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Original Research Article

The Influence of Mobile Banking, Company Size, Credit Risk on Indonesian Banking Financial Performance

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Abstract

The Influence of Mobile Banking, Company Size, Credit Risk on Indonesian Banking Financial Performance. Case Study on Conventional Banking Companies Listed on the Indonesia Stock Exchange 2016 - 2020. The purpose of this study is to analyze the effect of mobile banking, company's size and credit risk on the financial performance of Indonesian banks based on Return on Assets (ROA), Return on Equity (ROE) and Operating Costs to Operating Income (BOPO) in banking companies listed on the Indonesia Stock Exchange in 2016 – 2020. The type of research used is explanatory research, with the unit of analysis in this study covering research variables consisting of Mobile Banking, company size and Credit risk or Non Performing Loan (NPL) as independent variables, Return on Assets, Return on Equity and Operating Costs to Operating Income as the dependent variable, which is obtained from the financial statements of banks listed on the Indonesia Stock Exchange for the period 2016 – 2020. The sample of this research is 20 banks. The analytical techniques used in this study are path analysis and multiple regression analysis. The results of the study indicate that mobile banking has no significant effect on the financial performance of Indonesian banks. The other independent variables measured using firm size and NPL have a significant effect on the financial performance of Indonesian banks which are measured using ROA, ROE, BOPO.

Keywords: Mobile banking, Return on Assets, Return on Equity, Operating Costs to Operating Income.

1. INTRODUCTION

1.1. Background

Indonesian banking as one of the drivers of the Indonesian economy takes a very important role in the life of the nation and state. Banking is an intermediary institution for the collection of public funds (surplus units) and lending to the public and business entities (deficit units) that need them. Therefore, the development of banking also affects people's lives, for example the development of banking technology, making banking one of the leading sectors in the use of information technology and ultimately influencing the pattern of people's lives in using financial technology in banking.

Innovative financial technology has become an increasingly important element in the competitive landscape of financial services, due to the rapid development of electronic channel services through electronic channels that have created new added value for banking customers, banking applications can be easily downloaded via mobile phones. banking customers. The development of mobile banking in Indonesia has been so fast, because this service is able to provide flexibility and practicality of financial transactions at the touch of a finger. Simply press the PIN (personal identification number) from the device or cellphone, then transactions can be carried out from anywhere as long as the network is connected.

Data from Bisnis.com at the end of 2020 shows that based on a study from UnaFinancial (2020), the number of mobile banking users in Indonesia increased from 52 million users in 2019 to 88 million users or an increase of 69.2% in 2020. This shows that mobile banking is one of the most important and much needed things for banking customers.

Banks are also required to continue to increase profitability and manage every risk faced by

banks in carrying out their banking functions. One of the important measuring tools in measuring profitability is financial ratios. Financial ratios are an important tool of financial analysis, even considered as benchmarks and comparisons are often made between companies, both from time to time and comparisons with other similar companies. The financial ratios used in this study are ROA, ROE and BOPO.

The thing that attracts the attention of researchers, when they want to do this research is the development of the use of information technology is not followed by the performance of banking in Indonesia. The use of information technology is expected to increase ROA and ROE because banks can more efficiently serve customers and increase customer transactions because of the convenience provided and banks are expected to reduce their BOPO ratio. However, based on banking statistical reports issued by the OJK in 2016 - 2020, it is noted that the growth of ROA and ROE in conventional banks has actually decreased, on the contrary the BOPO ratio is increasing, as shown in Table 1.1. In Table 1.1. it can be seen that the ratio of ROA and ROE from 2016 to 2018 increased up, but decreased in 2019 and 2020, this was due to global economic conditions which were affected by the trade war between the United States and China in 2019 and the Covid-19 pandemic in 2020. Likewise, the BOPO based on the banking year report from the OJK is as follows: in 2016 to 2018: the BOPO ratio decreased, but increased in 2019 and 2020, the BOPO ratio in 2019 and 2020 at the same time show that the expected efficiency in the banking industry has not come true.

Table-1.1: Development of Banking Financial Ratios In percentage (%)

Financial Ratio	2016	2017	2018	2019	2020
ROA	2,23	2,45	2,55	2,47	1,59
ROE	12,55	12,71	13,22	12,55	8,22
BOPO	82,22	78,64	77,86	79,39	86.58

Source: OJK, Indonesian Banking Statistics (Data processed, 2021)

1.2 Previous Research

There are several studies that show the effect of using mobile banking on banking profitability as follows: research from Sudaryanti *et al*. (2018) shows a positive relationship between mobile banking and profitability. The same thing was found in research (Njogu, 2014) and research by Kiprop Too *et al*. (2016). On the other hand, research by Sinambela and Rohani (2017), Yohani *et al*. (2018), Syarifuddin and Viverita (2014), and Wadhwa (2016) found that internet banking and mobile banking have no significant effect on banking profitability. Their findings conclude that the provision of internet banking and mobile banking services requires a fairly high operational cost, thereby reducing the banking profit itself.

