

Determinants of Capital Adequacy Ratio Through Size, Liquidity, Credit Risk and Operational Efficiency in Sharia Commercial Banks in Indonesia

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Abstract

This research aims to determine whether the variable Size, Liquidity, Credit Risk, Operational Efficiency is a determinant of the Capital Adequacy Ratio in Islamic Commercial Banks in Indonesia using Panel Data Regression Analysis and Fixed Effect Model as the best model. The results obtained in this research indicate that the variables Size, Liquidity, Credit Risk, and Operational Efficiency simultaneously have a positive and significant effect on the Capital Adequacy Ratio in Islamic Commercial Banks for the 2016-2019 Period. While partially the results obtained that the variables Size, Liquidity, and Credit Risk do not have a significant effect and have a positive relationship to the Capital Adequacy Ratio. While the Operational Efficiency variable has a significant influence and has a negative relationship with the Capital Adequacy Ratio in Islamic Commercial Banks for the 2016-2019 Period. And in this research shows the ability of the independent variable in explaining the dependent variable is 80.9218%.

Keywords: Capital Adequacy Ratio, Size, Liquidity, Credit Risk, Operational Efficiency, Panel Data Regression, Fixed Effect Model (FEM)

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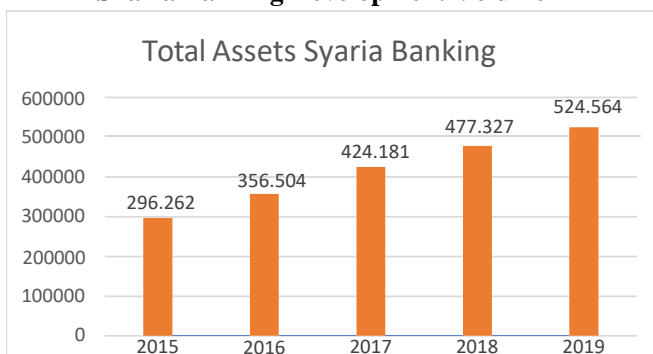
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1. INTRODUCTION

Currently, the growth of banks in Indonesia is increasingly advanced, including Islamic banking. This can be seen from the total assets obtained by Islamic Commercial Banks and Sharia Business Units which have increased from year to year.

Figure 1

Sharia Banking Development Volume



Data Source: Islamic Banking Statistics

(www.ojk.go.id)

In Figure 1 shows the development of Islamic banking which is increasingly rapid as seen from the increasing total assets every year, this shows that the increasing existence of Islamic banking in Indonesia which is driven by the interest of customers to place their funds in Syariah banks has become a trend. The products offered are a special attraction for customers, this makes competition between banks even stronger. Competition is carried out by initiating many more varied and competitive products, these developments certainly greatly affect customer interest. However, developing Islamic banking in Indonesia must also be followed by improving the quality of Islamic banks so that the public is more confident and trusting.

The complexity that affects the business and the risk profile can come from the bank or from the bank's subsidiary companies. In addition, changes in the approach to assessing bank conditions that are applied

internationally affect the approach to assessing bank soundness.

Bank Indonesia has established a risk-based assessment system for Commercial Bank Soundness in Bank Indonesia Regulation No.13 / 1 / PBI / 2011. The coverage of the bank's health assessment includes risk profile, good corporate governance (GCG), profitability (earnings) and capital (capital). One aspect that illustrates the soundness of a bank is through capital, a bank's effort to build public trust is to maintain and maintain the amount of capital owned by the company so that customers trust to place their funds in the bank. In banking, this aspect is based on the bank's minimum capital requirement. Then stated by the capital adequacy ratio or Capital Adequacy Ratio (CAR). This regulation is stipulated to ensure that banks have sufficient capital to carry out their business activities and so that banks have a buffer to anticipate losses that may disrupt financial system stability. The capital adequacy assessment set by Bank Indonesia is 8% (Ikit, 2018). Especially since March 2020 the OJK has stipulated Regulation of the Financial Services Authority of the Republic of Indonesia Number 12 /POJK.03/2020 concerning the Consolidation of Commercial Banks that Banks are required to meet the minimum Core Capital set by the Financial Services Authority. Minimum Core Capital as referred to is at least IDR 3,000,000,000,000.00 (three trillion rupiah) no later than 31 December 2022 for Commercial Banks and 31 December 2024 for Regional Banks. This will certainly affect banking activities in running their business, where banks need to carry out fund management so their capital remains within safe limits, it is not less than the minimum capital adequacy, meanwhile banks also need to fill up a core capital of 3 trillion.

