THE EFFECT OF CAR, NPL, LDR, AND INFLATION ON PROFITABILITY OF STATE-OWNED BANKS IN INDONESIA

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Abstract

State owned Commercial banks is business entity whose entire or part of its capital is owned by the state through direct participation derived from separated state assets. This study aims to analyze the effect of CAR, NPL, LDR, and inflation on the profitability of state-owned banks. The object in this study is a State-Owned Bank that has been listed on the Indonesia Stock Exchange (IDX) for the period 2013-2017. The data analysis method used is multiple linear regression analysis. Before conducting multiple linear regression analysis, the classic assumption test is done first. The results showed that partially, the variable CAR, NPL, and inflation had a significant effect on the profitability of state-owned banks listed on the IDX, but the LDR variable did not significantly influence the profitability of state-owned banks listed on the IDX. Simultaneously all variables have a significant effect on the profitability of state-owned banks listed on the IDX.

Keywords: CAR, NPL, LDR, Inflation, Profitability, State-Owned Banks

INTRODUCTION

Banks are one of the financial institutions that have an important role in Indonesian financial system. Most sectors related to various financial activities have always needed banking services. Basically, the bank has two main roles; collecting funds directly originating from communities that are over-funded and channeling funds directly to the people who need funds to meet their needs.

As a financial institution, performance appraisal is an important thing to do by the parties involved. Management-wise, performance appraisal is an indicator of the company achievements. In this case, profit can be used as a measure of achievement of the company. So, the banks need to maintain high profitability in order for their performance considered good.

The level of bank profitability can be affected by the bank's financial performance and also the macroeconomic conditions that are currently occurring in the economy. The various indicators in bank financial performance basically reflect the bank's financial performance in carrying out its activities. Using those indicators, various financial ratios are presented that measure how much the bank is capable of managing its finances. Indicators of profitability can usually be measured by the indicator Return on Assets (ROA).

One of the macroeconomic conditions that can affect the level of profitability of a bank is the inflation rate. This is because if inflation increases, the purchasing power of the people will decrease, making business activities to be sluggish in the process. Ultimately, this will cause the profitability of the company to decrease. One effort to control inflation is the existence of inflation target which is expected to be of a reference for business actors and the public in carrying out their economic activities. By doing so, the inflation rate can be reduced at a stable level.

This research, in principle, is to conduct further testing of empirical findings regarding the effect of financial performance on the profitability of a bank. Due to various previous studies have inconsistent results (research gap), then further studies still need to be done to complement those results. From the description of the background and the problem above, this research focuses on analyzing the effect of CAR, NPL, LDR, and Inflation on the profitability of state-owned banks listed on the Indonesia Stock Exchange for the period of 2013-2017.

THEORETICAL BASIS

Definition of Bank

According to RI Banking Law No. 10 of 1998 concerning Amendment to Law No. 7 of 1992 concerning Banking (Article 1 Paragraph 2), it is explained that: "Banks are business entities that collect funds from the public in the form of deposits and distribute them to the public in the form of loans and or other forms in order to improve the lives of many people". Banking has a

strategic position, namely as supporting the consistency of payment system, implementing monetary policy, and achieving financial system stability. Thus, a healthy, transparant, and accountable banking system is needed.

Financial Performance

Financial performance is defined as the result or achievement reached by company management in carrying out its functions, managing company assets effectively, over a period of time (Rudianto, 2013:189). According to Fahmi (2017:2), financial performance is an analysis done to see the extent to which a company has implemented the rules of financial implementation properly and correctly. For instance, it makes a financial report that has met the standards and provisions of FAS (Financial Accounting Standards) or GAAP (General Accepted Accounting Principle), and others.

Bank Health Level

The assessment of bank health level, in principle, is in the interest of all parties involved, which include the owner of the bank, manager (management) of the bank, the community using the services of the bank, Bank Indonesia as the supervising authority of the bank, and other related parties. Assessment to determine the condition of a bank can be done by using various types of measuring instruments, one of which is CAMEL analysis. This analysis consists of aspects of Capital, Assets, Management, Earning, and Liquidity.