According to research from Margaretha (2015), which includes the effect of electronic banking on the BOPO variable, it shows that of the 68 banks studied, it shows that the operational expenses of banks that use electronic banking are smaller than those that do not use electronic banking. The results of this study indicate that banks that have adopted electronic banking are indeed proven to be more efficient than banks that have not adopted. The same thing was also revealed from research from Malhotra and Singh (2008) which showed that banks that provide internet banking services have a better accounting efficiency ratio than banks that do not provide internet banking services. The occurrence of banking cost efficiency can also be seen from the number of bank offices and the number of employees, the existence of mobile banking technology causes banks to not need many bank offices or employees, this can be seen from the results of banking statistics issued by the OJK, it is known that the actual number of offices has also shrunk as in Table 1.2 and Table 1.3 for the number of bank employees**.**

Table-1.2: Number of Commercial Banks and Bank Offices

	Number	of	Commercial	Banks	Number	of	Bank	Officer	
2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
116	115	115	110	109	32.730	32.276	31.609	31.127	30.733

Source: OJK, Indonesian Banking Statistics 2016-2020.

Table 1.2 shows that in 2020, the number of banks in Indonesia decreased by 7 banks compared to 2016, the same thing can be seen in the number of bank offices which also decreased by 6.1% in 2020 compared to 2016. In Table 1.3 shows the number of bank employees in 10 the largest bank by assets in Indonesia in 2018 and 2019, all of which experienced a decrease in the number of employees, with the exception of BRI which experienced a 2.01% increase in employees. The largest decrease in the number of employees occurred at Bank Danamon by 10.48%, followed by BCA at 6.11%, Bank Panin at 2.69%, Bank OCBC NISP at 2.07%, Bank Mandiri at 1.87%, while others under 1%. The ten largest banks by assets in Indonesia already represent 68.4% of the total banking assets in Indonesia (Source: Trenasia, 2020).

Table-1.3: Number of Bank Employees in Indonesia (person)

Bank	2018	2019	Increase/ (Decrease) in %
BRI	60.553	61.768	2,01
Bank Mandiri	39.809	39.065	(1,87)
BCA	27.561	25.877	(6,11)
BNI	27.224	27.211	(0,05)
CIMB Niaga	12.461	12.372	(0,71)
Panin	12.580	12.242	(2,69)
Danamon	32.299	28.913	(10,48)
Bank BTN	11.810	11.647	(1,38)
OCBC NISP	6.075	5.949	(2,07)
Permata	7.125	7.120	(0,07)

Source: Bisnis Indonesia, 18 March 2020

This study includes two independent variables in the form of company size/assets and NPL. The size or size of the company is described as an asset, the assets of commercial banks in Indonesia in 2020 based on Indonesian Banking Statistics data issued by the OJK in 2020 are Rp. 9,177 trillion, in 2019 of Rp. 8.562 trillion and in 2018 it was Rp 8,068.35 trillion. This number grew by 7.18% year on year (YoY) in 2020 compared to 2019. This growth slowed slightly compared to the rate of increase in total assets of commercial banks in 2016 and 2017, which were 10.39% and 9.78, respectively. % to Rp 6,729.79 trillion and Rp 7,387.63 trillion. This asset growth shows the performance of banks in terms of raising funds and channeling credit in carrying out their functions as intermediary institutions.

According to Sutrisno (2016) there are several risks faced by banks, including credit risk. Credit risk is one of the risks most often faced by banks, this risk can be described by the level of non-performing loans (NPL) owned by a bank. Credit risk is measured by using the ratio of non-performing loans to total loans issued by banks. (Yulianti *et al*., 2018).

Based on previous research and banking statistical data issued by the OJK, the researcher wants to continue the research and focus on 3 independent variables and 3 dependent variables. The samples used are banking companies listed on the Indonesia Stock Exchange (IDX) and banks that provide mobile banking services or do not provide mobile banking services. Therefore, the researcher wants to make a study entitled: The Effect of Mobile Banking, Company Size, Credit Risk on the Financial Performance of Indonesian Banking. Case Study on Banking Companies Listed on the Indonesia Stock Exchange 2016 – 2020.

1.2 The Problems

Based on the description that has been presented in the background section, the formulation of the problem in this study is as follows:

a. Does mobile banking affect the ROA ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020?
b. Does mobile banking affect the ROE ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020?
c. Does mobile banking affect the BOPO ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020?
d. Does the size of the company affect the ROA ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020?
e. Does the size of the company affect the ROE ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2019?
f. Does the size of the company affect the BOPO ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020?
g. Does NPL affect the ROA ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020?
h. Does NPL affect the ROE ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020?
i. Does NPL affect the BOPO ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020?