Thus, to minimize the various risks that may occur and to fulfil bank capital so that banking activities remain in good condition, it is necessary to conduct a research regarding the Determinants of Capital Adequacy Ratio which can be seen through Size, Liquidity, Credit Risk, and Operational Efficiency at Commercial Banks. Sharia Period 2016-2019.

2. THEORITICAL

Bank capital is used as a reserve or back up of bank funds if the bank experiences difficulties. Thus, the bank's growth will be better if the bank's capital increases (Sumartik & Misti Hariasih, 2018). In

banking, this aspect is based on the bank's minimum capital adequacy ratio, which is then expressed by the Capital Adequacy Ratio (CAR). According to Ikit, (2018) the capital adequacy ratio or often referred to as the Capital Adequacy Ratio (CAR) is a comparison between the amount of capital and risk-weighted assets (RWA). Based on Bank Indonesia Regulation Number: 09/1 / PBI / 2007 and Bank Indonesia (BI) Circular Letter No.9 / 24 / DPBS Jakarta, Based on the Charter Value Theory developed by Marcus in 1984, it is explained that banks always hold extra capital to secure them from decreased stability and handle the risk of business failure. Charter Value Theory also predicts that the bank can suffer losses on its income in the future if bankruptcy occurs, and the impact of these losses hits many parties, including shareholders. Therefore, the bank will maintain its capital more than the required minimum capital (Lasty Agustuty & Andi Ruslan, 2019).

Capital Adequacy Ratio (CAR) can be caused by internal factors as well as external factors. Internal factors usually come from banking operations which can be seen at their financial performance. One of the internal factors that can affect the capital adequacy ratio is the size or size of the bank. Hyseni, (2015) in Yonas Mekonen, (2015) do a research stated that bank management with a higher number of assets tends to make efforts to increase the amount of capital adequacy.

Ha: Size affects the capital adequacy ratio of Islamic Commercial Banks for the 2016-2019 Periods.

Another factor that is estimated to be able to determine the capital adequacy ratio is liquidity. According to Fred Weston, (2009) in Firmansyah, (2016) do a research that the liquidity ratio is a ratio that describes the company's ability to meet short-term liabilities, in this case projected on the Financing to Deposit Ratio, this ratio is useful for stating how far the bank's ability is. In paying back the withdrawal of funds made by the depositor by relying on the financing provided as liquidity (Intannes Putri Basse dan Ade Sofyan, 2017). A high loan-to-deposit ratio indicates the higher capital that must be compensated for (Ali Shingjergji dan Marsida Hyseni, 2015).

Ha: Liquidity affects the capital adequacy ratio of Islamic Commercial Banks for the 2016-2019 Periods

Banks as intermediary agencies that channel funds to the public face credit/ financing risk. Based on the rule of Otoritas Jasa Keuangan number 65/POJK.03/2016 about implementation of risk management for the sharia general bank and the sharia effort unit financing risk is a risk due to failure of other parties to fulfil obligations to the Bank, including Financing Risk due to debtor failure, risk of financing concentration, counterparty credit risk, and settlement risk. In this research, credit risk is projected on non-Performing Financing. Thus, banks that experience funding difficulties caused by bad credit make banks finance their operational activities using their own capital.

Ha: Credit Risk affects the capital adequacy ratio of Islamic Commercial Banks for the 2016-2019 Periods

In banking activities, it is necessary to carry out business efficiency so that the bank can get maximum profit. According to Muhamad, (2017) efficiency is the ratio between input and output. Input that is processed through a certain process will give an output according to a certain size and criteria. Operational efficiency means that the costs incurred to generate profits are less than the profits derived from the use of these assets (Intannes Putri Basse & Ade Sofyan, 2017). In this case, operational efficiency is seen based on the comparison of Operating Expenses and Operating Income (BOPO). Banks that are inefficient in their business activities will result in an inability to compete in mobilizing public funds and in channeling these funds to people who need them as business capital.

Ha: Operational Efficiency affects the capital adequacy ratio of Islamic Commercial Banks for the 2016-2019 Periods

3. METHODOLOGY

The method according to the KBBI is an orderly method used to carry out a job so that it is achieved as desired. Meanwhile, the meaning of research according to KBBI is that the activities of collecting, processing, analyzing, and presenting data are carried out systematically and objectively to solve a problem or test a hypothesis to develop general principles.