Profitability

Profitability is the most suitable indicator to measure the performance of a bank. Profitability is a condition that describes the company's ability to generate profits for a certain period. According to Rivai (2013:132), "Return on Assets is a ratio used to measure the ability of bank management to obtain profits as a whole". The best standard for a minimum ROA value is 1.5% (SE BI No. 13/24 / DPNP in 2011). The greater the ROA of a bank, the greater the level of profit achieved by the bank, hence the better the bank's position in terms of asset use.

Capital Adequacy Ratio (CAR)

One way to analyze the bank capital adequacy is through the CAR ratio, by looking at the capital ratio to various assets of the bank concerned. According to Setyawati (2018:36). Capital Adequacy Ratio is one measure of the bank to determine the adequacy of bank capital if the bank experiences shocks. Banks are declared healthy if they have a CAR of at least 8%, in accordance with BIS (Bank for International Settlements) standards. The higher the value of

CAR, the bank is more able to finance operational activities and contribute significantly to profitability so that profit growth can increase.

Non Performing Loans (NPL)

In giving credit to customers, banks will have to face credit risks that cannot be paid by the debtor, resulting in problem loans. According to Kuncoro (2011:420), (NPL) is a condition where the customer is unable to pay part or all of his obligations to the bank. Banking practitioners agreed that a bank's NPL safe limit must not exceed 5%. The smaller the NPL is, the smaller the credit risk borne by the bank is, so that the bank's profitability will increase.

Loan to Deposit Ratio (LDR)

The Loan to Deposit Ratio states the extent the bank is able to repay funds withdrawals made by the community by relying on loans provided as a source of liquidity (Rivai, 2013:132). In accordance with SE BI No.6/23/DPNP for LDR, a good value is between 75% -100%. The higher the LDR ratio is, the more risky the condition of bank liquidity is, and *vice versa*. If the LDR ratio is at a standard set by Bank Indonesia, then the profits obtained can increase (assuming that the bank is able to channel its loans properly and effectively).

Inflation

According to Fahmi (2017:186), "inflation is an event that describes a situation and condition in which the price of goods increases and the value of the currency weakens". The occurring result is that if inflation increases, then people's purchasing power will decline and business activities will be sluggish. This will make the profitability of the company to decrease.

Framework of Thinking

The basis of this research uses financial ratios (CAR, NPL and LDR) and macroeconomic conditions (inflation) as independent variables and profitability (ROA) as the dependent variable.
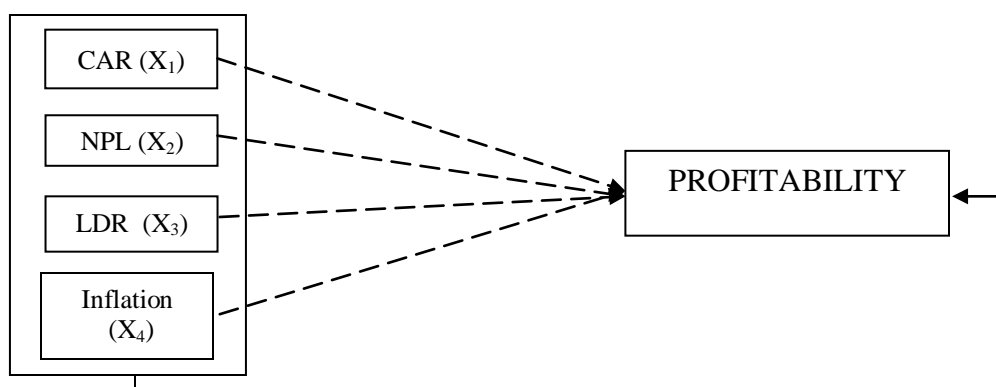

Figure 1. Framework of Thinking

Information :

$--\rightarrow$: The effect of independent variables on dependent variable, individually.

$\longrightarrow$: The effect of independent variables on dependent variable, simultaneously.

Hypotheses

From the description of the above framework of thinking, and referring to the background, problem formulation, and literature review, the following hypotheses are formulated:

H_1 : Capital Adequacy Ratio (CAR) has a significant effect on the profitability of the State-Owned Banks listed on the IDX for the period 2013-2017.

H_2 : Non Performing Loans (NPL) has a significant effect on the profitability of the State-Owned Banks listed on the IDX for the period 2013-2017.