1.3. Research purposes

The aims of this research are as follows:

a. To analyze the effect of mobile banking on the ROA ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.
b. To analyze the effect of mobile banking on the ROE ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.
c. To analyze the effect of mobile banking on the BOPO ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.
d. To analyze the effect of company size on the ROA ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.
e. To analyze the effect of company size on the ROE ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.
f. To analyze the effect of company size on the BOPO ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.

g. To analyze the effect of NPL on the ROA ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.
h. To analyze the effect of NPL on the ROE ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.
i. To analyze the effect of NPL on the BOPO ratio of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.

2. LITERATURE REVIEW

2.1 Theoretical Foundation

2.1.1 Definition of Bank

According to Article 1 of Law No. 10 of 1998 concerning amendments to Law No. 7 of 1992 concerning Banking, states that a bank is a business entity whose main task is as a financial intermediary, which is in charge of channeling funds from parties who have excess funds to parties who need funds or lack funds at a specified rate. Bank is a financial institution that offers financial services such as credit, savings, current accounts, deposits, payment services and performs other financial functions in a professional manner. The success of a bank is also determined by the ability to identify public demand for financial services, then provide services efficiently and offer them to customers at competitive prices.

Some definitions of the Bank are expressed by Dendawijaya (2016), namely the Bank as a type of financial institution that performs various services, such as providing credit, circulating currency, supervising currency, acting as a place to store valuable objects, conducting corporate financing. -companies and others. According to Simorangkir (2016), the Bank is one of the financial institutions that aims to provide credit and services. The granting of credit is carried out by circulating bank payment instruments in the form of demand deposits.

2.1.2 Mobile Banking as Part of the Electronic Channel

The world of Indonesian technology today is no longer a foreign thing for people in Indonesia; information technology has made many Indonesian people run the economy more effectively than ever before. This can also encourage many companies in Indonesia to use information technology that can facilitate their business activities through fast communication throughout Indonesia and the world, and is considered to have relatively reduced operating costs for the business world. The largest users of information technology are from the financial sector, especially banking, on the grounds that in the financial sector, banks need it to process various electronic data not only in one place, but also to reach all parts of Indonesia and even other countries.

Internet technology has the potential to fundamentally change banks and the banking industry in speculating that the Internet will destroy the old ways of how banking services are developed and delivered to the extreme. The widespread availability of internet banking is expected to influence the mix of financial services produced by banks, the manner in which banks produce these services and the financial performance that results from banking. Banks in this case take advantage of this technology as a new technology for their assessment of profitability such as an on-line transfer system for additional banking services. In addition, the banking industry analysis describes the potential impact of internet banking on cost savings, revenue growth, and banking risk profile and has generated interest considerations and speculation about the impact of the internet on the banking industry. (Margaretha, 2015).

The internet has changed the dimensions of competition in the banking sector, after the introduction of ATM and phone banking which were the initial foundations of electronic finance, the increasing adoption of the internet has added a new distribution channel in the banking sector, namely online banking (Onay *et al*., 2013). This internet banking service can be provided by banks that have physical offices and create a website and provide their services through the web or services can be set up through virtual banks or currently known as branchless banking. The internet is also used as a strategic and differentiation channel to offer low-cost financial service products such as credit cards, mutual fund products, bonds, buying and selling foreign exchange, as well as insurance sold in banks (bancassurance).

Electronic channel or e-banking in many ways is to include provisions for retail banking products and services through electronic channels provided by banking services to serve the whole community, both in large and small amounts (Basel Committee on Banking Supervision, 2003). Al-Smadi *et al*. (2011) stated that electronic banking varies between researchers because electronic banking refers to several types of banking services where customers can access information and get desired banking services via the internet.

In order for banks to remain competitive, they must be aware of the rapid and continuous growth in the information and telecommunications sector which encourages the introduction of electronic services in their daily banking activities. The sharp development of electronics in Indonesia can serve as a guide for banks to keep abreast of the times so that customers feel more comfortable and easier to transact. Internet banking is one of the banking services that allows customers to obtain information, communicate and conduct banking transactions through the network and is not a bank that only provides banking services via the internet, so the

establishment and activities of internet only banks are not allowed (Bank Indonesia, 2013).

3. RESEARCH METHOD

The type of research conducted in this study is causality research, namely research that aims to determine the relationship and influence between two or more variables. With this research, it is expected to be able to test the effect of mobile banking, company size and credit risk/NPL on Return on Assets (ROA), Return on Equity (ROE) and Operating Costs of Operating Income (BOPO).

3.1. Population and Sample

The population in this study is the banking sub-sector companies listed on the Indonesia Stock Exchange in 2016 – 2020 with a total of 44 banks. The sample method used in this research is purposive sampling method, namely the technique of determining the sample by selecting data sources based on criteria and based on certain considerations. The number of samples in this study is only a few banking companies as shown in Table 2, which are included in the category of using mobile banking services or not using mobile banking services that meet the following criteria:

1. Banking companies have been listed on the Indonesia Stock Exchange (IDX) until 2020.
2. Banking companies in the form of conventional commercial banks, outside Islamic banks.
3. Banking companies did not experience delisting from 2016 to 2020.
4. Complete financial data owned by the company to be taken and processed as dependent variables and independent variables in this study, have adequate annual financial reports and have no losses during year 2016 – 2020.