In this research, the method chosen uses a quantitative approach, where quantitative research focuses on measuring and analyzing the cause-and-effect relationship between various variables, not the

process, the investigation is considered to be in a value-free framework (Hardani et al, 2020).

In this research, the quantitative data used were obtained from the Financial Statements in the form of the Annual Financial Statements for Islamic Commercial Banks in Indonesia for the 2016-2019 Period which were published on the official website of each Islamic Commercial Bank website with the dependent variable (dependent variable) in this research, namely Capital Adequacy Ratio (CAR) as a variable (Y) and the Independent Variable (X) and the independent variable (independent variable) in this research is Size which is measured through total assets as a variable (X1), projected liquidity in Financing to Deposit Ratio (FDR) as a variable (X2), credit risk as measured by Non-Performing Financing (NPF) as a variable (X3), and operational efficiency as measured by the BOPO ratio as a variable (X4). This research is a quantitative approach which is carried out using panel data analysis method, which is a combination of time series data and cross section data.

The data collection technique is using documentation method, library method, and internet research method. Meanwhile for Quantitative data or data in the form of numbers used are sourced from secondary data on the financial statements of 12 Islamic Commercial Banks, namely Bank Aceh Syariah, Bank Victoria Syariah, BRI Syariah, Bank Syariah Mandiri, Bank Negara Indonesia Syariah, Bank Muamalat, Bank Panin Dubai Syariah, BCA Syariah, Bank Bukopin Syariah, Bank Mega Syariah, and BTPN Syariah to obtain research data including the Capital Adequacy Ratio (CAR) as a variable (Y), Size measured by total assets as a variable (X1), projected liquidity in Financing. To Deposit Ratio (FDR) as a variable (X2), credit risk as measured by Non- Performing Financing (NPF) as a variable (X3), and operational efficiency as measured by the BOPO ratio as a variable (X4) during the 2016-2019 periods.

The data processing was carried out using the EViews version 10. The test was carried out, namely Panel Data Regression, which is a combination of cross- section type data and time series data. Where, namely, a number of variables are observed over a number of categories and collected within a certain period of time (Dedi Rosadi, 2012). In other words, panel data is data from several individuals or objects observed in a period of time (Anton Bawono and Arya Fendha Ibnu Shina, 2018). The following is the panel data regression equation used:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + e$$

Information :

Y = Dependent variable (Capital Adequacy Ratio / CAR)

β_0 = Constant

$\beta_1 \beta_2 \beta_3 \beta_4$ = Regression Coefficient

X1 = X1 (Size/ Total assets)

X2 = X2 (Liquidity / FDR)

X3 = X3 (Credit Risk / NPF)

X4 = X4 (Operational Efficiency / BOPO)

i = The number of cross section data

t = The amount of time series data

e = Other variables that influence

The analysis technique is carried out using the Common Effect Model (CEM) Method, the Fixed Effect Model (FEM) Method, the Random Effect Modal (REM) Method, the Best Model Selection, the Classical Assumption Test, the Hypothesis Test (F Test and F Test), and Coefficient Analysis. Determination. Selection of the best model is done before the classical assumption test by comparing the Common Effect Model (CEM) approach with the

Fixed Effect Model (FEM) approach first. If the results obtained indicate the accepted CEM approach model, the CEM approach will be analyzed. If the FEM approach model is accepted, comparisons are made again with the Random Effect Model (REM) approach. So that to get the best model in panel data analysis, it is necessary to do the Chow Test and the Hausmant Test.

4. RESULTS AND DISCUSSION

In this research, there is one variable that has different units, namely the size variable as seen through the total assets in rupiah units, while 4 other variables, namely the ratio of capital adequacy, liquidity, credit risk, and operational efficiency use percent. So that in research it is necessary to standardize the data first so that the data is in the same range. Data standardization was carried out using a z-score, which is the standardization of each variable number based on the mean value and standard deviation (Singgih Santoso, 2006).Based on the results of the analysis using the EViews 10 program, the following results were obtained:

