# Influence of Bank Health Ratio on Financial Performance of Islamic Commercial Bank

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**Abstract**

This study aims to analyse the influence of bank health ratios on the financial performance of Islamic Commercial Banks using the ratio of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR) ratio, Operating Expenses Operating Income ratio (OEOI), against Islamic Commercial Bank's profitability represented by Return on Asset ratio (ROA). The population used in this study is the financial statements of Islamic Commercial Banks period 2015 until 2017. Types of quantitative data with library data collection techniques, and documentation. Technical analysis of data using multiple linear regression analysis with the help of SPSS 20 program. The results showed that health variables (CAR, LDR, and OEOI) simultaneously affect the Financial Performance of Islamic Commercial Banks. Partially CAR has no significant effect on ROA, LDR has no significant effect on ROA. The effect of OEOI on ROA is partial.

**Keywords:** Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Operational Revenue Operating Cost Ratio (OEOI), and Return on Assets (ROA)


*Abstrak*

*Penelitian ini bertujuan untuk menganalisis pengaruh rasio kesehatan bank terhadap kinerja keuangan Bank Umum Syariah melalui rasio Capital Adequacy Ratio (CAR), rasio Loan to Deposit Ratio (LDR), rasio Biaya Operasional Pendapatan Operasional BOPO, terhadap profitabilitas (ROA) Bank Umum Syariah. Populasi yang digunakan dalam penelitian ini adalah laporan keuangan Bank-Bank Umum Syariah periode 2015 sampai dengan 2017. Jenis data kuantitatif dengan teknik pengumpulan data studi pustaka, dan dokumentasi. Teknis analisis data menggunakan analisis regresi linear berganda dengan bantuan program SPSS 20. Hasil penelitian menunjukkan bahwa variabel Kesehatan (CAR, LDR, dan BOPO) secara simultan berpengaruh terhadap Kinerja Keuangan Bank Umum Syariah. Secara parsial CAR tidak berpengaruh signifikan terhadap ROA, LDR terhadap ROA secara parsial tidak memiliki pengaruh yang signifikan terhadap ROA. Pengaruh BOPO terhadap ROA secara parsial tidak terdapat pengaruh.*

**Kata Kunci:** *Rasio Capital Adequacy Ratio (CAR), rasio Loan to Deposit Ratio (LDR), rasio Biaya Operasional Pendapatan Operasional BOPO, dan profitabilitas (ROA)*

## 1. Introduction

Islamic banking expanded widely and became international in 2004 (Nurul Ichsan Hasan, 2014). With this significant development, Islamic banks is expected to become one of Indonesia's strong economic drivers and become the best solution of today's society (Nurul Ichsan Hasan, 2014).Nevertheless, Islamic banking still has some problems. Problems come from internal Islamic banking itself. The development of good Islamic banking is not balanced by good knowledge and understanding of Islamic banking employees towards Islamic banking and Islamic economics. The situation produce image that the performance of Islamic banks is not as good as the performance of conventional banks, which could result in lack of public confidence in Islamic banks (Nurul Ichsan Hasan, 2014). On the other hand, muslim community in Indonesia also still have poor knowledge, where the majority Muslim country they are still many who think that the system of interest in conventional banks and profit sharing system in Islamic banks is the same system, so people prefer to use conventional banking services which is considered to have experience in running banking business (Nurul Ichsan Hasan, 2014).

This lead the study to research on the financial aspect of Islamic banking by analysing the performance and profitability of Islamic bank players. A company increase in profit is measured using profitability ratio Return On Assets (ROA). The Bank's health ratio consists of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Operational Income Operating Cost (OEOI). These measures will be used to analyse Islamic Banking Industry in Indonesia.

## 2. Methodology

The research is conducted by mining the data from Financial Services Authority (OJK) website. The data collection place in this research is in Islamic Commercial Bank. While the time of data collection in this study is done periodically or time series which means is data collected, recorded or observed all the time in sequence. Time series data is investigated to find patterns of past variations that can be used to estimate future value and

assist in operations management and planning. This research has aligned with Article 8 paragraph (1) of Bank Indonesia Regulation Number 6/10 / PBI / 2004 dated 12 April 2004 concerning the Bank Rating System The type of data used in this study is secondary data. Data in the form of financial ratios of Islamic commercial banks, the results of preparations of Islamic Bank financial statements for the period 2015-2017 that have been audited and then published. Researchers use quarterly data from March 2015 to September 2017. The population used in this study is the Islamic Commercial Bank operating in Indonesia. The sampling technique in this study is a sample technique perpurpossive sampling that the sample is taken based on certain criteria then the sample in this study as many as 11 Islamic Commercial Bank.