Table-2.1: Banking Companies That Become the Research Sample

Code	Banks
AGRO	Bank Rakyat Indonesia Agroniaga, Tbk.
BBCA	PT. Bank Central Asia
BBMD	PT. Bank Mestika Dharma, Tbk
BBNI	PT. Bank Negara Indonesia (Persero), Tbk
BBRI	PT. Bank Rakyat Indonesia (Persero), Tbk.
BBTN	PT. Bank Tabungan Negara (Persero), Tbk.
BDMN	PT. Bank Danamon Indonesia, Tbk.
BINA	PT. Bank Ina Perdana, Tbk.
BJBR	PT. Bank Pembangunan Daerah Jawa Barat dan Banten
BJTM	PT. Bank Pembangunan Daerah Jawa Timur, Tbk
BMRI	PT. Bank Mandiri (Persero), Tbk.
BNBA	Bank Bumi Arta, Tbk.
BNGA	PT. Bank CIMB Niaga, Tbk.
BNII	PT. Bank Maybank Indonesia, Tbk.
BSIM	Bank Sinarmas, Tbk.
BTPN	PT. Bank BTPN, Tbk.
MEGA	Bank Mega, Tbk
MCOR	PT. Bank China Construction Bank Indonesia, Tbk
NISP	PT. Bank OCBC NISP, Tbk
NOBU	PT. Bank Nationalnobu, Tbk.

Source: www.idx.co.id (data processed, 2021).

3.2. Data Collection

The data used in this study came from secondary data. The secondary data is data that has been created by previous research or is already available in libraries, on-line journals, company websites, case studies. The data used in this study were collected using documentation techniques from the company's website and from the Indonesia Stock Exchange website.

This research can be categorized as longitudinal data or panel data. Panel data is a research method that uses dimensions across time which can improve the quality and quantity of data. This research requires bank information such as NPL, total assets, ROA, ROE and BOPO, which can be obtained from financial statements published on the company's website.

3.3 Research Design

The analytical method used in this study is partial regression analysis (Partial Least Square) which uses SmartPLS version 3.0 to test the three hypotheses proposed in this study. Regression is one of the simplest measures of statistical computation.

This study uses a structural equation model (Structural Equation Modeling, which is abbreviated as SEM) in testing the research model. SEM describes a causal relationship to the variables being theorized, the variable positioned as the initial cause is called the exogenous variable (independent variable) and the

variable positioned as the effect is called the endogenous variable (the dependent variable). SEM has a higher flexibility to connect theory and data, SEM is classified into 2, namely SEM based on covariance and SEM based on variance. Covariance-based SEM has several limitations. The limitations of covariance-based SEM are the assumption of a large sample, the data must be normally distributed, the dimensions must be in reflective form, and the model must be based on theory. Path analysis with observed variables using the SmartPLS program, there is no need to carry out model measurements (measurement models) to test validity and reliability, so structural model estimation is immediately carried out (Ghozali & Latan, 2015). The relationship between the independent variables, namely mobile banking (X1), company size (X2) and NPL (X3) on ROA (Y1), ROE (Y2) and BOPO (Y3), the following is a path analysis framework (path analysis):

