IJFC Vol. 3 No. 2, 2021

by cek turnitin

The performance of foreign exchange national private bank listed at the Indonesia stock exchange

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Abstract
Achieving high performance is essential for the companies, as well as banks. Many researchers believe that bank size, capital ratio, loan ratio, deposits, and loan loss provisions are important factor of bank performance. This paper investigates the effect of bank size, capital ratio, loan ratio, deposits, and loan loss provisions on bank performance to find the role of internal factors in achieving high performance. Regression analysis on panel data set comprising 52 observations of 13 Foreign Exchange National Private Bank listed in the Indonesia Stock Exchange (IDX) over the period 2013-2016. Not all the determinant variables in the model have statistically significant impacts on the Foreign Exchange National Private Bank's performance listed on the Indonesia Stock Exchange. Bank size, capital ratio, deposits, and loan loss provisions have statistically significant impacts on return on asset and equity. Bank size, capital ratio, and deposits have statistically significant effects on the net interest margin. However, the loan ratio does not have statistically significant impacts on return on asset, return on equity, and net interest margin. Then, loan loss provisions also do not have statistically significant effects on the net interest margin. The results offer fascinating insights into the characteristics and practices of profitable foreign exchange national private bank in Indonesia.

Keywords: bank performance, profitability, bank size, capital ratio, loan ratio, deposit, loan loss provisions

Introduction

As financial institutions, the bank plays an essential role in industrial operations make a profit as a critical condition at the micro-level. While at the macro level, a bank must contribute to financial system stability and withstand adverse shocks (Menicucci & Paolucci, 2016) [23]. Foreign exchange national private bank is one of several types of banks in Indonesia. The increasingly tight competition in the banking industry requires Foreign exchange national private banks to face the existence of government commercial, foreign, mixed commercial and international, and Islamic banks. This competition is because the banking sector has become an essential requirement in Indonesia (Ariyanto, 2004) [6]. Based on the report of the Financial Services Authority (OJK), Indonesian banking statistics showed the trend of Indonesian banking throughout 2013 experienced an increase in total assets, Third Parties Fund (DPK), and channeled loans. Total assets reach IDR 4,954,467 billion, the total deposits reached IDR 3,663,968 billion and the total loans distributed reached IDR 3,319,842 billion (www.ojk.go.id). However, in 2014 experienced a slowdown because there were various factors such as global economic problems. OJK also assessed that the national banking industry's profit in the fourth quarter of 2015 experienced a decline compared to the same period in 2014. It reflected in the Return on Assets (ROA) indicator, which was lower than the end of 2014. In 2016 performance the national banking industry is considered to be the worst hit. This condition is a result of the weakness of the domestic and global economy. However, not all banks have been performing declining; several banks can improve their performance by implementing the right strategies (Kompas.com, 23/03/2017). In early 2017, the national banking system's performance in January and February was still

below expectations. This opinion was based on analyzing an analysis conducted by analyst Tjandra Lienandjaja on 12 banks that recorded net profit growth of 12 percent (Tempo.com, 04/04/2017). In general, Indonesia's banking performance from 2013 to 2017 is still relatively good, although several performance indicators are declining. From these conditions, the banking sector, mainly foreign exchange national private banks, is deemed necessary to prepare strategies to increase performance. Public confidence in the bank is also maintained. Performance refers to an organization able to maintain and increase profits from year to year, as reflected in the financial statements (Ariyanto, 2004) [6]. Bank performance is an important indicator because it will show the success of bank management. In general, internal factors are most influence firm performance, include the banking sector. Therefore, it is necessary to analyze how financial difficulties or the risk of bankruptcy can be detected from the start to survive in the banking industry (Pamela, Herkulana, & Achmadi, 2014; Permata & Purwanto, 2018) [29, 31]. Menicucci and Paolucci (2016) [23] suggested that bank profitability (performance) has determinants such as bank size, capital ratio, loan ratio, deposits, and loan loss provisions. Previous studies found a diversity of findings of determinants of bank-firm performance. The determinants of bank performance are bank size, capital ratio, loan ratio, deposits, and loan loss provisions, and Bougatef (2017) [10], Petria, Capraru, and Ihnatov (2015) [32], Bucevska and Maheva (2017) [11], Owoputi, *Kayode, and Adeyefa* (2014) [27], Menicucci and Paolucci (2016) [23], Petria et al. (2015) [32], Tariq, Usman, Mir, Aman, and Ali (2014) [36], Kurawa and Garba (2014) [19], Bassey and Moses (2015) [8], Hamid (2017) [16], Samad (2015) [34], Dietrich and Wanzenried

(2014) [13] have studied it. Based on the above phenomenon and research gap, this study examined the effect of bank size, capital ratio, loan ratio, deposits, and loan loss provisions on foreign exchange national private banks' performance listed in the Indonesia Stock Exchange (IDX).

Literature Review
According to Anwaar (2016)[5], the five measures of performance in the current study, including Earning per Share, Return on Assets, Return on Equity, Net Profit Margin Ratio, and Quick Ratio (QR). Then Bougatef (2017)[10] stated that in general, bank performance or profitability is measured by Return on Assets (ROA), Return on Equity (ROE) and Net Interest Margin (NIM). Several factors, such as bank size, capital ratio, loan ratio, deposits, and loan loss provisions, are determinants of the bank performance (Menicucci and Paolucci, 2016) [23]. Petria et al. (2015) [32] found that size did not affect bank ROE but has a weak influence on ROA. On the one hand, a larger scale can improve performance, but at the same time can also reduce production due to the importance of other factors. Bucevska and Misheva (2017) [11] found a positive effect of bank size on performance but not significant. It is because banks will still try to grow faster even at the expense of their profitability. But, Owoputi et al. (2014) [27] found a positive and significant effect of firm size on performance. It proves that larger banks have higher product and loan diversification opportunities. Menicucci and Paolucci (2016) [23] found that bank size represented by the natural logarithm of total assets had a positive and significant effect on performance because large banks are better able to obtain higher returns ROE, ROA, and NIM. Bougatef (2017) [10] also found that the size of a bank had a positive but insignificant effect on ROA caused by the fact that an increase in total assets absorbs an increase in net income. Owoputi et al. (2014) [27] found a significant influence in the relationship between bank size and ROE caused by large companies (banks) that can benefit from loan portfolio diversification and bank activity. Also, large-sized banks have more time and flexibility to deal with unexpected problems such as bankruptcy risk (Owoputi et al., 2014) [27]. Hamid (2017) [16] also found that bank size had positive and significant on ROAA and ROAE. Liuspita and Purwanto (2019) [21] also found that size is essential factor that increase firm performance. Based on the theory and results of the research, the following is the research hypotheses:

H1.1: Bank size has a positive effect on ROA.
H1.2: Bank size has a positive effect on ROE.
H1.3: Bank size has a positive effect on NIM.

Petria et al. (2015) [32] found that the capital adequacy ratio has not had a statistically significant impact on performance because high capital adequacy can increase bank risk. But, Menicucci and Paolucci (2016) [23] found that capital ratios are positively and significantly related to ROA, ROE, and NIM. It shows that banks with high capitalization also have high margins and profitability and can convert available funds into higher income (Bougatef, 2017) [10].
According to Bucevska and Misheva (2017), [11] tremendous capital banks are considered able to pursue more effective business opportunities. Also, high capitalization rates indicate that banks have higher return rates, which can reduce funding costs (Menicucci & Paolucci, 2016) [23]. Based on the theory and results of the research, the following is the next research hypotheses:

H2.1: Capital ratio has a positive effect on ROA.
H2.2: Capital ratio has a positive effect on ROE.
H2.3: Capital ratio has a positive effect on NIM.

According to Tariq et al. (2014) [36], the effects loans the bank performance positively because loans are the bank's primary source (Tariq *et al*., 2014) [36]. Hamid (2017) [16] found that the total credit had positive and significant on ROAA and ROAE. Menicucci and Paolucci (2016) [23] found results where the loan ratio showed a positive but not meaningful relationship to ROE and ROA but positively and significantly affected NIM. The cause is the assumption that more loans will increase the chances of achieving higher profitability, but because the relationship is not meaningful, the effect is not conclusive. Based on the previous study, the following is the next research hypotheses:

H3.1: Loan ratio has a positive effect on ROA.
H3.2: Loan ratio has a positive effect on ROE.
H3.3: Loan ratio has a positive effect on NIM.

Menicucci and Paolucci (2016) [23] found that the amount of deposits does not significantly impact bank performance as measured by the NIM. But the deposits have a positive and meaningful relationship to ROE and ROA. It happens because banks depend on deposits to get their funds so they can achieve better ROA. Owoputi et al. (2014) [27] proved that the deposit variable has a positive and significant effect on ROA and NIM. But it has a negative and insignificant impact on ROE. In increasing the profitability of banks in Nigeria, they convert an increase in the number of deposit obligations to credit facilities or to other investment alternatives that are considered profitable. Hamid (2017) [16] also found that total deposits had positive and significant on ROAA and ROAE. Lee, Yang, and Chang (2014) [20] argue that high deposits can produce more profits at banks, while low deposits can significantly affect ROA, but not on ROE. If deposits increase, bank profitability also increases. Still, it depends on the extent to which the bank can convert deposit obligations into credit so that the bank will earn income from these deposits (Dietrich & Wanzenried, 2014) [13]. Increase capital from banks to be channeled back to the community to achieve bank profitability (Hamadi & Awdeh, 2012). Based on the theory and results of the research, the following is the next research hypotheses:

H4.1: Deposits have a positive effect on ROA.
H4.2: Deposits have a positive effect on ROE.
H4.3: Deposits have a positive effect on NIM.

Hamid (2017) [16] found that loan loss provisions did not significantly affect bank ROAA and ROAE. It happens because higher supply reflects the inability of borrowers to respect their loan obligations at the right time. Samad (2015) [34] found that loan loss provisions had a negative and significant effect on the bank performance (ROA) in Bangladesh because, based on the principle that the higher the loan loss provisions, the lower the bank's profitability. Likewise, Dietrich and Wanzenried (2014) [13] also found that loan loss provisions have a statistically significant negative impact on bank performance. As well Menicucci and Paolucci (2016) [23] found that loan loss provisions have a statistically significant negative effect on ROA, ROE, and

NIM, due to a decrease in credit quality, which to reduce bank performance. Based on the theory and results of the research, the next research hypotheses are as follows:

$H_{5.1}$: *Loan loss provisions have a positive effect on ROA.*
$H_{5.2}$: *Loan loss provisions have a positive effect on ROE.*
$H_{5.3}$: *Loan loss provisions have a positive effect on NIM.*

Based on the research propositions above, this research's conceptual framework, as shown in Figure 1. And we must recognize that this conceptual framework adapted from Menicucci and Paolucci (2016) [23].
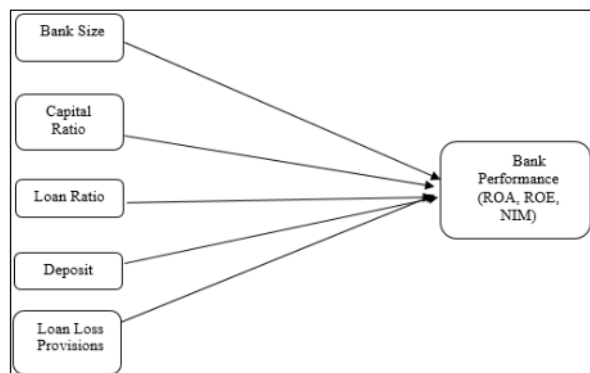