Data collection method used is nonparticipant observation, that is recorded or copied data contained in "Quarterly Financial Report Publication of Islamic Public Bank on OJK website". Data analysis method is using path analysis method. The path analysis developed by Sewal Wright in 1934, is actually a correlation development. Path analysis has proximity to multiple regression. Multiple regression is a special form of path analysis. The technique this is also known as causal model. This equation is based on the reason that path analysis allows users to test the theoretical propositions on causality without manipulating the variables (Pardede and Manurung, 2016).

The dependent variable used is Return On Assets (ROA). Because Financial Performance is a result of what have been achieved the bank in managing its resources to achieve its objectives. The ratio used is Return on Assets (ROA). ROA is the ratio between earning before tax (EBT) to average total assets. Bank Health is the ability of a bank in fulfilling its obligations in accordance with applicable regulations. The ratio used by Capital Adequacy Ratio (CAR), Operational Expenses to Operating Income (OEOI), and Loan to Deposit Ratio (LDR).

Data processing in this study is Microsoft Excel and SPSS version 20, to facilitate the acquisition of data and to explain the variables being studied. The first step in this research is to determine the sample by purposive sampling method that is in Islamic Bank which is available quarterly financial report from June 2015 until September 2017 with amount of N counted 110.

## 3. Result

The CAR ratio of Islamic Commercial Bank shows an average value of 19.21%, which means that based on the BI regulation, the average CAR of Islamic Commercial Bank includes the healthy criterion for> 8%. While the minimum and maximum value of CAR of Islamic Commercial Banks is 11.03% and 43.20%, it indicates that the minimum and maximum CAR of Islamic Commercial Banks are including healthy criteria due to> 8%.The ratio of OEOI of Islamic Commercial Bank shows an average value of 95.62%, which means that based on the BI regulation, OEOI of Islamic Commercial Bank has a high level of efficiency above 75%. While the minimum value of OEOI Islamic Banks is 70.26% which means that

the efficient level of Islamic Commercial Bank is very high. That's because <75%. While the maximum value of OEOI of Islamic Commercial Bank is 177.90%, it shows that the efficient level of Islamic Bank is low because> 90%.

The ratio of LDR of Islamic Commercial Bank shows an average value of 91.07%, which means that based on the BI regulation, the average LDR of Islamic Commercial Bank includes healthy criteria for <110%. While the minimum and maximum value of Bank Islamic LDR is 73.14% and 107.42%. This indicates that the minimum and maximum LDR of Islamic Commercial Banks is a healthy criterion because it is <110%.

On the ratio of ROA of Islamic Commercial Bank shows the average value of 0.9764% while the minimum value of ROA of Islamic Commercial Bank is -8.09% and maximum value of ROA of Islamic Commercial Bank is 10.74%.

### Regression Analysis

In the regression analysis in this study is divided into two parts, first part to analyse the effect of all variable simultaneously and to analyse the effect in parts.

### Simultaneous Analyses

The coefficient of determination is used to find out the contribution effect of free variables (CAR, LDR, and OEOI) to dependent variables (ROA) simultaneously. The magnitude of the Adjusted R Square (r2) is 0.682. It is used to know the percentage of CAR, LDR, and OEOI on ROA of Islamic Commercial Bank by way of calculating the coefficient of determination (KD) by using the formula as follows:

$$KD = r2 \times 100\%$$

$$KD = 0.682 \times 100\%$$

$$KD = 68.2\%$$

From the above description can be seen that the value of r2 influenced by CAR, LDR, and OEOI variables is 0.682. So the r2 and KD values are influenced by factors other than CAR, LDR and OEOI as follows:

$$r2 = 100 - 68.2$$

$$r2 = 0.318$$

$$KD = r2 \times 100\%$$

$$KD = 0.318\% \times 100\%$$

$$KD = 31.8\%$$

This number means that the effect of CAR, LDR, and OEOI simultaneously on ROA is 68.2%.The remaining 31.8% is influenced by factors other than CAR, LDR, and OEOI variables. In other words, the variability of ROA that can be explained by using CAR, LDR, and OEOI

variables is 68.2%, while the effect of 31.8% is caused by other variable variables outside the CAR, LDR, and OEOI variables.

