ANALYZING THE IMPACT OF CAR, NIM AND NPL ON ROA OF BANKING COMPANIES (AN EMPIRICAL STUDY ON BEI LISTED COMPANIES)

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Abstract: This research aims to investigate the influence of CAR, NIM, and NPL on ROA of banking companies listed in the Indonesia Stock Exchange (ISX) during the period of 2013 to 2017 in accordance with the criteria of Bank Indonesia. This empirical study employs multiple regression in its data analysis. The model is used to describe the influence of independent variables to the variables simultaneously. The results conclude that the ratio of financial performance in the CAR and NIM banking companies has a positive and significant effect on ROA. This study found that NPL has a significant negative impact on ROA in the banking business while others are positive. Moreover, the higher the CAR and NIM of a bank, it will cause an increase in ROA in the company; the more NPL of a bank increase, the ROA will be decreased. In general, the influence of these three independent variables on ROA in the banking company for 54.6% and included in the category of being.

Keywords: Capital Adequacy Ratio, Net Interest Margin, Non-Performing Loan and Return on Assets.

Abstrak: Penelitian ini bertujuan untuk mengetahui pengaruh CAR, NIM, dan NPL terhadap ROA pada perusahaan perbankan yang terdaftar di Bursa Efek Indonesia (BEI) selama periode tahun 2013 sampai dengan 2017 sesuai dengan kriteria Bank Indonesia. Studi empiris ini menggunakan regresi berganda dalam analisis datanya. Model digunakan untuk menggambarkan pengaruh variabel independen terhadap variabel secara simultan. Hasil penelitian menyimpulkan bahwa rasio kinerja keuangan pada CAR dan NIM perusahaan perbankan berpengaruh positif dan signifikan terhadap ROA. Penelitian ini menemukan bahwa NPL memiliki pengaruh negatif yang signifikan terhadap ROA pada bisnis perbankan sedangkan lainnya positif. Selain itu, semakin tinggi CAR dan NIM suatu bank maka akan menyebabkan peningkatan ROA pada perusahaan tersebut; semakin besar NPL suatu bank maka ROA akan semakin menurun. Secara umum pengaruh ketiga variabel bebas tersebut terhadap ROA pada perusahaan perbankan sebesar 54,6% dan termasuk dalam kategori sedang.

Kata Kunci: Rasio Kecukupan Modal, Marjin Bunga Bersih, Pinjaman Bermasalah dan Pengembalian Aset.

INTRODUCTION

Banking industry in Indonesia is undergoing enormous changes to keep pace with economic developments. The biggest influence in these changes mainly comes from external factors, for instance the development of real sector in economic growth, government regulation in the fields of law and economy, social development, politics and democracy, as well as the influence of international world. Internal factors also contributed to changes that directly affected the condition of banking sector in Indonesian. In fact, changes from internal factors are getting bigger due to pressure from external changes.

According to CNBC Indonesia on 27 July 2018, during the period of 2015-2017, banking industry has entered a downward phase. Credit growth continued to slow down and caused banks to start holding their credit hence demand for credit weakens. The increased of non-performing loans (NPL) was the reason behind the falling of commodity prices and weakening exchange rates.

At that time, commodity prices began to decline from US$ 105 /barrel in 2014 to US$ 60.3 /barrel in June 2015. Similarly, the exchange rate also weakened where the US dollar had touched Rp 14,500. For NPL which in 2015 has reached 2.48%, immediately jumped to 2.92% in 2016 and even higher in January 2017 reached at level 3.09%. Condition alike is returning to the banking industry. But this time the cause was the weakening of rupiah exchange rate due to the improvement in the US economy. Rupiah exchange rate in July 2018 reached IDR 14,475 equals to one dollar. This situation is almost similar where rupiah depreciated in September 2015 at level of Rp. 14,860 per one US dollar.

The strengthening of dollar is a threat to the banking business. Because the weakening of rupiah exchange rate has an impact on the banking industry where banks can face piles of non-performing loans (NPL) and foreign exchange liquidity. In this case, banks should be more careful in channeling credit.