H_3 : Loan to Deposit Ratio (LDR) has a significant effect on the profitability of state-owned banks listed on the Indonesia Stock Exchange for the period 2013-2017.

H_4 : Inflation has a significant effect on the profitability of state-owned banks listed on the Indonesia Stock Exchange for the period 2013-2017.

H_5 : CAR, NPL, LDR, and Inflation altogether have a significant effect on the profitability of state-owned banks listed on the Indonesia Stock Exchange for the period 2013-2017.

RESEARCH METHOD

Population and Sample

The population in this research was State-Owned Bank(s) in Indonesia that have been listed on the Indonesia Stock Exchange (IDX) for the period 2013-2017, namely as many as 4 companies (www.sahamok.com) which consisted of Bank Negara Indonesia (Persero) Tbk, PT Bank Rakyat Indonesia (Persero) Tbk, PT Bank Tabungan Negara (Persero) Tbk and PT Bank Mandiri (Persero) Tbk. Thus, the sampling technique is saturation sampling, namely the technique of determining the sample if all members of the population are used as samples.

Types and Data Sources

Quantitative data were used in this research, namely data in the form of numbers which are then processed and interpreted to obtain meaning from the data. The data used were sourced from secondary data for all variables, both the dependent variable and the independent variables where the data were obtained indirectly or through intermediary media that were recorded by other parties.

Data Collecting Method

The method of data collection in this research is as follows:

    1.   Literature Review

This research was carried out by reading information from various existing literature such as books, journals, articles, research results, and various other reference sources that were relevant to the problems under study.

    2.   Documentation

The data used in this research were obtained from the annual financial statements of state-owned banks which were sampled in the research, as well as data on macroeconomic conditions (inflation) for the period 2013-2017. The data were obtained through the official website of each state-owned banks and the website www.bi.go.id.

Operational Definition of Variables

1. Dependent Variable (Y)

The dependent variable in this research is profitability (Y). Profitability is the most appropriate indicator to measure the performance of a bank. The best standard for a minimum ROA value is 1.5% (SE BI No. 13/24 / DPNP in 2011). The greater the ROA of a bank, the greater the level of profit achieved by the bank, hence the better the bank's position in terms of asset use. The value of ROA can be calculated by using the following formula:

$$\frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$$

2. Independent Variables (X)

    a) Capital Adequacy Ratio (X_1)

Capital Adequacy Ratio (CAR) is one way of measure to determine the adequacy of bank capital if the bank experiences a shock (Setyawati, 2018:36). Banks are declared healthy if they have a CAR of at least 8%, in accordance with BIS (Bank for International Settlements) standards. The higher the value of CAR is, the bank is more able to finance operational activities and contribute significantly to profitability, so that profit growth can increase. The amount of CAR can be calculated using the following formula:

$$\frac{\text{Equity Capital}}{\text{Risk-wighted Assets}} \times 100\%$$

b) Non Performing Loan (X_2)

Non-perfoming loan (NPL) is a condition where the customer is unable to pay part or all of his obligations to the bank (Kuncoro, 2011:420). Banking practitioners agreed that a bank's NPL safe limit must not exceed 5%. The smaller the NPL is, then the smaller the credit risk borne by the bank too, so that the bank's profitability will increase. The amount of the NPL value can be calculated using the following formula:

$$\frac{\text{Total Non Performing Loans}}{\text{Total Loans}} \times 100\%$$

c) Loan to Deposit Ratio (X_3)

The Loan to Deposit Ratio (LDR) states how far the bank is able to repay funds withdrawals made by the community by relying on loans provided as a source of liquidity (Rivai, 2013:132). A good standard for LDR values is between 75% -100% (SE BI No.6/23/DPNP). The higher the LDR ratio is, the more risky the condition of bank liquidity too, conversely if the lower the LDR means the bank is less effective in channeling loans. If the LDR ratio is at a standard set by Bank Indonesia, then the profits obtained can increase. The magnitude of the LDR value can be calculated using the following formula:

$$\frac{\text{Total Loans}}{\text{Third Parties Fund}} \times 100\%$$

d) Inflation (X_4)

