

## Analysis of the Effect of Inflation, BI Rate, and Exchange on Profitability of Sharia Banks in Indonesia (Period 2014-2020)

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**ABSTRACT:** This study aims to analyze the Influence of Inflation, BI rate and Exchange Rate on The Profitability of Sharia Banks In Indonesia for the period 2014-2020. The type of research is quantitative descriptive, with multiple linear regression analysis processed using SPSS software. Using the annual time series 2014-2020 data published on the OJK official website. The population and sample of 34 BUS and UUS were published in the Islamic banking statistics report by the OJK. The results of this study show that inflation has no partial effect on the profitability of sharia banks in Indonesia, while Bi rates negative affect and significant the profitability of sharia banks in Indonesia. And Exchange rates positive affect and significant. However, simultaneously all independent free variables affect the profitability of sharia banks, and are able to explain the dependent variable of 70% and the remaining 30% are explained by other models not discussed in this study.

*Keywords: Inflation, BI rate, Exchange rate, Profitability*

### 1. INTRODUCTION

The banking industry is an industry that is experiencing rapid progress from other industries (Ridhwan, 2016). With the increase in the number of banks, competition to attract funds from the public is increasing. All banks will compete to offer products to be able to attract and compete in collecting funds from the public which will later be channeled to those in need for both productive and consumptive purposes.

Table 1.1 Office Network Islamic Banking

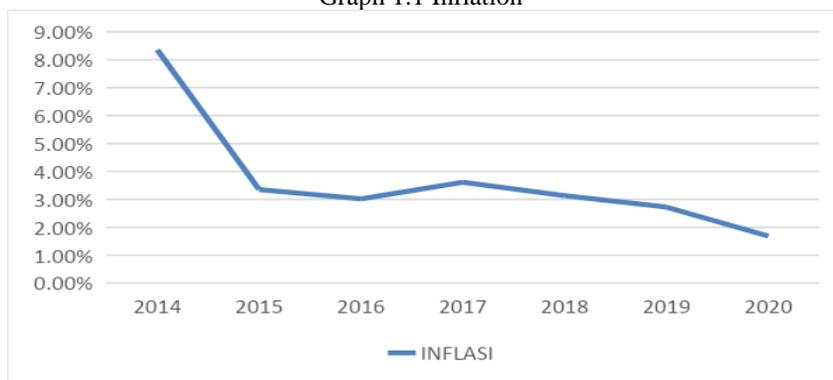
Year	2014	2015	2016	2017	2018	2019	2020
<b>Islamic Banks</b>							
Total Institutions	12	12	13	13	14	14	14
Number of Offices	2264	1990	1869	1825	1875	1919	1922

Sharia							
Total Institutions	22	22	21	21	20	20	20
Number of Offices	320	186	332	344	354	381	386
Islamic Rural Banks							
Number of Institutions	163	163	166	167	167	164	164
Number of Offices	276	283	287	274	327	617	618

Source: Indonesian Islamic Banking Statistics 2020 (Financial Services Authority of the Republic of Indonesia, 2020)

Economic conditions that previously experienced rapid growth became unstable and one of the triggers is inflation. The monetary crisis was also caused by the high rate of inflation. Inflation is defined as a continuous increase in prices. Inflation arises due to pressure from the supply side, the demand side, and inflation expectations. High and uncontrolled inflation rates can interfere with banking efforts in mobilizing public funds (Kewal, 2012). The following is inflation data for the last 7 years.

Graph 1.1 Inflation

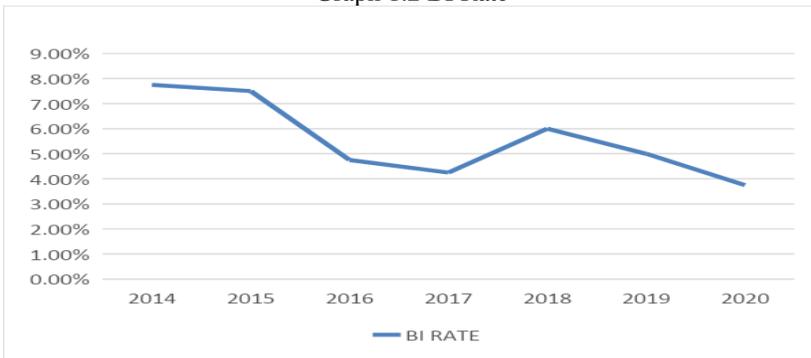


Source: BI official website (2020), data processed by the author

Based on the graph above (www.bi.go.id, 2020) there was a decline in the inflation rate from year to year, the highest inflation was 8.36% in 2014, in 2015-2016 decreased, then there was a slight increase in 2017, then decreased again in 2018-2020. If inflation decreases, interest rates will decrease, because the increase and decrease in inflation will have an impact on the Bi rate.