Fig 1: Conceptual Framework

Method
Sample and data
The study population is a Foreign Exchange National Private Bank (*Bank Umum Swasta Nasional Devisa*) in Indonesia. From the existing community, a certain number taken as a sample. The sample determination method used in this study was purposive sampling is that the sample was drawn based on specific characteristics that consider the population's features. The criteria for selecting samples to be examined in this study are as follows: (1) national foreign exchange private banks in Indonesia established for at least five years. (2) Banks with total assets have increased every year. (3) Banks that have listed on the Indonesia Stock Exchange (IDX) and have complete financial statements and have published at Central Bank of Indonesia (BI), which from the 2013 to 2016 period. And (4) at the maximum in early 2013 have listed on the IDX. Of the total of the Foreign Exchange National, Private Bank registered at BI in 2017 and meeting these criteria are 13 banks (Bank Rakyat Indonesia Agroniaga, Bank Artha Graha Internasional, Bank Bukopin, Bank Bumi Arta, Bank Central Asia, Bank CIMB Niaga, Bank Maspion Indonesia, Bank Mayapada International, Bank Mega, Bank Mestika Dharma, Bank OCBC NISP, Bank Pan Indonesia, and Bank Sinarmas).

Independent variables
Firm Size. Size is a scale used to classify a company's size in various ways, including total assets, log size, stock market value, etc. The bank size in this study can be seen based on the total assets owned by the bank. In this case, the total assets of the bank use bank size as a proxy. The natural logarithm of total assets represents Bank size (Khasawneh, 2016) [17]. It is because each

banking company has a different total asset. The following are the formulas used (Menicucci & Paolucci, 2016) [23]:

$$Size = Ln\ Total\ Aset$$

Capital Ratio. Bank capital is used to analyze the financial power status of a bank, especially in developing countries. A strong capital structure is essential for financial institutions because it provides additional power to deal with the financial crisis. Banks with a weak capital structure can hardly withstand dangerous situations. Financial institutions must keep up their capital structure's strength to hold up losses and face the risk of bankruptcy. Banks with high capital have a lower likelihood of meeting financial difficulties (Naceur, 2003) [26]. The capital ratio, or commonly known as capitalization rate, is a tool to assess capital adequacy and bank health. Thus, equity on total assets (i.e., capital ratio) is considered one of the necessary capital strength steps. Banks with higher capital to asset ratios are considered relatively safer and less risky. When the ratio of equity to assets is higher, the risk of bankruptcy that the bank might face will smaller. A higher ratio indicates the need for low external funds (Saeed, 2014) [33]. A higher capital ratio will increment higher adaptability to make the most of new business openings, particularly when banks have monetary requirements, for example, with regards to developing markets. While lower capital proportions demonstrate higher influence and hazard, bringing about higher obtaining costs. The accompanying equations are identified with capital (Menicucci & Paolucci, 2016) [23]:

$$Capital\ Ratio = \frac{Equity}{Total\ Assets}$$

Loan Ratio. Loans are a source of income generated by banks. Loans can have a positive or negative impact depending on interest rates and liquidity. Bank loan are the biggest part of complete bank resources and can create considerable interest income from banks. So it is expected that there is a positive relationship between loan ratio and profitability (Mendes & Abreu, 2003) [22]. Also, Naceur and Goaied (2005) [25] argue that bank loans are the primary source of income and positively impact bank performance, assuming there are no changes in other factors. If the excess deposit is converted into a loan, the interest margin will be higher. The following formulas are used (Menicucci & Paolucci, 2016) [23]:

$$Loan\ Ratio = \frac{Net\ Loans}{Total\ Assets}$$

Deposit. The primary and lowest costs of bank funding are deposits. Banks are very dependent on customer deposits to allocate credit to other customers. Deposits are bank deposits where deposits are made at a particular interest and within a specified period. Deposits are a fundamental funding source for financing a bank. Deposits are modest and stable monetary assets contrasted with other financing options. Deposits can be calculated by dividing customer deposits in total bank assets. The following are the formulas used (Menicucci & Paolucci, 2016) [23]

$$Deposits = \frac{Total\ Deposits}{Total\ Assets}$$

Loan Loss Provisions. The asset quality of a bank depends primarily on loan portfolios and internal credit administration mechanisms. As for proxies used in the variety of bank assets, one of them is loan loss provisions. Loan loss provisions are costs put aside as recompense for loan losses and loan payments. Loan loss provision is a marker of bank resource quality and shows changes in future execution. A high ratio can indicate the low quality of loans from the loan portfolio (Ozili, 2016) [28]. Banks operating in an environment with declining credit quality will have a higher loan loss. The provision of higher credit misfortunes will diminish the bank's net interest income and decline productivity. Menicucci & Paolucci (2016) [23] formulate loan loss provisions as follows:

$$LLP = \frac{Loan\ Loss\ Reserve}{Total\ Gross\ Loans}$$

Dependent variable
Return on Asset. Return on assets is characterized as the proportion of overall gain to add up to resources expressed as a rate. ROA reflects the capacity of the executives to utilize monetary venture to create profits. Bongini, Laeven, and Majnoni (2002) [9] define ROA as the company's financial ratios related to potential profits at specific income levels, assets, and capital. Menicucci and Paolucci (2016) [23] formulate ROA as the following:

$$ROA = \frac{Net\ Income}{Average\ Total\ Assets} \times 100\%$$

Return on Equity. Return on equity is used as an elective proportion of productivity. ROE is the proportion of overall gain to value expressed as a rate. ROE reflects bank management's efficiency in the use of shareholder funds (Menicucci & Paolucci, 2016) [23]. Like ROA, ROE also shows how well the bank uses its investment efficiency and management to achieve increased profitability (Saeed, 2014) [33]. According to Menicucci and Paolucci (2016) [23], ROE can be calculated by the formula as the following:

$$ROE = \frac{Net\ Income}{Average\ Total\ Equity} \times 100\%$$

Net Interest Margin (NIM). Net Interest Margin can be used as a reference in determining the strategy for a bank. NIM is measured by dividing net interest income by total assets (Naceur, 2003) [26]. NIM is obtained from the contrast between the interest income created by the bank and the interest income that the bank must compensation to investors and creditors who have borrowed funds divided by the average amount of income assets (Menicucci & Paolucci, 2016) [23]. According to Menicucci and Paolucci (2016) [23], the following is the NIM formula:

$$NIM = \frac{Net\ Interest\ Income}{Average\ Earning\ Assets} \times 100\%$$

Analysis method
Data processing begins with calculating financial banking ratios, including size, capital ratio, loan ratio, deposits, and loan loss provisions. The panel data analysis was then performed using quantitative analysis using a statistical method assisted by the Econometric Views (EViews) version 8. First, determine the estimation model, namely Common Effect, Fixed Effect, and Random Effects Models. The common effect model is a combination of cross-section and time-series data to become a unity without seeing the difference in time and individual). The method often used in this model is Ordinary Least Square (OLS). The common effect model cannot distinguish the variance between cross places and time points because it has a fixed intercept and does not vary randomly (Kuncoro, 2013) [18]. The fixed effect model is a model that assumes that the intercept of each individual is different. However, the slope between individuals is fixed or does not change over time (Gujarati, 2013) [15]. The random effect model is a model that assumes that every company has an intercept difference. Intercept is a random variable or known as stochastic. Variations in values cause this model, and the direction of the relationship between subjects is assumed to be random (Kuncoro, 2013) [18]. This study has conducted several tests to determine panel data regression estimation methods, namely: Chow test, Lagrange Multiplier test, and Hausman test. The purpose of conducting a Chow test is to compare the common and fixed effects models (Widarjono 2015) [39]. If the Probability Cross-section value is F > α (0.05), then the selected model is the Common Effect, but if the Probability Cross-section value is F < α (0.05), the model chosen is Fixed Effect. If the Common Effect model is more fit than the Fixed Effect model, it is necessary to proceed with the Lagrange Multiplier test. But if the Fixed Effect model is more fit than the Common Effect model, it is needed to proceed with the Hausman test. The purpose of the Lagrange Multiplier test is to compare random effect models with a common effect (Widarjono, 2015) [39].

If the value of Probability Cross-section is Random > α (0.05), the selected model is Common Effect, but if the Probability Cross-section value is Random < α (0.05), then the model chosen is Random Effect. The purpose of conducting the Hausman test is to compare the fixed-effect models with random effects (Gujarati, 2013) [15].

If the value of Probability Cross-section is Random > α (0.05), the chosen model is Random Effect, but if the Probability Cross-section value is Random < α (0.05), then the selected model is Fixed Effect. Second, then conducted multiple regression analyses to examine the effect of independent variables on dependent variables. This study uses regression analysis to determine the accuracy influence of independent variables, namely size, capital ratio, loan ratio, deposits and loan loss provision on dependent variable ROA (performance) with panel data regression equations such as the following:

$$Y_{it} = a + b_1 x_{1it} + b_2 x_{2it} + b_3 x_{3it} + b_4 x_{4it} + b_5 x_{5it} + e_{it}$$

which, Y is a dependent variable, a is the intercept, b_1 to b_5 is a slope, X_1 is size, X_2 is a capital ratio, X_3 is loan ratio, X_4 is deposits, X_5 is loan loss provisions, X is an independent variable, i is an entity, t is period, and e is the standard error. If the regression coefficient is positive, each increase in the independent variable will increase the dependent variable. Conversely, if the regression coefficient is negative, then each increase in the independent variable will decrease the dependent variable.

Research Results
Determinants of return on assets (ROA)

Table 1: Redundant fixed effect tests

Redundant fixed effects tests, equation: untitled, test cross-section fixed effects			
Effects test	**Statistic**	**d.f.**	**Prob.**
Cross-section F	0.778414	(12,34)	0.6679
Cross-section Chi-square	12.622370	12	0.3971

Sources: EViews8 output

Table 1 shows that the *Probability Cross-section* value of F is 0.6679 > 0.05, so that it can be concluded that the *Common Effect* model is more fit than the *Fixed Effect* model. Therefore it is necessary to proceed with the Lagrange Multiplier test.
Table 2 shows the Lagrange Multiplier test results, which shows the *Probability Breusch Pagan*s value of 0.0494 <0.05. Thus, it can be concluded that the *Random Effect* model is more appropriate than the *Common Effect* model.

Table 2: Lagrange multiplier tests for random effects

	Cross-section	**Test hypothesis time**	**Both**
Breusch-Pagan	3.861009	0.611918	4.472928
	(0.0494)	(0.4341)	(0.0344)
Honda	-1.964945	0.782252	-0.836290
	--	(0.2170)	--
King-Wu	-1.964945	0.782252	-0.179083
	--	(0.2170)	--
Standardized Honda	-1.442297	1.363393	-3.883930
	--	(0.0864)	--
Standardized King-Wu	-1.442297	1.363393	-2.642323
	--	(0.0864)	--
Gourierioux et al.*	--	--	0.611918
			(>= 0.10)

Sources: EViews 8 output

Table 3: Regression analysis

Variable	**T-statistic**	**Prob.**
C	-2.010500	0.0503
Size	3.406970	0.0014
Capital Ratio	5.377018	0.0000
Loan Ratio	1.197732	0.2372
Deposits	2.931516	0.0052
Loan Loss Provisions	-2.033161	0.0478