President Director of PT. Bank Central Asia (BCA) Tbk, Tahja Setiaatmadja stated that long-term weakening of rupiah could affect banking NPLs. Based on data from the Financial Services Authority (OJK), the NPL ratio of banks in June 2018 had reached 2.71%. In OJK regulations, each bank must keep its NPL below 5% and if they have exceeded the threshold, the bank will be asked to temporarily stop credit expansion and fix the bad debts. (CNBC Indonesia, 2018)

A number of bankers argued that the very slow of credit growth at the beginning of this year was an annual cycle. But they admit that the conditions this year are not good due to the impact of the global financial crisis.

In a rapidly changing situation, a banker is required to be more sensitive towards changes surrounding. This is to improve the bank intermediation function as proclaimed by Bank Indonesia. On the other hand, raising public funds must offer attractive investment options for fund owners. They are required to always make innovations in collecting third party funds. In terms of utilization, fund distribution is also quite complicated because it faces increasingly stringent signs, such as the Legal Lending Limit (BMPK), the amount of Non-Performing Loans (NPL) and the minimum Capital Adequacy Ratio (CAR) that must be met and the maximum Net Open Position (NOP) that can be managed by a bank.

In order to face changes and challenges in these conditions, a comprehensive understanding is required in looking at banking problems. Various parameters of the performance process must still be used, such as how to manage assets and portfolios during a crisis period, how management makes efforts such as cost efficiency, as well as a large portion of its income margin. These efforts are combined into indicators to see the strength of a bank in facing the problems of global financial crisis.

In addition, the Central Bank also warns every bank to take a careful program in channeling credit, because credit expansion leads to an increase in non-performing loans. This is because people's purchasing power tends to decline due to higher prices for goods.

LITERATURE REVIEW

Bank Performance Indicators

Performance in banking sector is the achieved result (output) in a certain period of time. Accordingly, several financial ratios can be used as a reflection to measure performance of a bank. Those measurements are as follows:

1) **Capital Adequacy Ratio (CAR)**

   As one of the bank performance ratios, CAR measures the adequacy of possess capital as collateral to assets that contain high risk (Rakhmawati and Hermana, 2005). The higher the CAR, the better of the bank's performance (Martoyo, 2005).

   According to the Buffer Theory of Capital Adequacy, a bank may choose to hold excess capital in order to reduce the risk such falling below the legal capital requirement, especially if their capital adequacy ratio is highly volatile (Chandrasegaran, 2020). In this case, the value of the bank's assets is lower than its total liabilities, so the bank becomes insolvent and equity holders tend to choose to default on the bank's liabilities (Joyce Jepkosgei Kipruto, Matanda, & Osodo, 2017).

Dietrich, et al. (2009) state that CAR has significant influence on Return on Assets (ROA), and this result is in line with the study conducted by Puspitasari, (2009) and Ongore and Kusa, (2013).

2) **Return on Equity (ROE)**

This ratio reflects the ability of a bank to generate revenue (dividend) from every shareholder's invested capital. The higher the ROE, the better the bank's performance will be (Martoyo, 2005).

3) **Return on Assets (ROA)**

This ratio reflects the ability of a bank to generate income from every invested asset. The higher the ROA of a bank, the better the bank's performance (Martoyo, 2005). This because the size of the ROA describes the level of productivity or profit margin achieved by the bank.

4) **Net Interest Margin (NIM)**

NIM reflects the spread or margin of the business main activities. The higher the NIM, the more efficient of operational activities thus the better the bank's performance (Martoyo, 2005).

5) **Non-Performing Loan (NPL)**

NPL in banking sector shows the capability of a bank to manage the non-performed loan (Fricilia dan Lukman, 2015). According to Buchory, (2015), NPL is the ratio which can be used to measure the bank's ability to cover the risk of loan repayment. Previous conducted studies stated that NPL has insignificant influence on ROA (Muttaqin, 2017; Stephani, Adenan, and Hanim, 2017; and Pinasti and Mustikawati, 2018).

The higher the bank's NPL means that the lower the bank's performance (Martoyo, 2005). If the NPL value is high, it will result in a decreasing of ROA, which also means the bank's financial performance is declining.