The increase in inflation will indirectly have an impact on the Bi rate. If the inflation rate decreases, interest rates will decrease. Decreasing the Bi rate to advance the economy. The decline in the BI rate caused interest rates to decrease causing a surge in credit from companies and households soaring. A decrease in interest rates will make the company's cost of capital to invest decrease. This can promote consumption and investment activities to make the economic activity at the forefront. Conversely, if inflation rises, BI responds by increasing the BI rate to regulate economic activity that is too fast, thereby reducing inflationary pressure (Satya, 2015).

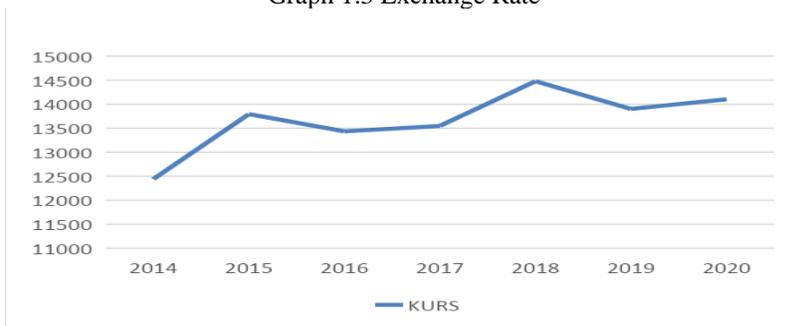
Graph 1.2 BI Rate



Source: BI official website (2020), data processed by the author

Based on the graph above (www.bi.go.id, 2020) shows that the BI rate has increased and decreased significantly. The highest BI rate was 7.75% in 2014 and the lowest was in 2017 at 4.25%. The decline in the BI Rate also had a positive impact on the JCI and is expected to lower mortgage rates to make them more attractive to the market and consumers. But there is a bad possibility that will happen if the BI rate decreases, namely soaring imports. Therefore, a strategy is needed to avoid a current account deficit.

Graph 1.3 Exchange Rate

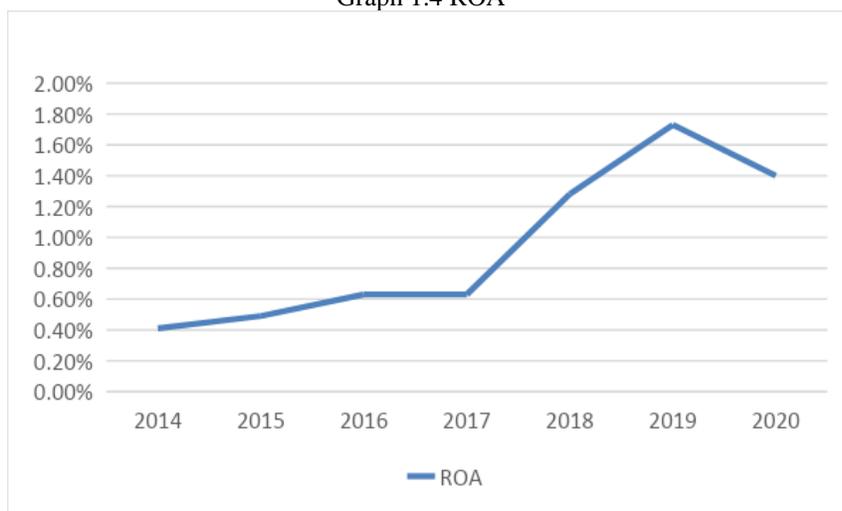


Source: BI official website (2020), data processed by the author

Based on the graph above (www.bi.go.id, 2020) shows the exchange rate has appreciated in 2014-2015 and 2018. Then it depreciated in 2016-2017, 2019-2020. If the exchange rate increases or decreases, it will affect the profitability of banks. If the domestic currency is higher than the foreign currency value, the price of imported goods will decrease. The decline in prices makes the real sector economy increase. The increasing real sector economy makes people compete to invest so that banking profitability increases. On the other hand, if exchange rate fluctuations and expectations of fluctuations in rupiah depreciation are large, the bank's debtors will experience business difficulties, with further consequences being unable to pay off their debts to the bank. Will result in bank liquidity difficulties As a result, banks experience liquidity difficulties and in the end, the profit level of Islamic banks decreases (Hidayati, 2014).

One of the main indicators of assessing a bank's financial performance is looking at the level of profitability and efficiency. The most prominent ratio in profitability is ROA (Return On Assets) which is net income to total assets. So the greater the ROA of a bank, the greater the profits obtained by the bank. ROA (Return On Assets) is commonly used to measure the effectiveness of a company in generating profits with its assets.