Sources: EViews 8 output

Table 3 shows that the probability value of bank size is 0.0014 < 0.05. The t-value is 3.41 > 1.96. It can be concluded that the bank size has a significant influence on return on assets with a positive correlation coefficient. The capital ratio shows the probability value of 0.0000 < 0.05. The t-value of 5.38 > 1.96 proves that the capital ratio has a significant effect on the return on assets with a positive correlation coefficient. The loan ratio shows a probability value of 0.2372 > 0.05, thus indicating that the loan ratio does not significantly affect the return on assets with a positive correlation coefficient. Likewise, deposits show a probability value of 0.0052 < 0.05, and the t-value of 2.93 > 1.96 proves that deposits have a significant effect on return on assets with a positive correlation coefficient. Finally, loan loss provisions show a probability value of 0.0478 <0.05 and a t-value

of -2.03 > 1.96, which indicates that loan loss provisions significantly influence return on assets with a negative correlation coefficient.
Table 4 shows that the Probability (F-statistic) value is 0.000067 < 0.05. It proves that size, capital ratio, loan ratio, deposits, and loan loss provisions have a significant effect simultaneously on Return on Assets. The Adjusted R-Square value of 0.367783 shows that the proportion of size, capital ratio, loan ratio, deposits, and loan loss provisions to Return on Assets is 37 %. In comparison, the remaining 63 % is influenced by other variables that do not exist in this regression model.

Table 4: F-statistic and coefficient of determination

R-squared	0.429765	Mean dependent var	2.111923
Adjusted R-squared	0.367783	SD dependent var	2.428300
SE of regression	1.930792	Sum squared resid	4.261905
F-statistic	6.933695	Durbin-Watson stat	1.715807
Prob(F-statistic)	0.000067		

Sources: EViews 8 output

Determinants of return on equity (ROE)
Table 5 shows that *F's probability cross-section* value is 0.1002 > 0.05, indicating that the *Common Effect* model is more fit than the *Fixed Effect* model. Therefore it is necessary to proceed with the Lagrange Multiplier test.

Table 5: Redundant fixed effects tests

Redundant Fixed Effects Tests, Equation: Untitled Test Cross-Section Fixed Effects			
Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross-section F	1.744123	(12,34)	0.1002
Cross-section Chi-square	24.943854	12	0.0151

Sources: EViews 8 output

Table 6 shows the Lagrange Multiplier test results, which shows the *Probability Breusch Pagan*s value of 0.3268 > 0.05, indicating that the *Common Effect* model is more appropriate than the *Random Effect* model.

Table 6: Lagrange multiplier tests for random effects

	Cross-Section	**Test Hypothesis Time**	**Both**
Breusch-Pagan	0.961587	0.771996	1.733583
	(0.3268)	(0.3796)	(0.1880)
Honda	0.980605	-0.878633	0.072105
	(0.1634)	--	(0.4713)
King-Wu	0.980605	-0.878633	-0.347333
	(0.1634)	--	--
Standardized Honda	1.836125	-0.588419	-2.787702
	(0.0332)	--	--
Standardized King-Wu	1.836125	-0.588419	-2.846728
	(0.0332)	--	--
Gourierioux et al.*	--	--	0.961587
			(>= 0.10)

Sources: EViews 8 output

Table 7 shows that the value of the probability size is 0.0025 < 0.05. The t-value is 1.43 < 1.96, showing that bank size has a significant influence on equity with a positive correlation coefficient. Likewise, the capital ratio shows a probability value

of 0.0142 < 0.05, which proves that the capital ratio significantly influences the return on equity with a positive correlation coefficient. However, the loan ratio's probability value is 0.2804 > 0.05, indicating that the loan ratio does not have a significant effect on return on equity with a positive correlation coefficient. The probability value of variable deposits is 0.0000 < 0.05, and the t-value of 4.91 proves that deposits have a significant effect on return on equity with a positive correlation coefficient. Likewise, the probability value of the loan loss provisions variable is 0.0125 < 0.05. The t-value of -2.60 > 1.96 proves that loan loss provisions significantly affect equity with a negative correlation coefficient.

Table 7: Regression Analysis

Variable	T-statistic	Prob.
C	1.426052	0.1606
Size	3.201745	0.0025
Capital Ratio	1.492627	0.0142
Loan Ratio	1.092268	0.2804
Deposits	4.911570	0.0000
Loan Loss Provisions	-2.599608	0.0125

Sources: EViews 8 output

Table 8 shows that the Probability (F-statistic) value is 0.000122 < 0.05. It proves that size, capital ratio, loan ratio, deposits, and loan loss provisions have a significant effect simultaneously on Return on Assets. The Adjusted R-Square value of 0.349672 shows that the proportion of size, capital ratio, loan ratio, deposits, and loan loss provisions to Return on Assets is 35 %. In comparison, the remaining 65 % is influenced by other variables that do not exist in this regression model.

Table 8: F-Statistic and Coefficient of Determination

R-squared	0.413429	Mean dependent var	12.07019
Adjusted R-squared	0.349672	SD dependent var	7.723647
SE of regression	6.228576	Akaike info criterion	6.604340
Sum squared resid	1784.578	Schwarz criterion	6.829483
Log-likelihood	-165.7128	Hannan-Quinn criteria.	6.690654
F-statistic	6.484383	Durbin-Watson stat	1.423221
Prob(F statistic)	0.000122		

Sources: EViews 8 output

Determinants of net interest margin NIM
Table 9 shows that the *Probability Cross-section* value of F is 0.0067 < 0.05, showing that the *Fixed Effect* model is more fit than the *Common Effect* model; therefore, it is necessary to proceed with the Hausman test.

Table 9: Redundant fixed effect tests

Redundant fixed effects tests, equation: untitled, test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.935347	(12,34)	0.0067
Cross-section Chi-square	36.971455	12	0.0002

Sources: EViews8 output

Table 10 shows the Hausman test results show the *Probability Cross-section Random* value of 0.5837 > 0.05, so that it shows that the *Random Effect* model is more appropriate than the *Fixed Effect* model.