6) **Loan to Deposit Ratio**

LDR is the ratio between loans issued and public funds collected. The higher the LDR of a bank, the less good its performance (Martoyo, 2005). Pinasti and Mustikawati, (2018) assert that LDR uses to measure a bank's ability to pay debts, provide dividend to its depositors and able to meet credit requests submitted. Vernanda and Widyarti, (2016) and Hantono, (2017) argue that LDR insignificantly effects the ROA.

The study's objective is to emphasize the influences of Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), dan Non-Performing Loan (NPL) on Return on Asset (ROA). A research conducted by Wahyuni (2016) found that LDR and CAR have no effect on ROA,

however BOPO shows a positive and significant effect on ROA. Meanwhile, a study by Setyowati & Budiwinarto (2017) assert that NIM has positive effect on ROA, while BOPO and NPL negatively effect on ROA, LDR and CAR have no effect on ROA. In the other hand, Avrita & Pangestuti (2016) stated that CAR and LDR have a negative significant influence on ROA, NPL and NIM have a positive effect on ROA. Marliana & Anan (2015) also exposed that CAR, LDR and NIM have positive and significant effect on ROA, while BOPO has negative effect on ROA.

Usman (2016) in his research entitled with the Influences of Financial Ratios of CAR, LDR, NIM, BOPO, NPL on ROA revealed the results that variables CAR, NIM and NPL have no effect on ROA, contrary with LDR and BOPO which show a positive influence on ROA.

Sutrisno (2016) in his research on risk, efficiency and performance on conventional bank in Indonesia argues that CAR has a negative effect while NPL has no effect but LDR and NIM have positive and significantly influence on bank's performance.

A study on bank's performance analysis among the banks listed on Indonesia Stock Exchange in the period of 2013-2014 from the perspectives of profitability and efficiency conducted by Najoan (2016) describes that CAR and Risk have effect on efficiency, however NPL and Firm size have not. Similarly, a study conducted by Ni Made Inten Uthami Putri Warsa and I Ketut Mustanda (2016) on the same population but earlier period (2009-2013) show that CAR and LDR positively effect but not significant on ROA, while NPL significantly has negative effect on ROA.

Hestina Wahyu Dewanti (2009) in her research with the theme changes effect analysis on Profit Changes using NPM, LDR, NPL, and BOPO (Study on Foreign Exchange Banks and Non-Foreign Exchange Banks for the Period June 2004–June 2007) shows that changes in NPM have a positive and significant impact on earnings changes of foreign exchange bank, a combination of foreign exchange and non foreign exchange banks. This means that the bank's ability to generate net profit is positive, thus the higher the level of net profit margin of a bank, the better the results so that the maximum profit is obtained. Changes in LDR shows a positive and insignificant effect on the changes of profits in all banks, which means that the intermediation function is not running well so that funds cannot be distributed effectively to the public. Changes in NPL shows a negative and insignificant effect on changes of profits of all banks means that number of non-performing loans is quite high hence the profits obtained are small. Changes in BOPO shows a negative and significant

effect on changes of profits illustrates that the more efficient the bank in running its business activities, the generated profit will increase.

Panji Maulana, et al. (2021) researched the variables of CAR, NPL, LDR and BOPO towards Return on Assets (ROA) on the banks listed in Indonesia Stock Exchange (2017-2019) and found that Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR) have no effect on ROA.

Stevani and Tony Sudirgo (2019) in their research with the tittle the Analysis of CAR, BOPO, NPL, and LDR on Bank's ROA found that CAR and BOPO partially have negative and significant effect on ROA, on the other hand NPL and LDR partially have no significant effect on ROA. Moreover, the results show that CAR, BOPO, NPL, and LDR simultaneously have significant effects on ROA.

Sianturi, Chintia, Rahadian, and Dadan, (2020) analyzed the effect of Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), Net Interest Margin (NIM), Operating Expenses to Operating Income (BOPO), and Loan to Deposit Ratio (LDR) on the Profitability of State-Owned Banks from the period 2009 to 2018. The results indicate that CAR, NPL, NIM, BOPO, and LDR significantly and simultaneously effect on ROA. Further, CAR, BOPO, and LDR partially and significantly have a negative effect on profitability (ROA). Contrary, NIM has a significant positive effect on profitability (ROA) and NPL does not affect profitability (ROA).