Inflation is an event that describes a situation and condition in which the price of goods increases and the value of the currency weakens (Fahmi, 2017:186). It is described that if inflation increases, then people's purchasing power will decline and business activities will be sluggish. The result is the profitability of the company will decrease. The magnitude of the inflation rate can be calculated using the following formula:

$$\frac{\text{IHK} - \text{IHK-}_1}{\text{IHK-}_1} \times 100\%$$

Data Analysis Approach

Hypotheses Testing

Testing the hypothesis is intended to determine whether there is a significant effect between the independent variables to the dependent variable. The testing will be carried out with the following multiple linear regression analysis models:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Where:

Y : Profitability

α : Constants

β_1-β_4 : Regression Coefficient

X_1 : Capital Adequacy Ratio (CAR)

X_2 : Non Performing Loan (NPL)

X_3 : Loan to Deposit Ratio (LDR)

X_4 : Inflation

e : Disturbing Errors

RESULT AND DISCUSSION

Descriptive Statistics

Descriptive statistical testing aims to provide a description of the data seen from the minimum value, maximum value, average value, and standard deviation of each research variable. The following are the results of the descriptive statistics test:

Table 1. Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CAR	20	14.64	22.96	18.5065	2.59021
NPL	20	1.55	4.05	2.5765	.82675
LDR	20	81.68	108.86	91.1405	8.91728
Inflation	20	3.02	8.38	5.3440	2.54216
Profitability	20	1.14	5.03	2.9720	1.08742
Valid N (listwise)	20				

In table 1 above, with the number of samples (N) of 20, it can be seen that the CAR variable has the lowest value of 14,64% (PT Bank Tabungan Negara) and the highest value of 22,96% (PT Bank Rakyat Indonesia). In addition, it is shown that the standard deviation is still smaller than the average value of 2,59021< 18,5065. So, the CAR variable has small data variations.

The NPL variable has the lowest value of 1,55% (PT Bank Rakyat Indonesia) and the highest value of 4,05% (PT Bank Tabungan Negara). Moreover, the standard deviation is still smaller than the average value of 0,82675< 2,5765. So, the NPL variable has small data variations.

The LDR variable has the lowest value of 81,68% (PT Bank Rakyat Indonesia) and the highest value of 108,86% (PT Bank Tabungan Negara). Meanwhile, the standard deviation is still smaller than the average value of 8,91728< 91,1405. So, the LDR variable has small data variations.

The inflation variable has the lowest value of 3,02% (in 2016) and the highest value of 8,38% (in 2013). Meanwhile, the standard deviation is still smaller than the average value of 2,54216< 5,3440. So, the inflation variable has small data variations.

Profitability variable has the lowest value of 1,14% (PT Bank Tabungan Negara) and the highest value of 5,03% (PT Bank Rakyat Indonesia). Also, the standard deviation is still smaller than the average value of 1,08742< 2,9720. So, the profitability variable has small data variations.

Classical Assumption Tests

1. Normality Test

The normality test aims to determine the distribution of data in the variables that will be used in the research. If the significance value is > 0,05, the data are normally distributed. Following are the results of the Normal Kolmogorov-Smirnov test:

Table 2. Normal Kolmogorov-Smirnov

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		20
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.39990610
Most Extreme Differences	Absolute	.127
	Positive	.127
	Negative	-.087
Test Statistic		.127
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

In table 2 above, it can be seen that the significance value is 0,200. This value is higher than alpha 5% (0,05). So it can be concluded that the data are normally distributed.

2. Multicollinearity Test

Multicollinearity test is needed to determine whether there is an independent variable that has similarities with other independent variables in a model. If the VIF produced is between 1 up to 10, then multicollinearity does not occur. Here are the results of multicollinearity tests:

Table 3. Multicollinearity

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.070	2.614		1.174	.259		
CAR	.184	.075	.438	2.440	.028	.280	3.567
NPL	-.770	.171	-.585	-4.496	.000	.532	1.881
LDR	-.029	.017	-.235	-1.702	.109	.473	2.113
Inflation	.205	.076	.480	2.714	.016	.288	3.469

a. Dependent Variable: Profitability

In table 3 above, it can be seen that the data in this research did not have multicollinearity problems between each independent variable. This is because the value of the variance inflation factor (VIF) in the data above is still between 1 and 10 and the tolerance value is greater than 0,10.