Table 10: Hausman test

Correlated random effects-hausman test, equation:untitled, test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	11.078639	5	0.5837

Sources: EViews 8 output

Table 11: Regression analysis

Variable	T-Statistic	Prob.
C	-0.004880	0.9961
Size	3.251960	0.0021
Capital Ratio	2.533288	0.0148
Loan Ratio	1.550855	0.1278
Deposits	2.146447	0.0371
Loan Loss Provisions	-0.205879	0.8378

Sources: EViews 8 output

Table 11 shows that the probability value of variable size is 0.0021 < 0.05. The t-value is 3.25 > 1.96 and proves that the bank size has a significant influence on the net interest margin with a positive correlation coefficient. Likewise, the probability value of capital ratio variable is 0.0148 < 0.05 and t-value 2.53 > 1.96. It proves that capital ratio significantly influences the net interest margin with a positive correlation coefficient. However, the probability value of the loan ratio variable is 0.1278 > 0.05, which indicates that the loan ratio is not proven to significantly affect the net interest margin with a positive correlation coefficient. The probability value of the deposit variable is 0.0371 < 0.05, and the t-value is 2.15 > 1.96, which proves that deposits have a significant influence on the net interest margin with a positive correlation coefficient. However, loan loss provisions are not proven to significantly affect the net interest margin, which is indicated by a probability value of 0.8378 > 0.05 with a negative correlation coefficient.

Table 12: F-statistic and coefficient of determination

R-squared	0.254004	Mean dependent var	7.873444
Adjusted R-squared	0.172918	SD dependent var	15.45616
SE of regression	14.05646	Sum squared resid	9088.870
F-statistic	3.132514	Durbin-Watson stat	1.887619
Prob(F-statistic)	0.016237		

Sources: EViews 8 output

Table 12 shows that the Probability (F-statistic) value is 0.016237 < 0.05. It proves that size, capital ratio, loan ratio, deposits, and loan loss provisions have a significant effect simultaneously on Return on Assets. The Adjusted R-Square value of 0.172918 shows that the proportion of size, capital ratio, loan ratio, deposits, and loan loss provisions to Return on Assets is 17 %. In comparison, the remaining 83 % is influenced by other variables that do not exist in this regression model.

Discussions
This study proves that bank size significantly influences the return on assets with a positive correlation coefficient. It shows that the higher the bank size, the level of ROA of the bank will also increase, and vice versa. This study's results support the findings of a study conducted by Menicucci and Paolucci (2016) [23] that bank size has a positive effect on bank performance. The reason for this is because most banks with large sizes also have

substantial total assets. With higher total assets, the bank is considered able to control most markets and increase profits through the allocation of fixed costs for a larger volume of services (Menicucci & Paolucci, 2016) [23]. This research is following what was stated by Adusei (2015) [3] that banks with large sizes have relatively stable conditions because they have the resources and assets to obtain profits. Also, positive and significant coefficients of bank size with return on assets become efficiency incentives by encouraging economies of scale (Ebenezer, Omar, & Kamil, 2017) [14]. Bashir (2003) [7] also argues that the higher the bank size, the bank can take advantage of economies of scale. This study proves that capital ratio significantly influences the return on assets with a positive correlation coefficient. It shows that the higher the ratio of capital owned by the bank, the bank's level of ROA. This study's results support the findings of Menicucci and Paolucci (2016) [23] research, which found a significant and positive influence of capital ratio on bank performance. The cause of this happens because a healthy level of capital structure in a bank can reduce funding costs and withstand unexpected losses such as bankruptcy. This study also supports the findings of Owoputi et al. (2014) [27] that the higher the capital owned by a bank, the bank has more time and flexibility to overcome unexpected problems. Large capital banks are considered able to pursue more effective business opportunities (Bucevska & Misheva, 2017) [11]. A high capital ratio reflects the bank's strength in taking the risk of each credit given so that the profitability level also increases. With capital that has grown, banks can also increase business capacity so that the profits will be higher. This study finds that the loan ratio does not significantly affect the return on assets with a positive correlation coefficient. It shows that the higher or lower ratio of loans owned by foreign exchange national private banks does not affect the banks' ROA. The loan ratio does not affect bank performance because loan loss provisions can still cover the number of loans provided. Other factors form bank performance in addition to interest income derived from loans offered by banks. These findings support the finding, Agbloyor, and Aboagye (2017) [2], who found that loan portfolio diversification does not improve bank performance, nor does it reduce banks' credit risks. According to Adzobu et al. (2017) [2], increasing costs of funding can reduce bank performance. This study proves that deposits have a significant influence on return on assets with a positive correlation coefficient. It shows that the higher the deposit owned by the bank, the ROA of the bank will also increase and vice versa. This study's results support the findings of Menicucci & Paolucci (2016) [23] that banks depend on deposits to obtain additional funds in achieving better profitability. This study also supports Owoputi et al. (2014) [27], who states that it is still necessary to convert an increase in the number of deposit obligations to credit facilities or to other investment alternatives that are considered profitable in increasing bank profits. Alper and Anbar (2017) found that deposits as sources of bank funding will directly affect the bank's profit. The higher the deposit, the bank profitability will also increase because banks can convert deposit obligations into credit so that banks will get income from these deposits (Dietrich &Wanzenried, 2014) [13]. This study proves that loan loss provisions significantly affect the return on assets with a negative correlation coefficient. It shows that the higher the loan loss provision of a bank, the lower the level of ROA of the bank. Conversely, the smaller the loan loss provision