Kossoh, Mangantar, and Ogi (2017) studied the effect of Non-Performing Loan (NPL), Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR) towards Profitability on Regional Development Bank (BPD) in Indonesia from 2011 to 2015. The study found that NPL negatively with significant effect on ROA, CAR has positive and significant effect on ROA, LDR has positive and significant on ROA. All of these conducted researches show distinctive results hence encourage further research to fit in the gap. Therefore, this research is carried out.

RESEARCH METHODOLOGY

Data types and sources.

This research employs secondary data from financial statements of banking companies listed on the IDX in the period time of 2013-2017. Data obtained from PIPM (Capital Market Information Center) and internet access through www.idx.co.id as a unit of observation. Other supporting data were taken from Bank Indonesia, Business Information Center for Infobank Magazine, Investor Magazine and various mass media published in Indonesia.

Population and Sample.

The research population is banking companies listed on the IDX in the period of 2013-2017 with qualifications as follow:

1. Companies that have been listed on the Indonesia Stock Exchange.

2. Company has published financial reports for five consecutive years from 2013 to 2017.

3. Financial statements must have a financial year ending December 31.

4. In accordance with standards determined by Bank Indonesia, as follow:

    a. CAR $\geq$ 8%

    b. NIM $\geq$ 1,5%

    c. NPL $\leq$ 5%

    d. ROA $\geq$ 0,5%

Based on the above criteria, 30 samples out of 43 banking companies (see table 1) were chosen as samples in this study. With the reason that the population is quite small thus they can be all studied, the study therefore does not need to do sampling method, which means that all samples in the population are taken into account.

Table 1. List of Bank companies on the IDX

NO	CODE	COMPANY'S NAME
1	AGRO	PT. Bank Rakyat Indonesia Agroniaga, Tbk
2	BABP	PT. Bank MNC Internasional, Tbk
3	BACA	PT. Bank Capital Indonesia, Tbk
4	BBCA	PT. Bank Central Asia, Tbk
5	BBKP	PT. Bank Bukopin, Tbk
6	BBNI	PT. Bank Negara Indonesia, Tbk
7	BBNP	PT. Bank Nusantara Parahyangan, Tbk
8	BBRI	PT. Bank Rakyat Indonesia, Tbk
9	BBTN	PT. Bank Tabungan Negara, Tbk
10	BCIC	PT. Bank JTrust Indonesia, Tbk
11	BDMN	PT. Bank Danamon Indonesia, Tbk
12	BEKS	PT. Bank Pembangunan Daerah Banten, Tbk
13	BJBR	PT. Bank Pembangunan Daerah Jawa Barat & Banten, Tbk
14	BKSW	PT. Bank QNB Indonesia, Tbk
15	BMRI	PT. Bank Mandiri, Tbk
16	BNBA	PT. Bank Bumi Arta, Tbk
17	BNGA	PT. Bank CIMB Niaga, Tbk
18	BNII	PT. Bank Maybank Indonesia, Tbk
19	BNLI	PT. Bank Permata, Tbk
20	BSIM	PT. Bank Sinarmas, Tbk
21	BSWD	PT. Bank of India Indonesia, Tbk
22	BTPN	PT. Bank Tabungan Pensiunan Nasional, Tbk
23	BVIC	PT. Bank Victoria International, Tbk
24	INPC	PT. Bank Artha Graha Internasional, Tbk
25	MAYA	PT. Bank Mayapada Internasional, Tbk
26	MCOR	PT. Bank Windu Kentjana International, Tbk
27	MEGA	PT. Bank Mega, Tbk
28	NISP	PT. Bank OCBC NISP, Tbk

| 29 | PNBN | PT. Bank Pan Indonesia, Tbk |
| 30 | SDRA | PT. Bank Woori Saudara Indonesia 1906, Tbk |

Operationalization of Variables.