Graph 1.4 ROA



Source: Sharia Banking Statistics (2020), the data is processed by the author.

Based on the Return On Assets (ROA) data above (Islamic Banking Statistics, 2020) ROA has increased and decreased, although not significantly, but the ROA figure during the 2014-2016 period tends to increase until it finally increases in 2018-2019. Then it decreased again in 2020 due to the Covid-19 pandemic.

In 2008-2012 Based on SPSS data, it can be seen that the ROA figure increased even though the global economy was experiencing a financial crisis. This is reinforced by research (Supriyanti, 2009) and (Syahirul Alim, 2014) that inflation and interest rates do not have a significant effect on ROA (Return On Assets). In addition to the global crisis in 2008, Indonesia experienced a subsequent crisis, marked by the weakening of the rupiah in 2013-2015. What underlies the increase and decrease in ROA is actually because the crisis that occurred in 2008 did not affect the value of ROA. However, the crisis that occurred in 2013-2015 managed to reduce the ROA value from the previous year.

Regarding the criteria set by Bank Indonesia on the soundness of the earning factor, namely  $ROA > 1.5\%$ . (Wijaya, 2005). From the criteria above, it shows  $ROA < 1.5\%$  only in 2019 which exceeds 1.5%. Based on these data as the basis for conducting this research.

## **2. LITERATURE REVIEW**

### **2.1 Definition of Inflation**

In simple terms, inflation is defined as a continuous increase in prices within a certain period (www.bi.go.id, 2009). Inflation is an increase in commodity prices in general caused by out-of-sync between commodity procurement system programs (production, pricing, printing money, etc.) with the level of income owned by the community. Inflation is not a problem if it is accompanied by sufficient availability of commodities and with an increase in the level of income that is greater than the % of the inflation rate (people's purchasing power increases more than the inflation rate). (Putong Iskandar, 2013).

### **2.2 Definition of BI Rate**

BI Rate is a policy interest rate that reflects the monetary policy stance determined by Bank Indonesia and announced to the public. The BI Rate is an indication of the short-term interest rate desired by Bank Indonesia to achieve the inflation target (www.bi.go.id, 2009).

### **2.3 Definition of Exchange**

The exchange rate or more popularly known as the currency rate is a note (quotation) of the market price of foreign currency (foreign currency) in the price of the domestic currency (domestic currency) or its reciprocal, namely the price of the currency (domestic currency) Karim, 2014).

Currency exchange rates represent the level of exchange rates from one currency to another and are used in various transactions.

### **2.4 Definition of Profitability**

Profitability is the ability of management to earn a profit. Profit consists of gross profit, net profit and operating profit. To get above average profit, management must be able to increase revenue and be able to reduce all expenses on revenue. And that means management must expand market share

at a favorable price level and eliminate non-value-added activities (Darsono, 2006).

### **2.5 Definition of Islamic Bank**

In general, the definition of an Islamic bank (Islamic Bank) is a bank whose operations are adjusted to the principles of Islamic law. Currently, many terms are given to refer to Islamic bank entities other than the term Islamic bank itself, namely interest-free bank, *riba-free bank* (*lariba bank*), and *sharia bank* (*Shari'a Bank*).

## **3. RESEARCH METHODOLOGY**

### **3.1 Types of Research and Research Approach The**

type of research used in this research is quantitative research. Quantitative research is a type of research that produces findings obtained by using statistical procedures or other means of quantification (measurement). This approach uses an empirical approach using parametric inferential statistics.

### **3.2 Types of Data**

In this study the authors use secondary data that is (Time series) meaning that data is collected from time to time to see the development of events/activities during that period.

### **3.3 Data Collection Techniques**

used method is to use secondary data, including through library research methods (*Library Research*) and documentation methods of data collection through written records about various activities or events and related research, such as statistical reports of Islamic banking 2014-2020 period published by the financial services authority.

### **3.4 Population and Sample**

The population in this study are Islamic Commercial Banks registered with Bank Indonesia contained in the Sharia Banking Statistics (SPS), namely: BUS and UUS data. Meanwhile, the sampling in this research is by *purposive sampling method*. The *sample* of this study used the census method, namely the entire population as a sample which was published in the Islamic banking statistical report by the OJK for 84 months, starting from January 2014 to December 2020.

### **3.5 Operational Definition of Variables**

The variables used in this study consisted of variables independent (independent variable) and dependent variable (dependent variable). The independent variables (X) include Inflation (X1), BI Rate (X2), and Exchange Rate (X3). While the dependent variable (Y) is Profitability (ROA) in Indonesia.