Table 1
Result Of Data Panel Regression

Dependent Variable: CAR

Method: Panel Least Squares

Date: 10/25/20 Time: 23:04

Sample: 2016 2019

Periods included: 4

Cross-sections included: 12

Total panel (balanced) observations: 48

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.53E-07	0.076405	-2.01E-06	1.0000
SIZE	0.883046	0.454150	1.944393	0.0607
FDR	0.066059	0.140762	0.469297	0.6420
NPF	0.305154	0.198922	1.534040	0.1348
BOPO	-0.273344	0.113008	-2.418792	0.0214

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.809218	Mean dependent var	2.08E-07
Adjusted R-squared	0.719789	S.D. dependent var	1.000000
S.E. of regression	0.529350	Akaike info criterion	1.826866
Sum squared resid	8.966752	Schwarz criterion	2.450600
Log likelihood	-27.84479	Hannan-Quinn criter.	2.062576
F-statistic	9.048723	Durbin-Watson stat	1.885850
Prob(F-statistic)	0.000000		

Source: EViews 10 (processed data)

Based on the table above obtained In this research, obtained a F-statistic of 9,048723 with a probability of 0.000000 and a F-Table of 2.81, it can be seen that F-statistic > F-table, namely 9,048723>

2.81, thus it can be concluded that H0 is rejected and H1 is accepted which means the variable Size, Liquidity, Credit Risk, and Operational Efficiency simultaneously have a significant effect on the Capital Adequacy Ratio in Islamic Commercial Banks in Indonesia for the 2016-2019 Periods.

Based on the results of the regression carried out, the magnitude of the influence of Size, Liquidity, Credit Risk, and Operational Efficiency on the Capital Adequacy Ratio in Islamic Commercial Banks for the 2016-2019 Periods is seen from the coefficient of determination (R-Squared) of 0.809218 or equal to 80.9218%. Thus, it can be seen that the ability of the Independent variables (Size, Liquidity, Credit Risk, and Operational Efficiency) in explaining the dependent variable (Capital Adequacy Ratio) is 80.9218% while the remaining 19.0782% is explained by variables not included in this research.

While the partial hypothesis test obtained the following results:

- a. The effect of Size on the capital adequacy ratio in Islamic Commercial Banks for 2016-2019 periods

Based on the regression results at $\alpha = 5\%$, it shows that the size variable t- statistic of 1.944393 is smaller than the t-table of 2.01537 with a probability of 0.0607 which is greater than α (0.05), so it can be concluded that the size has no significant effect on the capital adequacy ratio at Sharia Commercial Bank for 2016-2019 periods.

- b. The Effect of Liquidity on the capital adequacy ratio in Islamic Commercial Banks for 2016-2019 periods

Based on the regression results at $\alpha = 5\%$, it shows the variable t-statistic of 0.469297 is smaller than the t-table of 2.01537 with a probability of 0.6420 which is greater than α (0.05). So, it can be concluded that the projected liquidity at FDR does not have a significant effect on the capital adequacy ratio in Islamic Commercial Banks for 2016-2019 periods.

- c. The effect of Credit Risk on the capital adequacy ratio in Islamic Commercial Banks 2016-2019 periods

Based on the regression results at $\alpha = 5\%$, it shows the variable t-statistic of 1.534040 is smaller than the t-table of 2.01537 with a probability of 0.1348 greater than α (0.05). So, it can be concluded that the projected credit risk on

NPF does not have a significant effect on the capital adequacy ratio in Islamic Commercial Banks for 2016-2019 periods.

- d. The Effect of Operational Efficiency on the capital adequacy ratio in Islamic Commercial Banks 2016-2019 periods

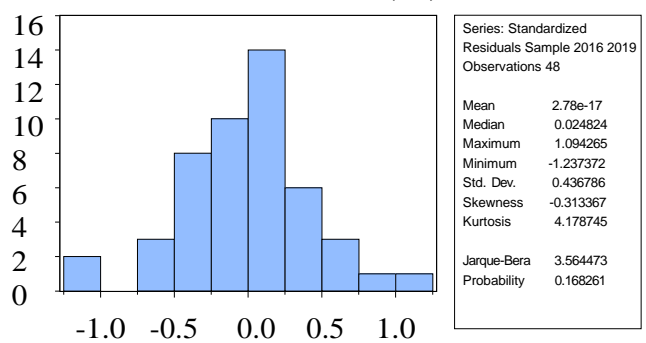
Based on the regression results at $\alpha = 5\%$, it shows the variable t-statistic of -2.418792 is smaller than the t-table of -2.01537 with a probability of 0.0214 smaller than α (0.05). So, it can be concluded that the operational efficiency projected at BOPO has a significant negative effect on the capital adequacy ratio in Islamic Commercial Banks for 2016-2019 periods.