3. Autocorrelation Test

The autocorrelation test aims to determine whether there is a correlation between confounding variables at a certain period and the previous variable. Detecting autocorrelation is done by using the Durbin Watson value. The following are the results of the autocorrelation test:

Table 4. Autocorrelation

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.930[a]	.865	.829	.45008	1.483

a. Predictors: (Constant), Inflation, LDR, NPL, CAR
b. Dependent Variable: Profitability

In table 4 above, it can be seen that the value of Durbin Watson (D-W) is 1,483. Here, the value is between -2 and +2. So it can be concluded that there is no autocorrelation.

4. Heteroscedasticity Test

Heteroscedasticity test aims to examine the variance of residual variance in a period of observation to another observation period. The following are the results of heteroscedasticity tests:
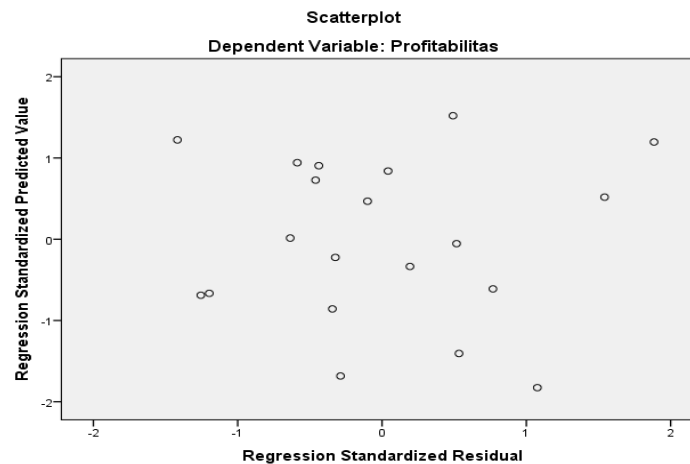

Figure 2. Heteroscedasticity

In figure 2 above, it can be seen that from the images obtained, there are no clear patterns, and the points spread randomly above and below the number 0 on the Y axis. So it can be concluded that there is no heteroscedasticity.

Hypotheses Test

Testing the hypothesis is intended to determine whether there is a significant effect between the independent variables and the dependent variable. The test was conducted with a multiple linear regression analysis model. The following are the results of multiple linear regressions:

Table 5. Multiple Linear Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.070	2.614		1.174	.259
	CAR	.184	.075	.438	2.440	.028
	NPL	-.770	.171	-.585	-4.496	.000
	LDR	-.029	.017	-.235	-1.702	.109
	Inflation	.205	.076	.480	2.714	.016

a. Dependent Variable: Profitability

From the calculation of multiple linear regressions in table 5 above, the results of the regression equation are obtained as follows:

Profitability = 3,070 + 0,184 CAR – 0,770 NPL – 0,029 LDR + 0,205 Inflation + e

Hypotheses Testing Results

The t-test is conducted to test whether each independent variable, partially, has an effect on the dependent variable. In this case, the t-test will partially test the CAR, NPL, LDR, and inflation variables on profitability at a significant level (α) of 5%. From table 5 above, the t-test results are obtained as follows:

1. **The effect of Capital Adequacy Ratio (CAR) to Profitability**

From the results of partial calculations, the CAR variable has a significant effect on the profitability of the State-Owned Banks listed on the IDX, which is indicated by the value of t_{count} of 2,440 with the value of sig. (0,028) < α (0,05). Here, the higher the value of CAR, the bank is more able to finance operational activities and provide a substantial contribution to profitability. In addition, increasing the value of CAR will increase trust for customers, because the bank's profitability increases. So that the bank needs to maintain this condition and further increase its CAR value. The results of this research are in accordance with the research of Widati (2012), Simatupang and Denis (2016) and Bernardin (2016)that CAR has a significant effect on profitability.

2. **The Effect of Non Performing Loans (NPL) ratio to Profitability**

From the results of the partial calculation, it can be seen that the NPL variable has a significant effect on the profitability of the State-Owned Banks listed on the IDX as indicated by the t_{count} of -4,496 with the sig value (0,000) < α (0,05). This means that an increase in non performing loans will reduce the profitability of state-owned banks. The existence of problem loans is caused by debtors who have difficulty repaying their obligations. So that banks must be able to effectively manage credit by applying the precautionary principle. The results of this research are consistent with the research of Suwandi and Hening (2017), Suryaman and Geistha (2017), and Yudha (2017) that NPL has a significant effect on profitability.