of a bank, the bank's ROA will increase. The results of this study support the findings of Dietrich and Wanzenried (2014) [13] that there is a negative and significant effect of loan loss provisions on bank performance because the decline in credit quality impacts is reducing bank performance. Lower credit distribution capacity will eliminate banks' opportunity to obtain higher profits (Menicucci & Paolucci, 2016) [23]. Bougatef (2017) [10] argued that basically, loan loss provisions were formed to anticipate problem assets in banks. This study proves that firm size significantly influences the return on equity with a positive correlation coefficient. It shows that the greater the bank size, the ROE of the bank, and vice versa. This study's results follow the research of Menicucci and Paolucci (2016) [23], which shows a positive effect of bank size on profitability. Banks with a larger size can get higher product diversification opportunities and loans (Menicucci & Paolucci, 2016) [23]. The size of a company that reflects the company's total assets when experiencing an increase will provoke investors to invest in the company. Therefore, the bank's rate of return also increases so that banks can get more profits. Saunders, Strock, and Travlos (1990) [35] assess that banks with large sizes have more significant potential to diversify their asset risks. Also, larger banks tend to have higher productivity levels and credit diversification than smaller banks (Kosmidou, 2008). The positive and significant effects obtained are also caused by several banks that have been established for a long time so that they have a large size, and they use higher capital and equity, which allows an increase in ROE. However, this study's results are inversely proportional to that of Dietrich and Wanzenried (2014) [13]. They stated that larger banks tend to experience bad credit and have a high level of financing so that the rate of return obtained by the bank decreases. This study proves that the capital ratio significantly influences the return on equity with a positive correlation coefficient. The results of this study are consistent with the Menicucci & Paolucci (2016) [23] findings that the higher the capital ratio owned by a bank, the bank performance will also increase and vice versa. Banks financed by a high amount of equity become more profitable because they can withstand unexpected losses such as bankruptcy to achieve higher profitability (Menicucci & Paolucci, 2016) [23]. According to Abor (2015) [1], capital, which is a source of financing for banks, is used to finance operations so that high capital is needed to achieve higher profits. Also, high capitalization rates indicate that banks also have higher return rates, reducing funding costs (Menicucci&Paolucci, 2016) [23]. Banks with high capitalization assessed by Vong and Chan (2009) [37] have a low risk. Therefore, a high amount of capital tends to impact bank performance (Naceur, 2003) [26] positively. Dietrich and Wanzenried (2014) [13] also argue that banks with higher capitalization will be more profitable. This study proves that the loan ratio does not significantly affect the return on equity with a positive correlation coefficient. It shows that the higher or lower ratio of loans owned by foreign exchange national private banks does not affect the ROE of the bank. Maybe as Husni stated (in Wang and Wang, 2015) [38], it is the high deposit level rather than loan ratio that improves bank performance. This study proves that deposits have a significant influence on return on equity with a positive correlation coefficient. It shows that the higher the deposit owned by the bank, the level of ROE, and vice versa. This study's results support the findings of Tariq et al. (2014) [36] that there are positive and significant deposits on bank performance. It is due

to the existence of deposits that can indirectly increase the loan capacity so that the bank can get a higher profit. This study also supports Bassey and Moses (2015) [8], which states that deposits are the primary source of bank investment, leading to direct bank income. This study proves that loan loss provisions significantly affect the return on equity with a negative correlation coefficient. It shows that the higher the loan loss provision for a bank, the lower its ROE will be. Conversely, the smaller the loan loss provision for a bank, the higher the ROE will increase. Due to an increase in non-performing loans with a higher percentage than the percentage of the increase in total loans provided so that the provider costs are higher than the interest on loans received by banks. Finally, the bank will experience a decline in profits, which results in a decrease in ROE. This study also supports that Samad (2015) [34] showed the coefficient is negative and significant based on the principle that the higher the loan loss provisions, the lower the bank performance. Dietrich and Wanzenried (2014) [13] stated that the decline in credit quality would impact reducing bank profitability. Loan loss provisions that have increased will reduce the capacity of banks to channel credit. With a lower credit distribution capacity, it will eliminate banks' opportunity to obtain higher profits (Menicucci & Paolucci, 2016) [23]. This study proves that bank size significantly affects the Net Interest Margin (NIM) with a positive correlation coefficient. It shows that the larger the company (bank), the NIM of the bank will also increase, and vice versa. This study supports Demirguc-Kunt and Huizinga (1999) [12], who found that large banks tend to have higher margins and reserves for receivable (non-performing loans) write-offs. Increasing the company (bank), as indicated by total assets in banks, will increase operating costs so that the bank's interest margin will also increase. Therefore, banks that have a larger size tend to get higher margins. Thus, a large bank is considered safer because of a reduction in obtaining resources (deposits or loans). It allows the net interest margin achieved by the bank to be higher (Papavangjeli & Leka, 2016) [30]. The size of banks increasing will make the NIM also increase to a certain level or limit. This study proves that the capital ratio significantly affects the Net Interest Margin (NIM) with a positive correlation coefficient. It shows that the higher the capital ratio owned by the bank, the NIM of the bank will also increase, and vice versa. The cause of this happens because a firm's strong level of capital structure can reduce funding costs and withstand unexpected losses such as bankruptcy (Menicucci & Paolucci, 2016) [23]. With a high level of capital adequacy, the bank will increase interest income so that the bank also gains more (Almazari, 2014) [4]. Naceur (2003) [26] argues that relatively high amounts of capital have a positive impact on profitability. Therefore a higher net interest margin will be more profitable (Demirguc-Kunt and Huizinga, 1999) [12]. Also, banks with high capitalization have high margins and profitability and can convert available funds into higher income (Bougatef, 2017) [10]. This study proves that the loan ratio does not significantly affect the Net Interest Margin (NIM) with a positive correlation coefficient. It shows that the higher or lower ratio of loans owned by foreign exchange national private banks does not affect the bank's net interest margin. The result supports Misra (2015) [24], who found that banks were still considered to make profits from sources other than interest, such as fee-based income. The loan ratio does not affect NIM because loans allocated to other parties were not optimal; the resulting interest