After testing the hypothesis and getting the right model in describing the data, the classical assumption test is carried out. The classical assumption test is as follows:

Normality Test

Figure 2

Result of Normality Test Using The Jarque Bera Test Statistic (JB)



Source: EViews 10 (processeddata)

Formally, the hypothesis on the Normality Test using the JB Test can be written as follows:

H0 : Data are normally distributed

Ha : The data are not normally distributed

In the JB test, if the probability value (p-value) of JB is greater than the probability value (0.05), it will result in H0 acceptance which states the data is normally distributed. From the results of the normality test in the table above, it can be seen that the resulting Jarque-Bera value is 3.564473 with a probability of 0.168201 (above the 0.05 significance level). Based on these results it can be seen that the Jarque-Bera Value > Significance Level of 0.628723 > 0.05. So, H0 is accepted and it can be stated that the data is normally distributed and the requirements for normality are fulfilled.

Heterokedasticity Test

Table 2

Result of Heterokedasticity Test using The White Test

Heteroskedasticity Test: White

F-statistic	2.275664	Prob. F(14,33)	0.0260
Obs*R-squared	23.57791	Prob. Chi-Square(14)	0.0515
Scaled explained SS	27.50679	Prob. Chi-Square(14)	0.0165

Source: EViews 10 (processed data)

Formally, the hypothesis on the Normality Test using the JB Test can be written as follows:

H0 : Probability Obs * R-Squared < a
Homoscedasticity assumption is not fulfilled

Ha : Probability Obs * R-Squared > a
Homoscedasticity assumption From the results of data processing above, it can be seen that the statistical value of the White Test or the Obs * R-Squared value is 0.0515. So that the value of Obs * R-Squared > a is (0.0515 > 0.05), so it can be concluded that Ha is accepted, and it can be stated that the homoscedasticity assumption is fulfilled.

Multicollinearity Test

Table 3

The Result of Multicollinearity Test

Variance Inflation Factors

Date: 10/27/20 Time: 21:26

Sample: 1 48

Included observations: 48

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.013552	1.000000	NA
SIZE	0.020239	1.462268	1.462268
FDR	0.020225	1.461291	1.461291
NPF	0.020865	1.507489	1.507489
BOPO	0.021217	1.532971	1.532971

Source: EViews 10 (processed data)

This multicollinearity test can briefly be stated by the following hypothesis:

H0: There is no multicollinearity in the model
Ha: There is multicollinearity in the model

Based on the table above, it shows that the Variance Inflation Factor (VIF) value of each independent variable is size 1.462268, liquidity 1.461291, credit risk 1.507489, and operational efficiency 1.532971. All VIF values for each variable are below 10 or VIF values <10, so it can be concluded that H0 is accepted, and it can be stated that this study is free from multicollinearity.

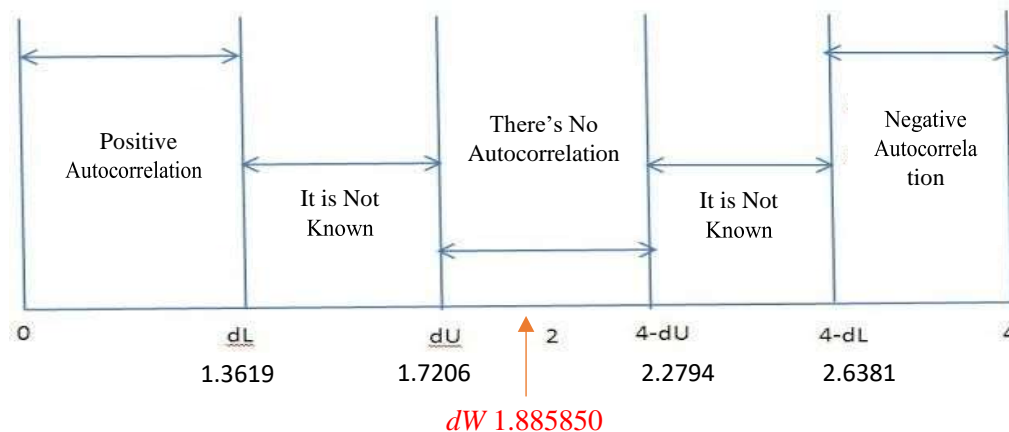
Autocorrelation Test

Tabel 4

Result Durbin Watson Test

Durbin-Watson stat	1.885850
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Figure 3 Output Conclusion



Based on the results of the table above, it can be seen that the Durbin-Watson Statistic value is 1.885850. In autocorrelation testing using Durbin-Watson, the criteria used to state that the model is free

from autocorrelation problems are $DW > DU$ or $DW < 4 - DU$. Thus, the output value in the table above shows that the study meets the criteria, namely $1.7206 < 1.885850 < 2.2794$, so it can be concluded that H_0 is accepted, meaning that this research model is free from autocorrelation problems.