Table 3.1 Operational Variable

No	Vari able	Information	Unit	Source
1	X1	Inflation	Percent	Lap. BI 2014-2020
2	X2	BI Rate	Percent	Lap. BI 2014-2020
3	X3	Exchange	Rupiah( data has been standardize d)	Wipe. BI 2014-2020
4	Y	Profitability (ROA)	Percent	Lap. SPS 2014-2020 OJK

Source: BI 2020 data and 2020 Islamic banking statistics, data processed by the author

X3 Exchange data has different units from the others. Before entering data in the SPSS program, the X3 Exchange Rate data has been standardized before being regressed, namely, in the view variable the type is Numeric and in the decimal X3 the Exchange Rate is changed to 0 because the X3 Exchange Rate data is not a decimal fraction or whole number like other variable data units, for other variable data X1, X2, and Y in the decimal part is filled with the number 2 because the data is a decimal fraction there are two numbers behind the comma.

### 3.6 Data Analysis Techniques

#### 3.6.1 Descriptive Statistics Descriptive

statistics are usually presented in the form of pictures or graphs that describe the overall content of the data such as *mean, standard deviation, data variance, mode, median, percentage and quartiles.*

#### 3.6.2 Classical Assumption Test Classical

Assumption A model is said to be good for a prediction tool if it has the best linear unbiased properties of an estimator. A multiple linear regression model will be said to be a BLUE regression model if the data comes from a normally distributed population, there must be no multicollinearity, no heteroscedasticity, no autocorrelation.

**Normality test**, aims to test whether in the regression model, the confounding or residual variables have a normal distribution. Good data is data that has a pattern like a normal distribution, that is, the distribution of the data is neither skewed to the right nor skewed to the left.

**2. Multicollinearity test**, aims to test whether the regression model found a correlation between independent variables. The way to find out whether there is multicollinearity in a regression model is to look at the tolerance value and

VIF (Variance Inflation Factor). If the tolerance value is  $> 0.10$  and  $VIF < 10$ , it can be interpreted that there is no multicollinearity in the study. However, if the tolerance value is  $< 0.10$  and  $VIF > 10$ , then there is a multicollinearity disorder in the study.

1. **Heteroscedasticity test**, aims to find out the difference in residual variance that occurs from one observation period to another. Or an illustration of the relationship between the predicted value and the *Studentized delete residual*. How to see the presence or absence of heteroscedasticity can be seen in the image pattern *scatterplot*.
2. **Autocorrelation Test** for knowing the correlation or relationship between observations, whether in the form of time series observations or cross section observations. Observational data containing autocorrelation can have an impact on research results.

### 3.6.3 Multiple Linear Regression Analysis

The equation model of multiple linear regression analysis in this study is as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 +$$

Description:

Y = Profitability (ROA)

a = Constant

$b_1$  = Inflation Coefficient

$b_2$  = BI rate coefficient

$b_3$  = Exchange Coefficient

$X_1$  = Inflation

$X_2$  = BI rate

$X_3$  = Exchange rate

= Residual Value

### 3.6.4 Significance

#### 1. Test Partial Test (t)

Partial test (t) aims to determine how the effect each independent variable on the dependent variable partially (Per variable). And knowing whether the independent variables have a significant effect or not on the dependent variable. It is said to have a partial effect if the sig value obtained is  $< 0.05$ , and T-count  $>$  T-table.

#### 2. Simultaneous Test (F)

Simultaneous Test aims to see how the influence of the independent variables on the dependent variable simultaneously or as a whole. The decision-making criteria, if F count  $>$  F table or probability  $>$  significant value (Sig 0.05), then the hypothesis is accepted, that simultaneously the independent variables have a significant effect on the dependent variable. If F count  $<$  F table or probability  $>$  significant value (Sig 0.05), then the hypothesis is

accepted, that simultaneously the independent variables have no significant effect on the dependent variable.

3. **The coefficient of determination (R<sup>2</sup>)**

In a linear regression model, the coefficient of determination is how well the regression line of data matching (Ghozali, 2006). The value of R<sup>2</sup> ranges from 0-1. If the value is small, it means that the ability of the independent variable in explaining the variation of the dependent variable is very limited. In addition, the coefficient of determination is referred to as part of the total diversity of the dependent variable Y (influenced or dependent variable) which can be explained or taken into account by the diversity of the independent variable X (influenced or independent variable).