In this study, there are two types of variables, namely:

1. *Dependent Variable*

   Variable that is influenced by the variables that precede it. This variable is often referred to "Y". In this study, the dependent variable is the Return on Assets which is formulated as follows (according to SE BI No. 6/23/DPNP dated May 31, 2004):

$$ROA \; = \; \frac{\text{Profit before tax}}{\text{Average of total assets}}$$

   ROA ratio is used to measure the ability of bank to obtain profits (profit before tax) as a result from the average total of whole assets of the bank. Profit before tax is the net profit from operational activities before tax. While the average total asset is the average volume of the business or assets.

2. Independent Variable.

   Variables that affect the dependent variable (Y). In this study, the independent variables are as follow:

   1) Capital Adequacy Ratio

      An indicator of capital adequacy of a bank, which aims to maintain long-term business continuity (solvency). CAR assessment of a banking company is intended to find out how or how much the bank's capital is sufficient to support its needs. In this study, the CAR ratio is formulated as follow (SE BI No 6/23/DPNP dated 31 May 2004):

$$CAR \; = \; \frac{\text{Total of Capital}}{\text{ATMR}}$$

   2) Net Interest Margin

      This analysis is intended to measure the efficiency and profitability of a bank. In this study, the NIM ratio is formulated as follow (SE BI No. 6/23/DPNP dated 31 May 2004):

$$NIM = \frac{\text{productive assets}}{\text{net interest income}}$$

This ratio is used to measure the ability of an organization to manage its productive assets to generate net interest income.

3) Non-Performing Loan

The analysis is intended to measure the capacity of a bank in managing its credit, as well as to provide an indication on risk level of lending. In this study, the NPL ratio is formulated as follow (SE BI No. 6/23 / DPNP dated May 31, 2004):

$$NPL = \frac{\text{Total of NPL}}{\text{Total credit granted}}$$

The NPL ratio assesses the credit risk of a bank by dividing the amount of non-performing loans against the amount of credit extended by the bank but does not include loans to other banks.

Therefore, the hypotheses in this study are developed as follow:

H1: Capital Adequacy Ratio partially has a significant positive effect on Return on Assets in banking companies

H2: *Net Interest Margin* partially has a significant positive effect on Return on Assets in banking companies

H3: *Non-Performing Loan* partially has a significant negative effect on Return on Assets in banking companies

H4: CAR, NIM, dan NPL simultaneously have a significant positive effect on Return on Assets in banking companies.

Statistical Analysis Instrument and Classical Assumption Test.

Analytical instrument in this research employs quantitative analysis techniques using Multiple Regression. Data analysis was performed through SPSS (Statistical Package for Social Science) computer program.

At the initial stage, classical assumptions test is carried out in order to derive good parameter values. The classical assumption test was carried out on the multiple regression assumptions of normality, multicollinearity, autocorrelation, and heteroscedasticity.

RESULT AND DISCUSSION

The regression formula:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Abbreviation:

Y   = *Return on Assets* (ROA)

a   = Constanta

b   = Regression Coefficient

X_1 = *Capital Adequacy Ratio* (CAR)

X_2 = *Net Interest Margin* (NIM)

X_3 = *Non-Performing Loan* (NPL)

E = *Standard Error*, factor which excluded from the test

In order to measure the relationship between the independent variable and the dependent variable, t-test is carried out by looking at the t-value and its probability value. For collective test of relationship, the F test is carried out by looking at the F-count and its probability value. But before that, it is necessary to carry out several classical assumption tests such as normality, multicollinearity, autocorrelation, and heteroscedasticity tests. If the regression model does not free from classical assumptions, then the model is not good enough to predict the variables.

Normality test.

Aims to test whether in the regression model, residuals are normally distributed. Good and feasible multiple linear regression models are those which normally distributed or close to normal.

This study uses a normal graphing approach, P-P Plot of regression standardized residuals. identification is carried out by looking at the distribution of data (points) on the diagonal axis and graph, if it spreads around the diagonal line and follows the direction of the diagonal line, then the regression model fulfils the assumption of normality.