To determine whether the regression model is correct, hypothesis testing is required.

Hypothesis in this research, is as follows:

Ho: No effect of CAR, LDR, OEOI on ROA (If F-count <F-table)

H1: There is influence of CAR, LDR, OEOI, on ROA (If F-arithmetic> F-table)

α: 0.05

Based on the above output, obtained F-count number of 78.748> F-table of 2.96. So Ho is rejected and H1 accepted. This means that independent variables together have a significant influence on the level of profitability (ROA) of Islamic Commercial Banks from June 2015 to September 2017. The decision to reject Ho and accept H1 is also taken if significant value of F is smaller with the significant level that is used by 5%. From result of analysis found niali F equal to 0,000 <0,05.

Therefore, it can be concluded that all independent variables ie CAR, LDR, and OEOI together (simultaneously) have a significant effect on the level of profitability (ROA) of Islamic Commercial Bank during June 2015 until September 2017.

*Partial Analysis*

To see the effect of free (exogenous) variables CAR, LDR, and OEOI on dependent variable (endogenus) ROA by using t-test. Meanwhile, to see the magnitude of influence the study used the number of Beta or standardized coefficients.

*The effect of Capital Adequacy Ratio (CAR) to level of profitability (ROA)*

Ho: There is no positive partial influence between CAR and ROA (If t-statistic <t-table)

H1: There is a positive partial influence between CAR and ROA (If t-arithmetic> t-table)

α: 0,05.

Based on the above output, the t- value for the independent variable CAR is 0.765 while the t-table value is 2.045 which means that the t-value is smaller than the t-table (0.7655 <2.045) with the value of sig = 0.446> 0 , 05. Thus Ho is accepted and H1 is rejected, meaning there is no partial influence between CAR and ROA. The magnitude of the effect of CAR on ROA is 0.044 or 4.4% is considered insignificant. This is also true with significant numbers of 0.446> 0.05.

The numbers shows the amount of profit earned by the Islamic Commercial bank investigated in January 2015

until September 2017 not from the amount of capital and asset turnover but from other factors other than capital and assets of Islamic Commercial Bank. Although that should happen is if the change in the CAR ratio will affect the level of profitability (ROA) because the amount of CAR is determined by how much capital owned which consists of core capital and complementary capital. As well as the magnitude of ROA where the risk weight of each asset has been determined. So the CAR has limits for banks in doing business development, if not paid attention to it will be a decline in CAR that will have implications on the decline in bank soundness. The finding is aligned with research by Fahmy (2013) and Muh. Sabir. M, Muhammad Ali, Abd. Hamid Habbe (2012) which also has found no effect between CAR on ROA it can be seen from both result that there is no significant effect between CAR on profitability (ROA).

*The effect of Loan to Deposit Ratio (LDR) on profitability (ROA)*

The following hyphotesis is tested in this research :

Ho: There is no positive partial influence between LDR and ROA of Islamic Commercial Bank (If t-statistic <t-table)

H1: There is a positive partial influence between LDR and ROA of Islamic Commercial Bank (If t-statistic> t-table)

α: 0.05

Based on the above output, the t-statistic value for LDR independent variable is 2,022 while the t-table value is 2.045 which means that t-statistic is smaller than t-table (2.022 <2.045). Thus Ho is accepted and H1 is rejected, meaning there is no linear relationship between LDR and ROA. The magnitude of the effect of LDR on ROA is -0.119 or 1.19% is considered insignificant. This is also true with a significant figure of 0.460> 0.05.The result shows the amount of profit obtained by Islamic Commercial Bank in June 2015 until September 2017 is not derived from Third Party Funds turnover (DPK) but from other factors besides Third Party Fund.This is not in accordance with the theory which stated that LDR should have effect on profitability (ROA). Because LDR is the comparison between loans disbursed by public funds collected by Islamic Banks in the form of savings, demand deposits, and time deposits have an influence on the level of profitability (ROA). If there is a change in the LDR ratio, this is because if the more total deposits received by the bank, the greater the bank's chances of disbursing the credit, so if the more total credit is given, the greater the bank's ability to earn revenue, profitability.