**4. RESULTS AND ANALYSIS**

**4.1 Descriptive Statistical Test**

The descriptive Statistical Test in this study was used to see the results of the number of observations, the mean (average), and standard deviation of the dependent variable and the independent variable. The descriptive results can be seen from the following table:

Table 4.1 Descriptive Statistical Test

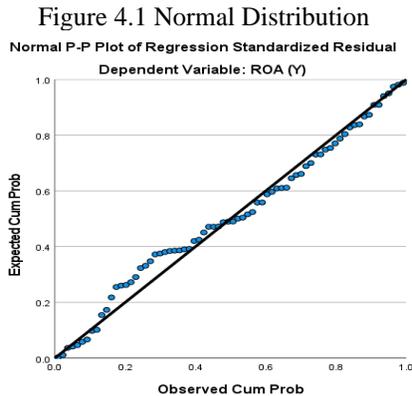
	N	Minimum	Maximum	Mean	Std. Deviation
INFLATION	84	1:32	8:36	4.0577	1.76483
BI RATE	84	3.75	7.75	5.8006	1.33183
EXCHANGE	84	11 404	16 336	13584.38	933 143
ROA	84	.08	4:32	2.9189	.99616
Valid (listwise)	N 84				

Based on the above amount of descriptive data is valid for twelve months from the year 2014 to 2020 as many as 84 data. In table 4. 1 with Y = Total Profitability (ROA) 2014-2020, the mean (average) inflation (X1) is 4.0577 with a standard deviation of 1.76483. Meanwhile, in the BI Rate (X2), the mean (average) value is 5,8006 with a standard deviation of 1.33183 and at the Exchange Rate (X3) the mean (average) value is 13584.38 with a standard deviation of 933,143.

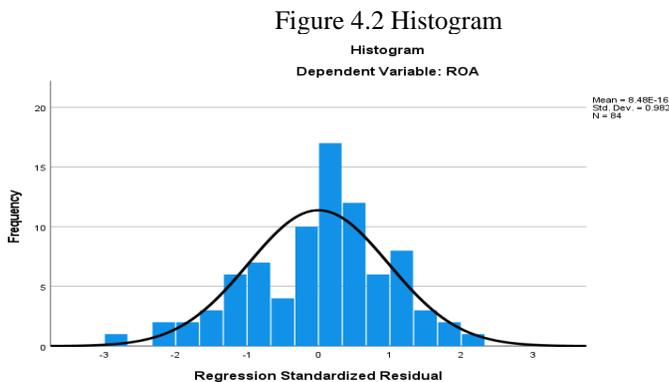
## 4.2 Classical Assumption Test

### 4.2.1 Normality Test Results

According to (Ghozali, 2006) the regression model is said to be normally distributed if the plotting data (dots) that describe the data follow a diagonal line. The normality test can be seen from the normal P-Plot and histogram, as follows.



The results of the normality test above show that the data spreads around the diagonal line and follows the direction of the diagonal line on the histogram graph so plotting (dots) follows the diagonal line and it can be concluded that the data is normal. Normality test can also be seen from the following histogram image.



Based on the histogram, it can be seen that the dependent curve and the regression standardized residual form a bell-like image. Therefore, based on the normality test, it is known that the data are normally distributed so that the analysis is feasible to use.

**4.2.2 Test Results Multicollinearity**

said no symptoms multikolinieritas if the value of Tolerance > 0.10 and VIF < 10 by (Ghozali, 2006)

Table 4.2 Multicollinearity symptoms  
**Coefficients<sup>a</sup>**

Model	collinearity Statistics	
	Tolerance	VIF
1	INFLATION	.320
	RATE BI	.380
	EXCHANGE	.574
		3127
		2633
		1,742

a. Dependent Variable: ROA

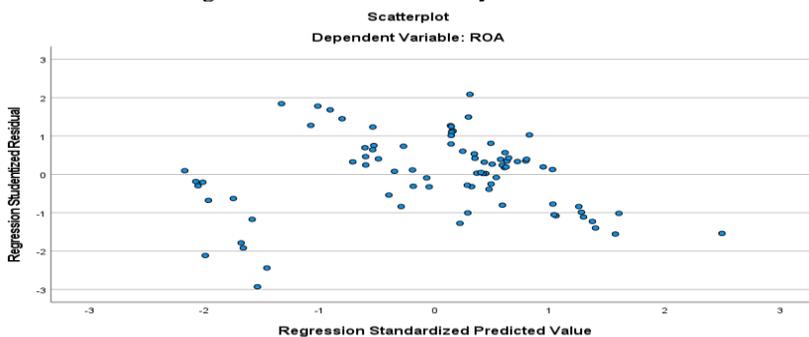
From the results of the multicollinearity test above, it shows that the tolerance number for the three independent variables, namely Inflation (X1) is 0.320, then BI Rate (X2) is 0.380 and Exchange Rate (X3) is 0.574 from the three independent variable values above, indicating a tolerance value > 0, 10. Then the VIF value of the three independent variables, namely Inflation (X1) of 3,127, then BI Rate (X2) of 2,633, and the Exchange Rate (X3) of 1,742 of the three independent variable VIF values above shows a VIF value < 10 meaning that there are no symptoms of multicollinearity in the model. this regression.