Whether the samples taken come from normally distributed data or not can be known by looking at the graph below.
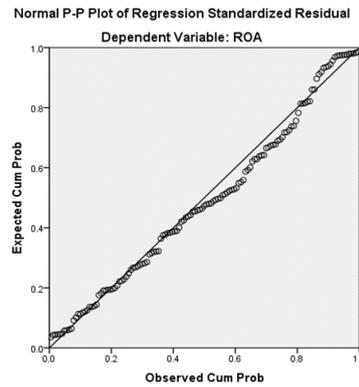
Figure 1. Normality test graph

Figure 1 illustrates that data distribution follows a diagonal line and this result indicates that the model has fulfilled the normality assumption properly and normally distributed.

Multicollinearity Test.

This test is conducted to determine the correlation between independent variables. Multicollinearity is known from the amount of Variance Inflation Factor (VIF) no more than 10 with a Tolerance (TOL) value more than 0.1.

Table 2. Multicollinearity test result

Coefficients^a

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	CAR	,213	,220	,150	,981	1,020
	NIM	,528	,563	,454	,972	1,029
	NPL	-,551	-,606	-,507	,991	1,009

a. Dependent Variable: ROA

The table above shows the multicollinearity test results using the VIF and TOL tests. These results indicate that the three variables have VIF value below 10 and TOL value above 0.1 thus this study does not have a multicollinearity issue.

Autocorrelation Test.

This test aims to test whether in the linear regression model there is a correlation between residuals period t and residuals of previous period (t-1). A good regression model is a model that is free from autocorrelation. Run Test is part of non-parametric statistics which can also be used to test whether there is a high correlation between residuals. If there is no correlation between residuals, it means that the residuals are random. Run Test is used to see whether the residual data occurs randomly or not (systematically).

Table 3. Autocorrelation test result

Runs Test	
	Unstandardized Residual
Test Valueᵃ	-.04904
Cases < Test Value	67
Cases >= Test Value	68
Total Cases	135
Number of Runs	67
Z	-.259
Asymp. Sig. (2-tailed)	.796

a. Median

The table above shows the results of autocorrelation test using the Run Test. The result shows that the value of Asymp. Sig. (2-tailed) of 0.796, where the value is greater than 0.05. Thus, it can be concluded that there is no autocorrelation issue.

Heteroscedasticity Test.

This test is carried out to test whether a regression model has an inequality of variance from one observation to another. Heteroscedasticity test uses a graphical approach which is carried out by observing the relationship of the prediction value between the dependent variable (Zpred) and its residual value (Zresid). If the relationship has a clear and spread pattern above and below zero (0) on the Y axis, then there is no heteroscedasticity issue.

The results of this test indicate that the data forms a certain pattern so that the regression model has fulfilled this assumption
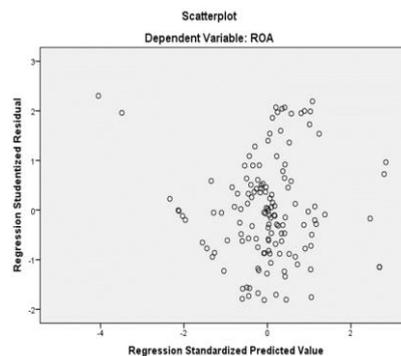

Figure 2. Heteroscedasticity test graph

The graph above is the output used to test the Heteroscedasticity assumption. The result shows that the distribution of data in the graph above is spread randomly without any particular pattern. Therefore, there is no heteroscedasticity issu. Based on this result it can be concluded that the model has fulfilled the non-heteroscedasticity assumption.

Hypotheses test results.

After testing the classical assumptions above, the research proceeds to hypotheses testing which consist of regression model interpretation and regression coefficient test (table 4).