*The Influence of OEOI (Operational Expenses of Operating Income) on profitability level (ROA)*

Hypothesis tested as follows :

Ho: There is no positive partial influence between OEOI and ROA of Islamic Commercial Bank (t-statistic <t-table)
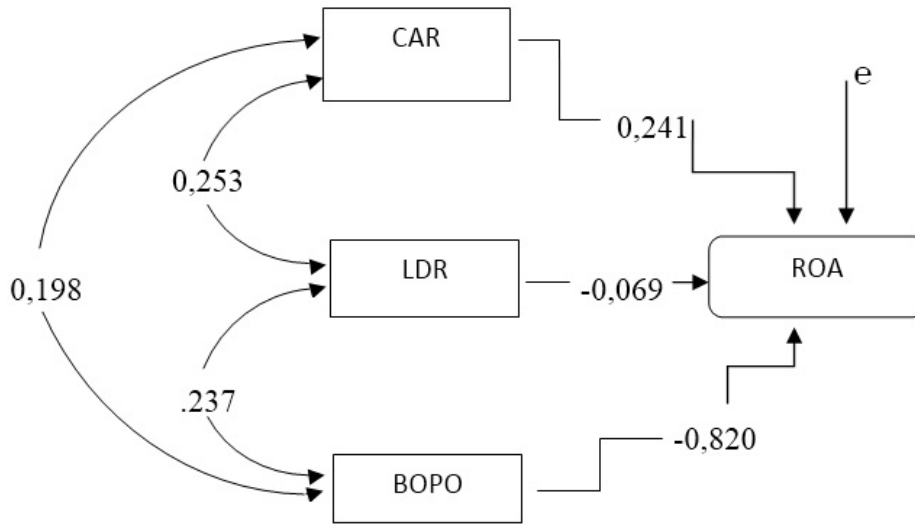
**Figure 1.** Path Diagram

H1: There is a positive partial influence between OEOI and ROA of Islamic Commercial Bank (t-statistic> t-tabel)

α: 0.05

Based on the above output, the t-statistic value for the independent variable OEOI is -14.497 while the t-table value is <by -2.045 which means that the t-statistic value is greater than t-table - 14.497 2.045). Thus Ho is accepted and H1 is rejected. This means there is no negative linear relationship between OEOI and ROA. The magnitude of OEOI's influence on ROA is -839 or -83.9% is considered significant. This also corresponds to a significant figure of 0.000 <0.05.

The above shows that the profits of Islamic Commercial Bank on the period of June 2015 to September 2017 is affected by the difference between operating expenses and operating income of Islamic Commercial Banks. The results of this study also shows that the greater the OEOI, the bank profitability will decrease. If the bank in running its operations in an efficient way that is to reduce the ratio of OEOI then the income obtained by the bank would increase and also offset the increased profitability. The result of this research is the same with previous research result that Siti Sumiati (2009), OEOI do not have significant influence to ROA.

*Correlation Analysis*

The correlation rate between the variable CAR with LDR of 0.253. Correlation of 0.253 has the intention of the relationship between CAR variables with LDR variable is very weak and unidirectional. The correlation between the two variables is significant because the significant number is 0.004 <0.050.

The correlation between CAR variable with OEOI variable is 0.198. Correlation of 0.198 has the intention of the relationship between variables CAR with OEOI variable is very weak and not unidirect. The correlation between the two variables is significant because the significant number is 0.019 <0.050.

The correlation between LDR variable and OEOI vari-

able is 0.237. Correlation of 0.237 has the intention of the relationship between LDR variable with OEOI weak. The correlation between two variables is significant because the significant number is 0.006 <0.050.

Hypothesis for correlation in this research are:

Ho: There is no close relationship between the independent variables

H1: There is a close relationship between the independent variables

Based on the results of correlation analysis of exogenous variables can be concluded CAR variables with LDR, CAR with OEOI, and LDR variable with OEOI has no correlation. Thus overall Ho accepted and H1 rejected, which means there is no relationship between exogenous variables.