**4.2.3 Heteroscedasticity Test Results The**

heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from one observation residual to another observation. If the variance from the residuals or observations to other observations remains, it is called homoscedasticity and if it is different it is called heteroscedasticity.

(Ghozali, 2006) There is no heteroscedasticity if there is no clear pattern (wavy, widening, then narrowing) on the scatterplots, and the points spread above and below 0 (zero) on the Y axis. The results of the Heterosdastisity test using the SPSS application are as follows :

Figure 4.3 Heteroscedasticity Test Results



Based on the results of the heteroscedasticity test using SPSS, it can be seen that the residual points spread and narrow, then widen. Thus, it can be concluded that there is no heteroscedasticity in this regression model.

#### 4.2.4 Autocorrelation Test Results

Autocorrelation is a correlation that occurs between observations in one variable. Autocorrelation can occur if consecutive observations over time have a correlation with one another.

In this study, the autocorrelation test was performed using Durbin Watson statistics. There is no autocorrelation symptom, if  $DU < DW < 4-DU$  (Ghozali, 2006) Following are the results of the Autocorrelation Test using SPSS:

Table 4.3 Statistics Durbin Watson

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.836 <sup>A</sup>	.688			.700
		.55608			
		.773			

a. Predictors: (Constant), EXCHANGE, BI RATE, INFLATION

b. Dependent Variable: ROA

Based on the results of the autocorrelation test above the Durbin Watson value of 0.773 to see if the value of  $DU < DW < 4-DU$ . First, you have to find the number or value of DU with

$DU < K \cdot N$  with a significant 5% or 0.05.

Note: K = Number of Independent Variables

N = Amount of data/sample

Thus, it can be seen that the value of DU in the Durbin Watson table with  $K=3$  and  $N=84$ . The

value of  $DU = 1.7199$  means,  $DU (1.7199) < DW (0.773) < 4-DU (1.7195)$  meaning in the model This regression is free from autocorrelation symptoms.

### 4.3 Significance Test

#### 4.3.1 Coefficient of Determination Results

To determine the relationship between the independent variable and the dependent variable has been calculated using SPSS software as follows.

Table 4.4 Determination Coefficient  
Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.836 <sup>A</sup>	.688			.700
		.55608			
		.773			

a. Predictors: (Constant), EXCHANGE, BI RATE, INFLATION

b. Dependent Variable: ROA

From the test table above, it is known that the value of R Square = 0.700 which means 70%. This shows that Inflation (X1), BI Rate (X2), and Exchange Rate (X3), have a contribution of 70% to Profitability / ROA (Y) in Islamic Banks in Indonesia and 30% are caused by other variables not discussed in this section. this research.

In other words, the independent variable is able to explain 70% of the dependent variable.

#### 4.3.2 Partial T-Test Results

T-test processing can be done partially (individually) for each independent variable that can affect the dependent variable. The partial effect can be seen from the comparison of the real value of t-count to level, *alpha* the predetermined which is 0.05. Based on the results of SPSS processing in the table *coefficients*, the following results are obtained.

Table 4.5 Test Results of t  
Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	-4,115-3,046		1,351		(Constant)	.003
	INFLATION	.061	.014			.008
	BI RATE	-.270	.074	-.361	-.3636	.000
	EXCHANGE	7,309	.000	.591	.001	.000

a. Dependent Variable:ROA

#### 1. INFLATION(X1)

Based on the table above, the t-test results show that inflation (X1) has no effect partially. This can be seen from Tcount (X1) 0.129 < Ttable 1.99006. In addition to the comparison of Tcount and Ttable. This can be seen from the value *significant* provided that if the value of sig < 0.05 then the independent variable partially affects the dependent variable,

figure *significant Inflation* (X1) or  $0.129 > 0.05$ . So from the two methods above, it proves that Inflation (X1) partially has no effect on the dependent variable, namely Profitability/ROA (Y).

2. BI RATE (X2)

Based on the table above, the t-test results show that the BI Rate (X2) partially has a negative and significant effect. This can be seen from Tcount (X2)  $-3.636 > Ttable 1.99006$ . In addition to being seen from the comparison of Tcount and Ttable, it can also be seen from the number **Significant** provided that if the significant number obtained is  $< 0.05$ , the independent variable has a partial effect on the dependent variable Y. Thus, the BI Rate (X2) value reaches 0.000. It can be concluded from the sig number, the BI Rate (X2) variable partially has a negative and significant effect on the dependent variable Y (Profitability).