Based on the results of the t test, the following information is obtained:

- a. Based on the t-statistic value of the Size variable 1.944393 with a probability of 0.0607 greater than a (0.05), a decision can be made to accept H_0 or it can be concluded that the Size variable has no influence on the Capital Adequacy Ratio variable. This conclusion can also be seen from the comparison of the t-statistic value that is smaller than the t-table, namely $1.944393 < 2.01537$, which means accept H_0 and reject H_a . So, from this value it can be seen that the size of the company / size as seen from the total assets of the bank is not a determinant of the capital adequacy ratio in Islamic Commercial Banks for the 2016-2019 Periods. Based on these results, it can be assumed that when the size of the company (size) of the bank as seen from the total assets has increased or decreased, it will not affect the amount of the capital adequacy ratio, this is because the Islamic commercial banking system has been implemented properly which causes the total assets owned can back up bank business activities without using the bank's own capital so that this can reduce the possibility of banks experiencing risk (moral hazard). In addition, the absence of influence between company size and capital adequacy ratio can occur because large banks are easy to get their funding from the capital market. Large banks also have easier access to investment and will be the first to be rescued by regulators if they experience financial pressure. So that this condition makes the size of the bank have no effect on the capital adequacy ratio. This is in line with research conducted by Farah Margaretha and Diana Setianingrum, (2011) which shows that bank size has no effect on CAR at banks listed on the Indonesia Stock Exchange. So that this condition makes the size of the bank have no effect on the capital adequacy ratio. This is in line with research conducted by Farah Margaretha and Diana Setianingrum, (2011) which shows that bank size has no effect on CAR at banks listed on the Indonesia Stock Exchange.
- b. The liquidity variable is seen from the t-statistic value of 0.469297 with a probability of 0.6420 which is greater than a (0.05), a decision to accept H_0 can be taken or it can be concluded that the Liquidity variable has no influence on the Capital Adequacy Ratio variable. This conclusion can also be seen from the comparison of the t-statistic value that is smaller than the t-table, namely $0.469297 < 2.01537$, which means accept H_0 and reject H_a . So, from this value, it can be seen that the projected Liquidity in the Financing to Deposit Ratio (FDR) is not a determinant of the capital adequacy ratio in Islamic Commercial Banks for the 2016-2019 Periods. This indicates that when bank liquidity is projected to increase or decrease in FDR, it will not affect the amount of the capital adequacy ratio, because banks in fulfilling liquidity needs, both in the form of withdrawing customer funds and lending, are still able to be supported by TPF, besides these results illustrate that The value of banks in channeling financing does not exceed the amount of funds raised so that banks do not need to increase their funds through their own capital to finance the amount of financing channeled and meet their liquidity. Then this can also be seen from the average bank liquidity which is still in the range of 85%, which is still within the ideal limit set by Bank Indonesia, which is 78% -100%. So that the FDR of Islamic Commercial Banks for 2016-2019 periods has no effect on the capital adequacy ratio. This is in line with the research conducted by Nurlillah, Fahmi Fachrudin Syah, (2014) which shows that liquidity has no effect on CAR at Diponegoro Branch, Surabaya Sharia State Savings Bank.
- c. The influence of the Credit Risk variable is seen from the t-statistic value of 1.534040 with a probability of 0.1348 greater than a (0.05), a decision to accept H_0 can be taken or it can be concluded that the Credit Risk variable does not have a significant effect on the Capital Adequacy Ratio variable. This conclusion can also be seen from the comparison of the t- statistic value that is smaller than the t-table, namely $1.534040 < 2.01537$, meaning accept H_0 and reject H_a . So, from this value it can be seen that Credit Risk as seen from Non-Performing Financing (NPF) or non- performing bank financing is not a determinant of the capital adequacy ratio in Islamic Commercial Banks for the 2016-2019