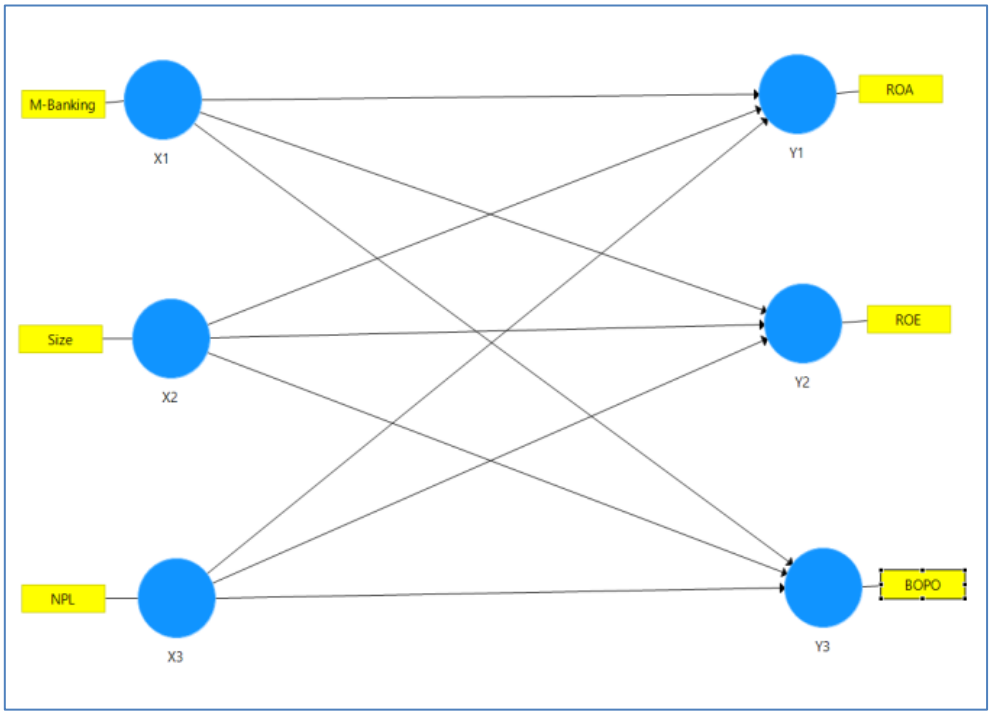

Fig-1: Structural Model (Data from SmartPLS, processed, 2021).

3.4 Research Hypothesis

The hypotheses proposed in this study are:

H1: Mobile banking has an effect on ROA of Indonesian banking.
H2: Mobile banking has an effect on ROE of Indonesian banking.
H3: Mobile banking has an effect on the BOPO of Indonesian banks.
H4: Company size has an effect on ROA of Indonesian banking.
H5: Company size has an effect on ROE of Indonesian banking.
H6: Company size has an effect on the BOPO of Indonesian banks.
H7: NPL affects Indonesian banking ROA.
H8: NPL affects Indonesian banking ROE.
H9: NPL affects the BOPO of Indonesian banks.

3.5 Testing

The goodness of fit test of the inner model is measured using the Q-Square predictive relevance using the Q-Square formula:

$$Q^2 = 1 – (1 - R_1^2) (1 - R_2^2)\dots (1 – R_p^2)$$

Description: R_1^2, $R_2^2 \dots R_P^2$ is R square of the endogenous variable in the model.

The interpretation of Q^2 is similar to the coefficient of determination (R^2) in the regression, by knowing the value of Q^2, we can measure the extent to which the ability of the independent variables (mobile banking, firm size, NPL) can contribute to the dependent variable (ROA, ROE, BOPO).

Hypothesis testing is carried out using a bootstrap resampling method that has been developed by Geoseer and Stone (Ghozal and Latan, 2015). The significance value of the prediction model in testing the structural model can be seen through the T-statistics and P-value (Probability value) between the independent variables to the dependent variable by bootrapping on SmartPLS version 3. According to Hair *et al*., 2014, the significance provisions are: T- statistics > 1.96 and P-value less than 5%.

4. RESULTS AND DISCUSSION

4.1. Structural Models and Conversion of Path Diagrams to Systems of Equations

Based on the results of the algorithm calculation from the path coefficient or path diagram, it can be converted into the following variable equation:

Table-3: Variable Equation

Variable	Y_1	Y_2	Y_3
X_1	- 0.055	0.129	0.156
X_2	- 0.338	- 0.250	0.421
X_3	0.311	0.273	- 0.411

Source: Data from SmartPLS, processed, 2021.

The equation of these variables can be formulated as follows:

$Y_1 = - 0.055\ X_1 - 0.338\ X_2 + 0.311\ X_3$

$Y_2 = 0.129\ X_1 - 0.250\ X_2 + 0.273\ X_3$

$Y_3 = 0.156\ X_1 + 0.421\ X_2 - 0.411\ X_3$

The inner model test is conducted to determine the correlation effect of each variable, both direct and indirect effects. Structural model testing (inner model) is done by looking at the R-square value for each variable.

Based on Table 4 below, it can be seen that the R-Square value generated for Y_1 (dependent variable – ROA) is 0.214, which means that the effect of mobile banking (X_1), company size (X_2) and NPL (X_3) on ROA is 21, 4% and the remaining 78.6% are influenced by other variables outside this research model. The effect of mobile banking (X_1), company size (X_2) and NPL (X_3) on Y_2 (dependent variable – ROE) is 17.9%, while the remaining 82.1% is influenced by other variables outside this research model. The effect of mobile banking (X_1), company size (X_2) and NPL (X_3) on Y_3 (dependent variable - BOPO) is 27.8%, while the remaining 72.2% is influenced by other variables outside this research model.

Tabel-4: R-Square's Value

Variable	R Square
Y_1	0,214
Y_2	0,179
Y_3	0,278

Source: Data from SmartPLS, processed, 2021.