3. EXCHANGE (X3)

Based on the table above, the t-test results show that the exchange rate (X3) partially has a positive and significant effect. This can be seen from Tcount (X3)  $7.309 > Ttable 1.99006$ . The value of Tcount  $> Ttable$  shows that the exchange rate variable (X3) has an effect on the Y variable. In addition to the comparison of Tcount and Ttable. This can be seen from the value **significant** provided that if the value of sig  $< 0.05$  then the independent variable partially affects the dependent variable, figure *significant Exchange rate* (X3) or  $0.000 < 0.05$ . So from the two methods above, it proves that the Exchange Rate (X3) partially has a positive and significant effect on the dependent variable, namely Profitability/ROA (Y).

**4.3.3 Simultaneous F Test Results**

The F test is used to test whether all the independent variables in the regression model have an effect on the dependent variable. The results of the F test can be seen from the processed results of SPSS, which are shown in the ANNOVA table. According to (Ghozali, 2006) if the significant value  $< 0.05$ , it means that the independent variable (X) simultaneously affects the dependent variable (Y).

Table 4.6 Simultaneous F Test Results

		ANOVA <sup>a</sup>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57,626	3	19,209	62,119	000 <sup>b</sup>
	Residual	24,738	80	309		
	Total	82,364	83			

a. Dependent Variable: ROA

b. Predictors: (Constant), EXCHANGE, BI RATE, INFLATION

Based on the table of simultaneous F test results above, it can be seen that the significant value to the value of the independent variable (X) in this study is  $0.000 < 0.05$ . This means that simultaneously the independent variable (X) in this study has a simultaneous effect on the dependent variable (Y). This can also be seen by comparing the values of F-count and F-table. According to (Sujarweni Wiratna, 2015) if the value of F-count  $>$  Ftable, it means that the independent variable (X) has a simultaneous effect on the dependent variable (Y). F-count is already listed in the table, namely 75,912, to find Ftable using the formula,  $F_{table} = (K ; NK)$  so  $(3 ; 84-3) = (3 ; 81)$  F-table of (3;81) is 2.72. F-count (62.119)  $>$  F-table (2.72). This means that the independent variable (X) in this study simultaneously affects the dependent variable (Y). The influence of the independent variable (X) simultaneously on the dependent variable (Y) is explained in the table of the coefficient of determination on R square.

#### 4.4 Multiple Linear Regression Analysis

Table 4.7 Multiple Linear Regression Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	-4,115- 3,046			(Constant)	.003	
	INFLATION	.061 .014 .129 .898			.008	
	BI RATE	-.270	.074	-.361	-.3636	.000
	EXCHANGE	7,309	.000	.591	.001	.000

a. Dependent Variable: ROA

Based on the table above, the regression model is obtained as follows:

$$ROA = (-4.115) + 0.008 (X_1) - 0.270 (X_2) + 0.001 (X_3) + \epsilon$$

equation above can be described as follows:

1. Constants of -4115, which means if inflation (X1), BI (X2) and exchange rate (X3) = 0, then the profitability of -4115.
2. The coefficient of inflation variable (X1) is 0.008, which means that if inflation is increased by one unit, profitability will increase by 0.008 and vice versa if inflation is reduced by one unit, profitability will decrease by 0.008 assuming other variables are constant.
3. The BI rate variable coefficient (X2) is -0.270, which means that if the BI rate is increased by one unit, profitability will increase by -0.270 and

vice versa if the BI rate is decreased by one unit, profitability will decrease by -0.270 assuming other variables are constant.

4. The coefficient of the exchange rate variable (X3) is 0.001, which means that if the exchange rate is increased by one unit, then profitability will increase by 0.001 and vice versa if the exchange rate is decreased by one unit, the profitability will decrease by 0.001 assuming other variables are constant.

#### 4.5 Discussion of Analysis Results

##### 4.5.1 Effect of INFLATION (X1) on ROA (Y)

Effect of inflation on profitability/ROA (Y) Inflation (X1) Partially no effect. This can be seen from Tcount (X1)  $0.129 < T_{table} 1.99006$  which means that if the variable (X1) is equal to (0) then the profitability (Y) is 0.008. And seen from, the value of *Significant* Inflation (X1) is  $0.129 > 0.0$ . So from the two methods above, it proves that Inflation (X1) partially does not affect the dependent variable, namely Profitability/ROA (Y). This shows that inflation has decreased, inflation that tends to decrease does not affect the profitability of Islamic banking in Indonesia during the study period. This is reinforced by research by Supriyanti (2009) and Syahirul Alim (2014) that inflation has no significant effect on ROA.