3. **The Effect of the Loan to Deposit Ratio (LDR) to Profitability**

From the results of partial calculations, the LDR variable does not have a significant effect on the profitability of the State-Owned Banks listed on the IDX as indicated by the value of t_{count} of -1,702 with the value of sig. (0,109) > α (0,05). This means that changes in the LDR of a bank do

not necessarily become a benchmark for the success of bank management to obtain high profits. The effect of the LDR on profitability is probably due to the large asset ownership of state-owned banks in Indonesia. The results of this research are consistent with the research of Bernardin (2016) and Akbar (2018) that the LDR has no significant effect on profitability.

4. The effect of Inflation on Profitability

From the results of partial calculations, the inflation variable has a significant effect on the profitability of the State-Owned Banks listed on the IDX as indicated by the value of t_{count} of 2,714 with the value of sig. (0,016) < α (0,05). Where the higher the inflation, the profitability of state-owned banks is also increasing. In addition, inflation also does not reduce the amount of deposits or savings. So that state-owned banks possesses resistance to inflation. The results of this research are in accordance with Sahara (2013) research that inflation has a significant effect on profitability.

5. The Effect of CAR, NPL, LDR, and Inflation Ratio on Profitability

The F-test aims to find out whether the independent variables altogether affect the dependent variable. Testing is done by comparing the significance values with the specified α value of 0,05 or 5%. The following are the F-test (simultaneous) results shown in the ANOVA table:

Table 6. F Test (ANOVA)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.429	4	4.857	23.978	.000[b]
	Residual	3.039	15	.203		
	Total	22.467	19			

a. Dependent Variable: Profitability   b. Predictors: (Constant), Inflation, LDR, NPL, CAR

From the results of simultaneous calculations, the value of F_{count} is higher than F_{table}, which is 23,978 > 3,056 with a significant value of (0,000) < (0,05). This shows that the CAR, NPL, LDR, and inflation variables simultaneously have a significant effect on the profitability of the State-Owned Banks listed on the IDX.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) basically measures how far the model's capability to explain the dependent variables. The coefficient of determination is zero and one. The following are the test results of the coefficient of determination:

Table 7. Coefficient of Determination (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.930[a]	.865	.829	.45008

a. Predictors: (Constant), Inflation, LDR, NPL, CAR
b. Dependent Variable: Profitability

In table 7 above, the result of the coefficient of determination (R^2) is 0,829 (82,9%). This means that the contribution of the variable CAR, NPL, LDR, and inflation to the profitability of the State-Owned Banks listed on the IDX is 82,9%, while the remaining 17,1% is affected by other variables outside the model in this research.

CONCLUSION

Based on the results of the research and discussion above, the authors can draw several conclusions as follows:

1. Partially, the CAR, NPL, and inflation variables have a significant effect on the profitability of the State-Owned Banks listed on the IDX.

2. The Loan to Deposit Ratio (LDR) variable partially does not have a significant effect on the profitability of state-owned banks listed on the IDX.

3. Simultaneously, all variables of CAR, NPL, LDR, and inflation have a significant effect on the profitability of state-owned banks listed on the IDX .

SUGGESTIONS

Based on the conclusions that have been described, the suggestions that can be given as:

1. For potential investors and customers, you should pay attention to Return on Assets (ROA), because by looking at the level of ROA we know how much profit is generated by the state-owned Banks, and that can be a benchmark in order to make a decision to invest in state-owned Banks.

2. For researchers, it is expected that the number of research samples and the number of research variables will be added, considering that the profitability of a bank is affected by various variables. In addition, it also expands the object of research that is not only limited to banks listed on the Indonesia Stock Exchange (IDX).

REFERENCES

Akbar, Taufiq. (2018). Determination of Bank Profitability With Efficiency As Moderating Value. International Journal of Economics, Business and Management Research. Vol. 2, No. 06, pp. 51-59.