Table 4. Result of multiple regression test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.502	.331		1.515	.132
	CAR	.044	.017	.152	2.580	.011
	NIM	.207	.027	.460	7.795	.000
	NPL	-.246	.028	-.509	-8.710	.000

a. Dependent Variable: ROA

Table 4 shows that all independent variables namely X1 (CAR); X2 (NIM); and X3 (NPL) have significant effects on Y (ROA), and this can be seen from the significance values which are entirely smaller than 0.05. Value of 0.011 for CAR; value of 0.000 for NIM; and 0.000 for NPL. It implies that these three variables significantly affected the ROA of banking companies during 2013–2017. The biggest influence is in the variables X1 (CAR) and X2 (NIM), followed by X3 (NPL).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.746[a]	.556	.546	.73129	.556	54.700	3	131	.000

a. Predictors: (Constant), NPL, CAR, NIM

b. Dependent Variable: ROA

This test looks at the coefficient of determination (R^2) of the equation. The value of R^2 in the regression model is 0.556, which means that 55.6% of the change in Return on Assets is influenced by the determining variables in the model, while the remaining 44.4% is influenced by other variables that are outside the model.

The regression results also show an adjusted R^2 value of 0.546 which means after experiencing an adjustment, changes in the dependent variable can be explained by the independent variables around 54.6% while the remaining 45.4% is explained by other factors which not included in the model.

The regression results also show that F count of the model is 54,700 with a significance level of 0,000. In other words, the regression model is significant at a significance level of 0.000. Therefore, the probability of 0.000 is smaller than 0.05, therefore all the independent variables affect the variable of ROA.

In general, the effect of Capital Adequacy Ratio, Net Interest Margin, and Non-Performing Loans on Return on Assets in banking companies is 55.6% and categorized as "Medium".

The multiple linear regression equation during the period years of 2013-2017 is as follow:

$$Y = 0{,}502 + 0{,}044\ X_1 + 0{,}207\ X_2 - 0{,}246\ X_3$$

or

$$ROA = 0{,}502 + 0{,}044 CAR + 0{,}207\ NIM - 0{,}246 NPL$$

The above regression equations can be interpreted as follows: A constant of 0.502 implies if the CAR, NIM, and NPL variables are equal to zero, then the amount of Return on Assets is 0.502. The result of b1 independent variable is 0.044 which indicates if CAR increases by 1 unit, the amount of Return on Assets will increase by 0.044 units, with assumption the NIM and NPL variables are constant or equal to zero. The result of b2 independent variable is 0.207, which means that if the NIM variable increases by 1 unit, the amount of Return on Assets will increase by 0.207 units, with assumption CAR and NPL variables are constant or equal to zero. The result b3 independent variable is -0.246 which implies that if NPL variable decreases by 1 unit, the amount of Return on Assets will decrease by 0.246 units, with assumption CAR and NIM variables are constant or equal to zero.

The following table shows the results comparison of research hypotheses:

Table 5. Hypotheses test results

Variable	ROA	
	Hypothesis	**Result**
CAR	(+)	(+)
NIM	(+)	(+)
NPL	(-)	(-)

Based on the results of hypotheses testing in table 5, it can be concluded that all the results of hypotheses testing are in accordance with the hypotheses proposed earlier in this study.

CONCLUSIONS

This study uses 30 out of 43 banking companies listed on the IDX. The purpose of this study is to determine how much influence of the Capital Adequacy Ratio, Net Interest Margin, and Non-Performing Loans on Return on Assets in banking companies.

The classical assumption test results show that all independent variables, namely Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), and Non-Performing Loan (NPL) used in this study are suitable for further analysis. Accordingly, the analysis results of CAR, NIM and NPL effects on ROA in banking companies, following are the conclusions:

1. Three independent variables namely Capital Adequacy Ratio, Net Interest Margin, and Non-Performing Loans simultaneously have a significant effect on the company's

Return on Assets of banking companies listed on the IDX during the period of 2013–2017.

2. Capital Adequacy Ratio has a significant positive effect on Return on Assets in banking companies. The greater the Capital Adequacy Ratio, the higher the Return on Assets in banking companies.

3. Net Interest Margin has a significant positive effect on Return on Assets in banking companies. The greater the bank's Net Interest Margin, the higher the Return on Assets in banking companies.

Non-Performing Loan has a negative effect on Return on Assets in banking companies. The greater the Non-Performing Loan of a bank, the lower the Return on Assets will be.

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