##### 4.5.2 Effect of BI RATE (X2) on ROA (Y)

Effect of BI Rate (X2) on ROA (Y). BI Rate (X2) partially negative and significant effect. This can be seen from Tcount (X2)  $-3.636 > T_{table} 1.99006$  with a coefficient of -0.270 meaning that if there is an increase of 1% in the variable (X2), there will be an increase of -0.270% in profitability/ROA (Y). Apart from being seen from the comparison of T-count and T-table, it can also be seen from the value *Significant* provided that if the significant number obtained is  $< 0.05$  then the independent variable has a partial effect on the dependent variable Y.

Thus, the *significant* value of the BI Rate (X2) reaches 0.000 . It can be concluded from the comparison of Tcount and Ttable as well as seen from the sig number, the independent variable, namely the BI Rate (X2), partially has a negative and significant effect on the dependent variable Y (ROA). This supports the theories and research that has been carried out, it is natural for banks throughout Indonesia to obey and obey Bank Indonesia (BI) which acts as the central bank that has the authority of the monetary, banking and state payment systems. Bank Indonesia has a duty to maintain monetary stability, among others, through interest rate instruments in open market operations. This theory is supported by (Dwi Oktavia, 2009) which states that interest rates have a positive effect on ROA.

##### 4.5.3 Effect of Exchange Rate (X3) on ROA (Y)

Effect of Exchange Rate (X3) on ROA (Y). Exchange rate (X3) partially positive and significant effect. This can be seen from Tcount (X3)  $7.309 > T_{table} 1.99006$ . with a coefficient of 0.001, meaning that if there is a 1% increase in the variable (X3), there will be an increase of 0.001, % in profitability/ROA (Y). Apart from being seen from the comparison of Tcount

and Ttable, it can also be seen from the Significant value provided that if the significant number obtained is  $<0.05$ , the independent variable has a partial effect on the dependent variable Y.

Thus, the significant value of the exchange rate (X3) reaches 0.000. It can be concluded from the comparison of Tcount and Ttable as well as seen from the sig number, the independent variable, namely Exchange Rate (X3) partially has a positive and significant effect on the dependent variable Y (ROA). The results showed that the exchange rate variable (currency exchange rate) had a positive and significant influence on the profitability of Islamic banks. The existence of the influence of currency exchange rates on banking profitability identifies if the exchange rate experiences appreciation or depreciation, it will have an impact on banking profitability (Hidayati, 2014).

Based on the results of statistical calculations, it can be said that all independent variables, namely inflation, interest rates (BI rate), and the exchange rate together have a significant influence on the profitability of Islamic banks in Indonesia. The results of the t-test show Fcount (62.119)  $>$  Ftable (2.72). This means that the independent variable (X) in this study simultaneously affects the dependent variable (Y). The influence of the independent variable (X) simultaneously on the dependent variable (Y). The results of this study support the research conducted by (Hidayati, 2014), in which the results of this study conclude that the profitability of Islamic banking can be significantly influenced by both internal and external factors of the bank.

The results of this study also confirm the opinion expressed by (Siamat, 2005) who states that bank business activities are strongly influenced by various factors. These factors can come from within the bank or internal factors and can also come from outside the bank or external factors. External factors are factors outside the control of the bank including monetary policy, exchange rate fluctuations and inflation rates, the volatility of interest rates, globalization, technological developments, competition among banks and non bank financial institutions, and innovation of financial instruments

## 5. CONCLUSION

Based on the results of data analysis that has been collected, the following conclusions are made:

1. Inflation has no partial effect on the profitability of Islamic banks in Indonesia, which indicates that declining inflation has no effect on the profitability of Islamic banks.
2. The BI rate partially has a negative and significant effect on the profitability of Islamic banks in Indonesia, which shows that a decrease in inflation will have an impact on a decrease in the BI rate.
3. The exchange rate partially has a positive and significant effect on the profitability of Islamic banks in Indonesia, which shows that the currency

- experiences appreciation or depreciation so that it will have an impact on the profitability of Islamic banking in Indonesia for the 2014-2020 period.
4. Simultaneously or together, inflation, BI rate, and exchange rate affect the profitability of Islamic banks in Indonesia for the 2014-2020 period, with the coefficient of determination obtained showing 70% results and the remaining 30% is explained by other independent variables outside the existing model. Therefore, every addition to the number that occurs in all variables (X) also affects the increase in profitability (Y). This means that inflation partially has no effect on the variable (Y), but simultaneously it still affects the increase in profitability, as well as the BI rate and the exchange rate are very influential in increasing profitability (Y).

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