The path diagram of the above structural equation can be seen in figure 1.

$Pyx1 = (0,241)$, Coefficient of CAR path to ROA

$Pyx2 = (-0.069)$, Coefficient of LDR path to ROA

$Pyx3 = (-0,820)$, Coefficient of OEOI path to ROA

$rx1x2 = (0,253)$, Coefficient of CAR correlation to LDR

$rx1x3 = (0,198)$, Coefficient of CAR correlation to OEOI

$rx2x3 = (0,237)$, LDR correlation coefficient to OEOI

*Structural Equations*

The structural equations for the model are:

$$Y = Pyx1 + Pyx2 + Pyx3 + e$$

$$ROA = 0.241\ CAR + (-0.069)\ LDR + (-0.82)\ OEOI + e$$

Sambas (2007, 235) adds to the path equation, the residual path coefficient (e) can be calculated based on the output of the summary model. The formula used is:

Py$\varepsilon$ =. In summary model output known R2 (X1, X2, X3) = 0.682. So the residual coefficient is Py$\varepsilon$ = = 0.318. After the residual coefficient is obtained, the path equation becomes:

$$Y = Pyx1 + Pyx2 + Pyx3 + e$$

ROA = 0.241 CAR + (- 0.069) LDR + (-0.082) OEOI + 0.318

From the Equation contains the following meanings:

If the increase of Capital Adequacy Ratio (CAR) of 1% it will have a positive effect on the increase in profitability level (ROA) of Islamic Commercial Banks of 0.241 but this is considered insignificant.

While on the Loan to Deposit Ratio (LDR) if there is an increase of 1%it will negatively affect the decline to the level of profitability (ROA) of Islamic Commercial Bank amounting to - 0.069 but this is considered insignificant. For OEOI ration, if there is an increase of 1% it will negatively affect the level of profitability (ROA) of Islamic Commercial Bank of -0.082 but this is considered significant.

## 4. Conclusion

Based on the analysis and discussion described, the following conclusions can be drawn:

The results of the analysis indicate that the Health (CAR, LDR, and OEOI) variables simultaneously affect the Financial Performance of Islamic Commercial Banks. based on the above output, obtained F-count number of 78.748> F-table of 2.96. So Ho is rejected and H1 accepted. There is no partial influence between CAR and ROA.

The magnitude of the effect of CAR on ROA is 0.044 or 4.4% is considered insignificant. This is also true with significant numbers of 0.446> 0.05. And the t-statistic value for the independent variable CAR is 0.765 while the t-table value is 2.045 which means that the value of t-statistic is smaller than t-table (0.7655 <2.045) with sig = 0.446> 0,05.

The effect of LDR on ROA is partially LDR variable has no significant effect on ROA. The t-statistic value for the LDR independent variable is 2,022 while the t-table value is 2.045 which means that the t-statistic is smaller than the t-table (2.022 <2.045). Thus Ho is accepted, meaning there is no linear relationship between LDR and ROA. The magnitude of the effect of LDR on ROA is -0.119 or 1.19% is considered insignificant. This is also true with a significant figure of 0.460> 0.05.

The influence of OEOI on ROA partially no effect, t-statistic value for independent variable OEOI is equal to -14.497 while t-table value is <equal to -2,045 meaning that t-statistic value bigger than t-table - 14.497 -2,045). Thus Ho is accepted and H1 is rejected. This means that -839 or - 83.9% is considered significant. This also corresponds to a significant figure of 0.000 <0.05.

The relationship between exogenous variables are CAR, LDR, OEOI of Islamic Commercial Bank as follows:The relationship between CAR variable with LDR is very weak at 0.253 with a significant number of 0.004. The relationship between CAR variables with OEOI is very weak at 0.198 with a significant number of 0.019. The relationship between LDR variable with OEOI is weak at 0.237 with a significant number of 0.006

Based on the above conclusions, there are at least two suggestion from the results of this study to the relevant parties. The implication for Islamic Banks is the need to pay more attention to important health ratios such as OEOI since the results of research indicates that changes in these variables will negatively affect the level of performance in this profitability (ROA). For academics / researchers, the results of this study can be used as a reference for further research. The limited variables used can be researched further using path analysis to find other significant variables/ ration for further exploration.

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