4.2. Evaluation of Goodness of Fit

Evaluation of the Goodness of Fit model was carried out using the dependent variable R-square with the same interpretation as the regression. This evaluation is carried out to determine whether the analysis model is good enough to explain the research phenomenon being studied. Based on the R-square value, the Q-square equation is obtained as follows:

$Q^2 = 1 – (1 - R_1^2)\ (1 - R_2^2) \ldots\ (1 – R_p^2)$

$Q^2 = 1 – (1 – 0{,}214)\ (1 – 0{,}179)\ (1 – 0{,}278)$

$Q^2 = 1 – 0{,}466$

$Q^2 = 0{,}534$

Based on the above calculation, the Q2 value is 0.534 which means that the model is able to explain 53.4% of the independent variables (mobile banking, company size and NPL) that can contribute to the dependent variable (ROA, ROE, BOPO), while the remaining 46.6% is other factors that affect the dependent variable.

4.3. Hypothesis Testing

Table-5: Path Coefficient on Structural Model Testing

	Original Sample	Sample Mean (M)	Standard Deviation	T-statistics	P-Values
$X_1 \rightarrow Y_1$	-0.055	-0.063	0.136	0.403	0.344
$X_1 \rightarrow Y_2$	0.129	0.123	0.139	0.929	0.176
$X_1 \rightarrow Y_3$	0.156	0.158	0.129	1.212	0.113
$X_2 \rightarrow Y_1$	0.311	0.319	0.157	**1.977**	**0.024**
$X_2 \rightarrow Y_2$	0.273	0.281	0.145	**1.986**	**0.030**
$X_2 \rightarrow Y_3$	-0.411	-0.414	0.129	**3.179**	**0.001**
$X_3 \rightarrow Y_1$	-0.388	-0.389	0.081	**4.776**	**0.000**
$X_3 \rightarrow Y_2$	-0.250	-0.250	0.096	**2.606**	**0.005**
$X_3 \rightarrow Y_3$	0.421	0.412	0.102	**4.133**	**0.000**

Source: Data from SmartPLS, processed, 2021.

Based on the results of the path coefficient in Table 5, it can be seen that X2 (firm size) and X3 (NPL) have a significant effect on ROA (Y1), ROE (Y2) and BOPO (Y3) with the resulting T-statistics value > 1.96. Significance is also shown from the P-value < 0.05 (alpha 5%), namely x2 against Y1, Y2 and

Y3 and x3 against Y1, Y2 and Y3 which is marked by a path with a thicker line in Figure 5.2

Based on the T-Statistics and P-Value values in Table 5 above, it can be concluded that hypothesis testing is as follows:

a. Hypothesis 1, namely mobile banking has an effect on ROA of Indonesian banking. The T-statistics value is 0.403 or less than 1.96 and the P-value is 0.344 > 0.05 (alpha 5%); so H1 is rejected and it can be concluded that mobile banking has no significant effect on ROA of Indonesian banking.
b. Hypothesis 2, namely mobile banking has an effect on ROE of Indonesian banking. The value of T-statistics is 0.929 or less than the value of 1.96 and the P-value is 0.176 > 0.05; so H2 is rejected and it can be concluded that mobile banking has no significant effect on the ROE of Indonesian banking.
c. Hypothesis 3, namely mobile banking has an effect on the BOPO of Indonesian banking. The value of T-statistics is 1.212 or less than the value of 1.96 and the P-value is 0.113 > 0.05; so H3 is rejected and it can be concluded that mobile banking has no significant effect on the BOPO of Indonesian banks.
d. Hypothesis 4, namely company size has a significant effect on ROA of Indonesian banks, because the T-statistics value is 1.977 and is greater than 1.96 and P-value is 0.024 <0.05.
e. Hypothesis 5, namely company size has a significant effect on ROE of Indonesian banks, because the T-statistics value is 1.886 and is greater than 1.96 and P-value is 0.030 <0.05.
f. Hypothesis 6, namely the size of the company has a significant effect on the BOPO of Indonesian banks, because the value of T-statistics is 3.179 and is greater than the value of 1.96 and the P-value is 0.001 <0.05.
g. Hypothesis 7, namely that NPL has a significant effect on ROA of Indonesian banks, because the T-statistics value is 4.776 and is greater than 1.96 and P-value 0.000 <0.05.
h. Hypothesis 8, namely that NPL has a significant effect on ROE of Indonesian banks, because the T-statistics value is 2.606 and is greater than 1.96 and P-value is 0.005 <0.05.
i. Hypothesis 9, namely that the NPL has a significant effect on the BOPO of Indonesian banks, because the T-statistics value is 4.133 and is greater than the 1.96 value and the P-value is 0.000 <0.05.

5. ANALYSIS RESULTS

5.1 Effect of Mobile Banking on ROA

The results of hypothesis testing using T-statistics and P-value concluded that there was no effect of mobile banking on the ROA of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020 with the T-statistics value of 0.403 or less than the value of 1.96 and P -value 0.344 > 0.05 (alpha 5%); so H1 is rejected and H0 is accepted. The results of the hypothesis test are known that the mobile banking variable has a negative regression coefficient direction with a result of -0.055.