Periods. That is, it can be assumed that in that period when the projected credit risk in Non-Performing Financing (NPF) or non-performing loans has increased or decreased will not affect the capital adequacy ratio, it can be said that during that period the management of funds by the bank is carried out optimally to minimize credit risk that may occur in the bank. In addition, there is no effect of credit risk on CAR because the average NPF of Islamic Commercial Banks is still in the safe limit of 2.24%. In accordance with Bank Indonesia regulation Number 17/11 / PBI / 2015 concerning Amendments to Bank Indonesia Number 15/15 / PBI / 2013 concerning Minimum Statutory Reserves for Commercial Banks in Rupiah and Foreign Currency for Conventional Commercial Banks, the safe amount of the NPF value is below 5 %. This is in line with research conducted by Intannes Putri Basse and Ade Sofyan Mulazid, (2017) which shows that NPF has no effect on CAR in Islamic Commercial Banks for the 2012-2015 Periods.

- d. The influence of the Operational Efficiency variable is seen from the t- statistic value of -2.418792 with a probability of 0.0214 smaller than a (0.05), a decision to accept H_a can be taken or it can be concluded that the Operational Efficiency variable has a significant negative effect on the Capital Adequacy Ratio variable. This conclusion can also be seen from the comparison of the t-statistic value which is smaller than the t-table, which is -2.418792 < -2.01537, it means H_a is accepted, and H_0 is rejected. So, from this value it can be seen that Operational Efficiency as seen from the comparison of operating expenses with operating income or the OEOI ratio, including the determinant of the capital adequacy ratio in Islamic Commercial Banks for the 2016-2019 Periods. This means that it is assumed that a high BOPO value indicates that the bank's operational activities are not running efficiently because the operational costs to be borne are greater than the operating income earned by the bank, so it is possible that the bank will use its own capital to cover operational costs that are not covered. This is in line with research conducted by Intannes Putri Basse dan Ade Sofyan Mulazid, (2017) which shows that OEOI has a negative effect on CAR in Islamic Commercial Banks.

5. CONCLUSION

Based on the research conducted, it can be concluded that the factors of Size, Liquidity, Credit Risk, and Operational Efficiency have a positive joint/ simultaneous influence on the Capital Adequacy Ratio of Islamic Commercial Banks in Indonesia for the 2016-2019 periods. -Table is 2.81, so it can be seen that the F-statistic > F-table, namely $9.048723 > 2.81$ and Probability <significance level, namely $0.000000 < 2.91$ This indicates that the variables Size, Liquidity, Credit Risk, and Operational Efficiency are simultaneously determinants. Capital Adequacy Ratio in Islamic Commercial Banks in Indonesia 2016-2019 Periods.

The size factor or company size does not have a partial effect on the Capital Adequacy Ratio of Islamic Commercial Banks in Indonesia for the 2016-2019 Periods. This is based on the acquisition of a t-statistic value for the Size variable 1.944393 is smaller than the t-table of 2.01537 with a probability of 0.0607 greater than a (0.05), so it is assumed that when the size of the bank is experiencing an increase or decrease, it will not affect the capital adequacy ratio. This shows that the size of the company / size partially does not include the determinant of the capital adequacy ratio in Islamic Commercial Banks for the 2016-2019 Periods.

The Liquidity Factor does not have a partial effect on the Capital Adequacy Ratio of Islamic Commercial Banks in Indonesia for the 2016-2019 Periods. This is based on the acquisition of a t-statistic value of 0.469297 is smaller than the t-table of 2.01537 with a probability of 0.6420 which is greater than a (0.05). These results indicate that when bank liquidity is projected to increase or decrease in FDR, it will not affect the capital adequacy ratio. So, this shows that liquidity is partially not part of the determinant of the capital adequacy ratio in Islamic Commercial Banks for the 2016-2019 Periods.

Credit Risk Factors do not have a partial effect on the Capital Adequacy Ratio of Islamic Commercial Banks in Indonesia for the 2016-2019 periods. This is based on the acquisition of a t-statistic value of 1.534040 is smaller than the t-table of 2.01537 with a probability of 0.1348 greater than a (0.05). These results indicate that if Credit Risk as seen from Non-Performing Financing (NPF) experiencing an increase or decrease will not affect the capital adequacy ratio. So, this shows that credit risk is not a determinant of the capital adequacy ratio in Islamic Commercial

Banks for the 2016-2019 Periods.

