obtained by banks will also increase. Second, loan growth indirectly has a positive and significant effect on bank profitability through credit quality. This means that high loan growth will increase the NPL of a bank. But with the increased risk of bank bad loans, bank profitability has also increased because banks can still obtain sources of profit not only from interest but also from other sources of income. Third, Loan growth indirectly has a negative and not significant effect on bank profitability through bank capital. This means that a high CAR can reduce a bank's ability to expand its business due to the increasing capital reserves used to cover the risk of loss and the possibility that banks have not been able to provide loans following the requirements or are not optimal so that profits are not optimal.

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