The results of this study are supported by data from the Indonesian Banking Statistics 2016 - 2020 issued by the OJK in 2016 - 2020 which shows the ROA value tends to decrease, which is 2.47 in 2019 to 1.59 in 2020. Based on research from Sinambela (2017), namely the provision of internet banking services does not have a significant effect on the financial performance of banks listed on the Indonesia Stock Exchange.

The same thing was also found by Sudaryanti *et al*.(2018) that mobile banking has no effect on ROA. The absence of mobile banking services on ROA is also due to the fact that the majority of the banks that are the object of research do not maximize the mobile banking service facilities, especially in 2016 to 2019. There are many shortcomings in the provision of mobile banking from the majority of these banks, most of which only provide balance checking and transfer services with the weakness of the internet network, so that internet services only play a small role in overall banking transactions and are not immediately followed by an increase in ROA.

5.2 Effect of Mobile Banking on ROE

The results of hypothesis testing using T-statistics and P-value concluded that there was no influence of mobile banking on the ROE of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020 with the T-statistics value of 0.929 or less than the value of 1.96 and P -value 0.170 > 0.05 (alpha 5%); so H1 is rejected and H0 is accepted. The results of the hypothesis test are known that the mobile banking variable has a regression coefficient direction with a result of 0.129.

The results of this study are supported by data from the 2016 - 2020 Indonesian Banking Statistics issued by the OJK in 2016 - 2020 which shows the ROE value tends to decrease, from 12.55 in 2019 to 8.22 in 2020. Based on research from Sinambela (2017), namely the provision of internet banking services does not have a significant effect on the financial performance of banks listed on the Indonesia Stock Exchange. There is no effect of internet banking services on ROE, because in 2016 – 2019, the average mobile banking user is only about 25.6% of the total percentage of banking customers, so that the provision of mobile banking has not had a significant effect in several years of research. The provision of this mobile banking service is a long-term investment and the investment that has been issued by the bank that provides this service is not in accordance with the number of customers who use mobile banking, but with

the continuous improvement of technology and the prohibition of going out of the house or working from home during the Covid-19 pandemic. and increasing public awareness of technology can increase mobile banking users in the years to come.

5.3 Effect of Mobile Banking on BOPO

The results of hypothesis testing using T-statistics and P-value concluded that there was no effect of mobile banking on the BOPO of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020 with the T-statistics value of 1.212 or less than the value of 1.96 and P -value 0.133 > 0.05 (alpha 5%); so H1 is rejected and H0 is accepted. The results of the hypothesis test are known that the mobile banking variable has a regression coefficient direction with a result of 0.156.

The results of this study are supported by data from the 2016 – 2020 Indonesian Banking Statistics issued by the OJK in 2016 – 2020 which shows the BOPO value tends to increase, from 79.39 in 2020 to 86.58 in 2020. According to research from Sinambela (2017), the effect of providing internet banking services on bank profitability and efficiency has not been maximized, this can be due to various factors including large investments that cause bank profits to be eroded and some banks have not adopted mobile banking. The level of security that must be high, long-term maintenance and the ability of banks to maintain mobile banking are also still experiencing problems. In Indonesia, the use of mobile banking in 2016 to 2019 is still not maximal, indeed with mobile banking, banks are able to generate greater operating income, but this income has not been able to cover the costs incurred for operating mobile banking technology.

5.4 Effect of Company Size on ROA

The results of hypothesis testing using T-statistics and P-value concluded that there was an effect of firm size on the ROA of Indonesian banks listed on the Indonesia Stock Exchange in 2016 - 2020 with the T-statistics value of 1.977 or greater than the value of 1.96 and P- value 0.024 < 0.05 (alpha 5%); so H1 is accepted and H0 is rejected. The results of the regression equation show that the firm size variable has a negative regression coefficient with a result of –0.338.

The size or assets of a banking company as a financing institution, cannot be separated from the amount of credit provided by the bank itself, as one of the duties and definitions of a bank as an intermediary institution, because the company's assets certainly affect the ROA of the bank itself.

5.5 Effect of Company Size on ROE

The results of hypothesis testing using T-statistics and P-value concluded that there was an effect of company size on the ROE of Indonesian banks listed on the Indonesia Stock Exchange in 2016 - 2020 with the T-statistics value of 1.986 or greater than the value of 1.96 and P- value 0.003 < 0.05 (alpha 5%); so H1 is accepted and H0 is rejected. The results of the regression equation show that the firm size variable has a negative regression coefficient with a result of -0.25.

The ROE ratio is the ratio of profits to equity from the bank, and the larger the assets or size of the company, the greater the company's profits, namely assets in the form of lending and this also affects equity and liabilities on the liability side. The larger the assets, the easier it is for banks to seek capital (equity) and third party funds.