Operational Efficiency Factors have a significant negative effect partially on the Capital Adequacy Ratio of Islamic Commercial Banks in Indonesia for the 2016-2019 Periods. This is based on the acquisition of a t-statistic value of -2.418792 is smaller than the t-table of -2.01537 with a probability of 0.0214 smaller than a (0.05). These results indicate that if the operational efficiency projected at the OEOI ratio increases by 1%, the capital adequacy ratio will decrease. So, this shows that operational efficiency is a determinant of the capital adequacy ratio in Islamic Commercial Banks for the 2016-2019 Periods.

6. REFERENCES

- Agustuty, Lasty Agustuty dan Andi Ruslan, Determinan Capital Buffer Pada Industri Perbankan Di Indonesia, *Movere Journal*, Vol 1 No. 2, STIE Tri Dharma Nusantara dan Institut Agama Islam Negeri (IAIN), 2019.
- Bawono, Anton dan Arya Fendha Ibnu Shina, *Ekonometrika Terapan untuk Ekonomi Dan Bisnis Islam Aplikasi Dengan Eviews*, Salatiga : LP2M IAIN Salatiga, 2018.
- Firmansyah, Analisis Hutang, Aktiva, Likuiditas yang Mempengaruhi Return on Asset pada Sektor Hotel Restoran dan Pariwisata di Bursa Efek Indonesia, *Jurnal Manajemen Dan Keuangan*, Vol.5, No.1, Sekolah Tinggi Ilmu Ekonomi (STIE) Mahaputra Riau. 2016.
- Hardani dkk, *Metode Penelitian Kualitatif & Kuantitatif*. Pustaka Ilmum : Jakarta, 2020.
- Ikit, *Manajemen Dana Bank Syariah*, Gava Media : Yogyakarta, 2018 Qiara Media, 2019.
- Margaretha, Farah dan Diana Setyaningrum, Pengaruh Resiko, Kualitas Manajemen, Ukuran dan Likuiditas Bank terhadap Capital Adequacy Ratio Bank yang Terdaftar di Bursa Efek Indonesia, dalam *Jurnal Akuntansi Dan Keuangan*, Vol. 13, No 1, Fakultas Ekonomi Universitas Trisakti, 2011.
- Mekonnen, Yonas, "Determinants Of Capital Adequacy Of Ethiopia Commercial Banks", *European Scientific Journal*, Vol.11, No.25, Lecturer, Department Of Accounting & Finance, Jimma University, Ethiopia, 2015.
- Muhamad, *Manajemen Dana Bank Syariah*, Depok : PT. Rajagrafindo Persada, 2017.
- Nurlailah dan Fahmi Fachrudin Syah, Pengaruh Tingkat Profitabilitas Dan Likuiditas Terhadap Kecukupan Modal Pada Bank Tabungan Negara Syariah Cabang Diponegoro Surabaya, dalam *Jurnal El-Qist*, Vol. 04, No. 01, Prodi Ekonomi Syariah Fakultas Ekonomi dan Bisnis Islam UIN Sunan Ampel, 2014.
- Putri, Intannes Basse dan Ade Sofyan, Analisa Pengaruh Kualitas Aset, Likuiditas, Efisiensi Usaha dan Profitabilitas terhadap Rasio Kecukupan Modal pada Bank Umum Syariah Periode 2012-2015, *Al- Tijary : Jurnal Ekonomi dan Bisnis Islam*, Vol. 2, No. 2, Fakultas Ekonomi dan Bisnis, UIN Syarif Hidayatullah Jakarta, 2017.
- Rosadi, Dedi, *Ekonometrika & Analisis Runtun Waktu Terapan dengan EView*, Yogyakarta : CV ANDI, 2012.
- Santoso, Singgih, *Seri Solusi Bisnis Berbasis TI menggunakan SPSS untuk Statistik Multivariat*, Jakarta : Elex Media Komputindo, 2006.
- Shingjergji, Ali dan Marsida Hyseni, "The Determinants Of The Capital Adequacy Ratio In The Albanian Banking System During 2007 – 2014", *International Journal of Economics, Commerce and Management*, Vol. III, Issue 1, United Kingdom, 2015.
- Sumartik & Misti Hariasih, *Manajemen Perbankan*, Jawa Timur : UMSIDA Press, 2018.