Bank BNI Annual Report. Accessed from www.bni.co.id

Bank BRI Annual Report. Accessed from www.ir-bri.com

Bank BTN Annual Report. Accessed from www.btn.co.id

Bank BUMN Persero listed on the Indonesia Stock Exchange (IDX). Accessed from www.sahamok.com

Bank Mandiri Annual Report. Accessed from www.bankmandiri.co.id

Bernardin, DedenEdwarYokeu. (2016). Pengaruh CAR dan LDR Terhadap Return on Assets. Jurnal Ecodemica. Vol. 4, No. 2, pp. 232-241.

Inflation Data for the 2013-2017 Period. Accessed from www.bi.go.id

Dewi, Oktavia Rosana. (2018). Pengaruh Dana PihakKetiga, Inflasi, BI Rate, danKursTerhadapProfitabilitasPerbankanSyariah di Indonesia Periode 2013-2017,Skripsi, FakultasEkonomikadanBisnis Islam Universitas Islam NegeriRadenIntan: Lampung.

Fahmi, Irham (2017). AnalisisKinerjaKeuangan. Bandung: Alfabeta.

Kuncoro, M. danSuhardjono (2011).ManajemenPerbankanTeoridanAplikasi.Edisi 2.Cetakan 1. Yogyakarta: BPFE.

Putrianingsih, Dwi Indah danAriefYulianto. (2016). PengaruhNon Performing Loan (NPL) danCapital Adequcy Ratio (CAR) TerhadapProfitabilitas.Management Analysis Journal. Vol. 5, No. 2, pp. 110-115.

Rivai, Veithzal, dkk (2013). Credit Management Handbook ManajemenPerkreditan Cara MudahMenganalisisKredit. Jakarta: RajagrafindoPersada.

Rudianto(2013). AkuntansiManajemenInformasiuntukPengambilanKeputusanStrategis.Jakarta: Erlanga.

Sahara, AyuYanita. (2013). AnalisisPengaruhInflasi, SukuBunga BI, danProdukDomestikBrutoTerhadapReturn on Asset (ROA) Bank Syariah di Indonesia. JurnalIlmuManajemen. Vol. 1, No. 1, pp. 149-157.

Setyawati, Irma (2018). Bank UmumSyariah di Indonesia PeningkatanLabadanPertumbuhanMelaluiPengembanganPangsaPasar. Yogyakarta: Expert.

Simatupang, Aprianidan Denis Franzlay.(2016). Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), EfisiensiOperasional (BOPO), dan Financing to Deposit Ratio (FDR) TerhadapProfitabilitas Bank UmumSyariah di Indonesia. JurnalAdministrasi Kantor. Vol. 4, No. 2, pp. 466-485.

SuryamandanGiesthaGustiawinataSetiawati.(2017). Effect of Credit Quality, Cost Efficiency and Capital to Profitability in PT. Development Bank of West Java andBanten, Tbk (Period 2009-2015). South East Asia Journal of Contemporary Business, Economics and Law. Vol. 13, No. 3, pp. 33-37.

Suwandi, JordidanHeningWidiOetomo.(2017). Pengaruh CAR, NPL, BOPO, dan LDR Terhadp ROA Pada BUSN Devisa.JurnalIlmudanRisetManajemen.Vol. 6, No. 7, pp. 1-21.

SE BI No.6/23/DPNP Tahun 2004 tentangSistemPenilaian Tingkat Kesehatan Bank Umum.Accessed from www.bi.go.id

SE BI No.13/24/DPNP Tahun 2011 tentangPenilaian Tingkat Kesehatan Bank Umum.Accessed from www.bi.go.id

UU Perbankan RI No. 10 Tahun 1998.

Widati, ListyoriniWahyu. (2012). AnalisisPengaruh CAMEL TerhadapKinerja Perusahaan Perbankan yang Go Publik.DinamikaAkuntansi, KeuangandanPerbankan. Vol. 1, No. 2, pp. 105-119.

Yudha, Aji. dkk. (2017). Analysis of The Effect of NPL, NIM, Non Interest Income, and LDR Towards ROA With Size As Control Variables (Differences Study on Domestic and Foreign Banks Listed on BEI Period 2010-2015).Jurnal Bisnis Strategi. Vol. 26, No. 2, pp. 100-113.