5.6 Effect of Company Size on BOPO

The results of hypothesis testing using T-statistics and P-value concluded that there was an effect of firm size on the BOPO of Indonesian banks listed on the Indonesia Stock Exchange in 2016 - 2020 with the T-statistics value of 3.179 or greater than the value of 1.96 and P- value 0.001 < 0.05 (alpha 5%); so H1 is accepted and H0 is rejected. The results of the regression equation show that the firm size variable has a positive coefficient of 0.421.

Based on banking statistics for the quarter 1/2020, the larger the banking assets known as BUKU, the more efficient the bank, namely BUKU 4 is more efficient than BUKU 3, 2 and 1.

5.7 Effect of NPL on ROA

The results of hypothesis testing using T-statistics and P-value concluded that there was an effect of company NPL on the ROA of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020 with a T-statistics value of 4.776 or greater than 1.96 and P- value 0.000 < 0.05 (alpha 5%); so H1 is accepted and H0 is rejected. The results of the regression equation show that the company's NPL variable has a positive coefficient of 0.311.

The provision of credit with good quality will affect banking profits, meaning that the smaller the NPL, the greater the ROA, on the contrary, the greater the NPL, the smaller the ROA

5.8 Effect of NPL on ROE

The results of hypothesis testing using T-statistics and P-value concluded that there was an effect of company NPL on the ROE of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020 with the T-statistics value of 2.606 or greater than the value of 1.96 and P- value 0.005 < 0.05 (alpha 5%); so H1 is accepted and H0 is rejected. The results of the regression equation show that the NPL variable has a positive coefficient of 0.273.

The provision of good quality credit will affect banking profits, meaning that the smaller the

NPL, the larger the ROE, and the larger the NPL, the smaller the ROE.

Pemberian kredit dengan kualitas yang baik, akan berpengaruh terhadap keuntungan perbankan, artinya semakin kecil NPL, maka ROE akan semakin membesar, sebaliknya semakin besar NPL, maka ROE akan semakin mengecil.

5.9 Effect of NPL on BOPO

The results of hypothesis testing using T-statistics and P-value concluded that there was an effect of company NPL on the ROE of Indonesian banks listed on the Indonesia Stock Exchange in 2016-2020 with the T-statistics value of 4.133 or greater than the value of 1.96 and P- value 0.000 < 0.05 (alpha 5%); so H1 is accepted and H0 is rejected. The results of the regression equation show that the NPL variable has a negative coefficient of -0.411.

A low NPL ratio will increase bank interest income, which is the net interest margin (NIM), which is the net margin of loan interest income minus the interest expense of third party funds, in the form of demand deposits, savings interest and deposit interest. If the NPL is high, it means that interest income from credit will decrease and then the NIM will decrease and then have an impact on the higher or inefficient BOPO.

6. CONCLUSIONS AND SUGGESTIONS

I. Conclusion

Based on the results of research and discussion that have been found, the conclusions of this study are as follows:

a) Financial technology in the form of mobile banking does not significantly affect the financial performance of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020.

b) The size of banking companies has a significant effect on the financial performance of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020, thus the growth of banking company assets is very important to be monitored and improved by the banking management.

c) Credit risk or NPL has a significant effect on the financial performance of Indonesian banks listed on the Indonesia Stock Exchange in 2016 – 2020, thus good credit quality management of a bank will greatly affect the profitability of the bank.

II. Suggestion

Based on the research results obtained, the researchers provide suggestions that can be useful for further research, investors and practitioners as follows:

a) For Banking Companies

Mobile banking does not affect the profitability and efficiency of banking, but its development cannot be ignored by banking companies, because the era of digitalization is increasingly reaching the world of technology, including financial technology. Banks that do not develop financial technology will gradually be excluded and left behind in collecting public funds and disbursing credit. Mobile banking features that are complete, safe and make it easier for customers to make financial transactions as well as make payments and purchases, are very useful to be added immediately to the mobile banking service, so that customers are more interested and feel helped by this mobile banking service.

Firm size and NPL factors that are well managed, with the quality of NPLs being kept low, are believed to be able to increase bank profitability and efficiency. The size or assets of the company are always strived to increase which also means credit growth is always increasing. The increasing and healthy credit growth will ultimately increase the profitability of the banking sector. This credit growth is also inseparable from good credit quality, as measured by NPL, this shows that lending must be selective and in accordance with banking regulations in selecting debtors, so that banks obtain good credit quality and asset growth consistently and on the right track. , so that the bank is able to increase profitability and become more efficient and become a healthy bank. A healthy bank, of course, also influences the contribution of Indonesia's overall economic development.

b) For investors

The results showed that the size of the company and NPL can affect the level of profitability and efficiency of the company. Investors and the public should pay attention to the soundness of the bank and the reputation of the bank as a basis for consideration for using banking services, both in making loans and placing their funds in banks in the form of savings, current accounts, deposits and other investment products.

c) For further research

This research is expected to serve as an empirical study and a basis for further research, which relates to mobile banking, company size, credit risk and banking financial performance.

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