income did not increase or decrease. There is a loan loss provision that constitutes a reserve of funds that banks are deliberately prepared to cover the number of loans granted not to have an impact on the increase or decrease in bank performance. Also, Naceur and Goaied (2015) [25] found different results where bank loans negatively correlated with profitability. When a bank increases its loan portfolio, the bank must pay a higher fee for the provision of its funds. This study proves that deposits significantly affect the Net Interest Margin (NIM) with a positive correlation coefficient. It shows that the higher the deposit owned by the bank, the NIM of the bank will also increase and vice versa. Deposits had a positive and significant effect on NIM because banks can benefit from sediments with higher interest than ordinary savings. Banks can change the amount of the deposit liabilities of the people who invest as loan funds for the people who apply for loans. With the high demand for loans, it creates opportunities for banks to increase profits. This study also supports Owoputi et al. (2014) [27], who stated that in increasing bank profits, it is necessary to convert an increase in the number of deposit liabilities to credit facilities or to other investment alternatives that are considered profitable so that bank performance increases. The higher the deposit that is channeled, it will increase the interest margin so that the bank's amount of profit also increases (Ebenezer et al., 2017) [14]. Deposits are the primary source of bank investment, and deposits lead to direct bank income (Bassey& Moses, 2015) [8]. This study proves that loan loss provisions do not significantly affect the Net Interest Margin (NIM) with a negative correlation coefficient. It shows that the higher or lower ratio of loans owned by foreign exchange national private banks does not affect the NIM. This study supports Hamid (2017) [16], who found that loan loss provisions have no significant effect on bank profitability. It happens because higher inventories reflect the inability of borrowers to respect their loan obligations at the right time. Even though banks have already established reserve funds, there are still loans disbursed in the bank operations that will not stop so that the income remains. Loan loss provisions do not affect bank performance because reserves are formed based on the capital owned by the bank. So that banks that have been supported by substantial capital, the magnitude of the loan loss provisions will not have an impact on reducing the NIM.

Conclusions

Based on the above findings can be concluded as follows: First, the effect of bank size on the bank performance (ROA, ROE, and NIM) is significant with a positive coefficient. It means that the greater the bank's size, the greater the bank performance (ROA, ROE, and NIM). When viewed in terms of assets, a substantial increase in size indicates that the bank has large total assets, causing an increase in the ROA level. When seen in terms of equity, the size of a large bank can attract investors to invest in the bank, increasing bank capital. It automatically increases ROE. When viewed in terms of the interest margins obtained, the banks with large sizes can diversify products and loans that will be channeled to the public higher. Interest is derived from interest expense on loans disbursed to the public, which impacts the NIM. Second, the effect of capital ratio on the bank performance (ROA, ROE, and NIM) is significant with a positive coefficient. It means that the higher the capital ratio owned by a bank, bank performance (ROA, ROE, and NIM) will also increase. When

viewed in terms of assets, banks with significant capital and a strong capital structure certainly have high total assets to withstand unexpected losses such as bankruptcy and increase business capacity. Therefore an increase in capital has an impact on improving ROA. When viewed in terms of equity, capital automatically impacts ROE because if a bank's capital increases, then the opportunity to obtain a return on capital (ROE) also increases. When viewed in terms of the interest margin achieved, the growth in capital in the banking sector can expand business capacity, increasing the number of loans disbursed, when the number of credits that can be channeled increases, obtaining loan interest charged to borrowers is higher for the bank. It led to a direct increase in NIM acquisition in a bank. Third, the effect of loan ratio on the bank performance (ROA, ROE, and NIM) is not significant with a positive coefficient. Each bank already has a special reserve of funds prepared in anticipation of a loss related to the loan. The small or large amount of loans disbursed does not have any impact on bank performance (ROA). Likewise, a banking company's working capital will not be affected when viewed in terms of equity because other factors form bank performance other than interest income from loans provided by the bank. Banks can still obtain interest margins from other sources such as fee-based income because the loans allocated are not all optimal. The resulting interest income does not increase or decrease.

Fourth, the influence of deposits on the bank performance (ROA, ROE, and NIM) is significant with a positive coefficient. It means that the higher the bank deposit, the bank performance (ROA, ROE, and NIM) will also increase. When viewed in terms of assets, deposits become an alternative for banks in obtaining additional funds.

Other funds that are part of bank assets will experience a boost, which will increase the ROA level with the increase in deposits. If viewed in terms of equity, public deposits in the form of deposits contained in banks can be used as capital for further distribution.

Therefore, the bank's level of equity (ROE) automatically increases. When viewed in terms of the interest margins obtained, the high deposits disbursed will increase the interest margin so that the NIMs obtained by banks also increase.

Fifth, the effect of loan loss provisions on the bank performance (ROA and ROE) is significant with a negative coefficient. The higher the loan loss provision for a bank, the higher the bank performance (ROA and ROE). But it has no significant effect on the bank performance of the NIM with a negative coefficient. It means that the amount of loan loss provision in a bank will not affect the decrease in the NIM's bank performance. This difference in results was obtained because, when viewed in terms of assets, loan loss provisions were formed to anticipate problem assets in banks.

The higher the amount set aside, the total productive assets owned by the bank will automatically decrease. When viewed in terms of equity and reducing assets, it will also reduce the bank's capital used for lending (loans) to the public. In other words, the capacity of banks to channel credit has decreased. Lower credit distribution capacity will eliminate the opportunity for banks to obtain higher profits. However, if viewed in terms of the interest margin obtained, it will not have any effect because reserves are formed depending on the capital owned by the bank. It does not rely on the amount of interest that the bank will get.

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