CHAPTER IV

Result and Analysis

In this chapter, we will conduct a test on the factors that we hypothesize can affect emissions from corporate sukuk in Indonesia. In this test there are two variables, namely dependent and independent variables. The Dependent variable is the sukuk emission and the independent variable that we will use is inflation, the exchange rate and the amount of money in circulation. This research uses multiple regression analysis to test the hypothesis. The analytical method used by the author to explain the basic framework for calculating the relationship between the dependent variable and the independent variable based on multiple regression analysis using E-views 7.0 data processing program. Data variables are taken from the 2016-2018 period.

A. Descriptive Variables

Table 4.1

Descriptive Variables

Indicator	Sukuk	Inflation	Exchange Rate	M2
mean	5,129.986	0.035125	13642.65	24334.36
median	5,198.850	0.034050	13400.400	24857.40
maximum	5,758.300	0.044500	15191.32	36657.40
minimum	4,498.400	0.027900	13110.51	16114.00
Std.Dev.	362.7329	0.004444	547.4675	6020.723
Skewness	-0.119463	0.721121	1.333571	0.392540
Kurtois	1.857745	2.618038	3.735163	2.316661
Jarque-Bera	2.042749	3.338937	11.48116	1.624956
Probability	0.360100	0.188347	0.003213	0.443757
sum	184679.5	1.264500	491135.5	876037.1
Sum Sq. Dev.	4.61E+06	0.000691	10490223	1.27E+09
Observation	36	36	36	36

Source: Data Processed (Eviews 9)

This table shows all the descriptive variables used in this research. The dependent variable used is sukuk and independent variables which consist of several macroeconomic variables such as inflation, the exchange rate and the money supply or M2.

B. **Research Variable Overview**

1. **Sukuk**

Sukuk or sharia bonds are long-term securities based on sharia principles issued by issuers to sukuk holders that require issuers to pay income to sukuk holders in the form of profit sharing / fees and repay bonds at maturity (Fatwa National Sharia Council Indonesian Ulema Council No : 32 / DSN-MUI / IX / 2002 concerning Sharia Bonds).

The word Sukuk comes from Arabic "shukuk" which is the plural form of the word "sakk" which has the same meaning as a certificate or note and in economic terminology means legal instrument, deed, or check (Sutedi, 2009: 95).

The difference between sukuk and conventional bonds lies in the use of the concept of margin and profit sharing instead of interest. There is also an underlying transaction in the form of a number of assets which are the basis for sukuk issuance and the existence of contracts or agreements between parties which are prepared based on sharia principles. In addition, sukuk must also be free from usury, gharar and maysir (Sudarsono, 2008: 298).
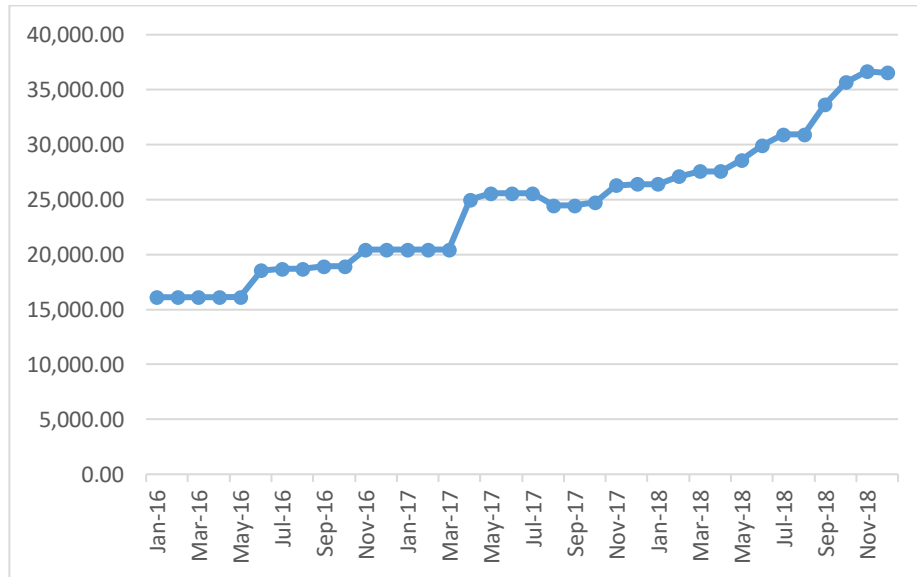
Source: OJK Monthly Report (data processed)

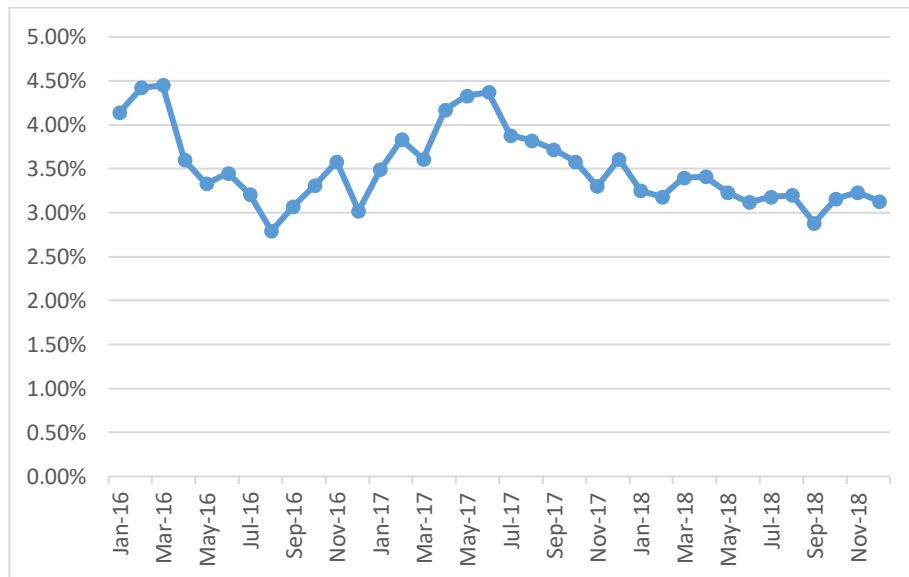**Figure 4.1**

Sukuk (in units of billions)

From the graph above it can be said that the outstanding value of corporate sukuk has increased from month to month in the two-year period during 2016 to 2018.

At the beginning of 2016 the outstanding value of sukuk reached rp. 16,114.00 billion and at the end of 2016 it was closed with a value of Rp.20,425.40 billion. In the following year, 2017, the value of sukuk at the beginning of 2017 is opened with a value of Rp. 20,425.40 billion and at the end of 2017 closed with a value of Rp. 26,394.00 billion. While in the following year, in 2018, the value of sukuk was opened with a value of Rp. 26,394.00 billion and

at the end of 2018 closed with a value of Rp. 36,545.40 billion. Thus it can be concluded that the growth of sukuk in Indonesia is in a very positive trend

2. Inflation

Inflation is the tendency of general prices to rise continuously. The price increase of just one or two items is not called inflation, except if the increase extends to (resulting in an increase) most of the price of other goods (Boediono, 1997: 97).

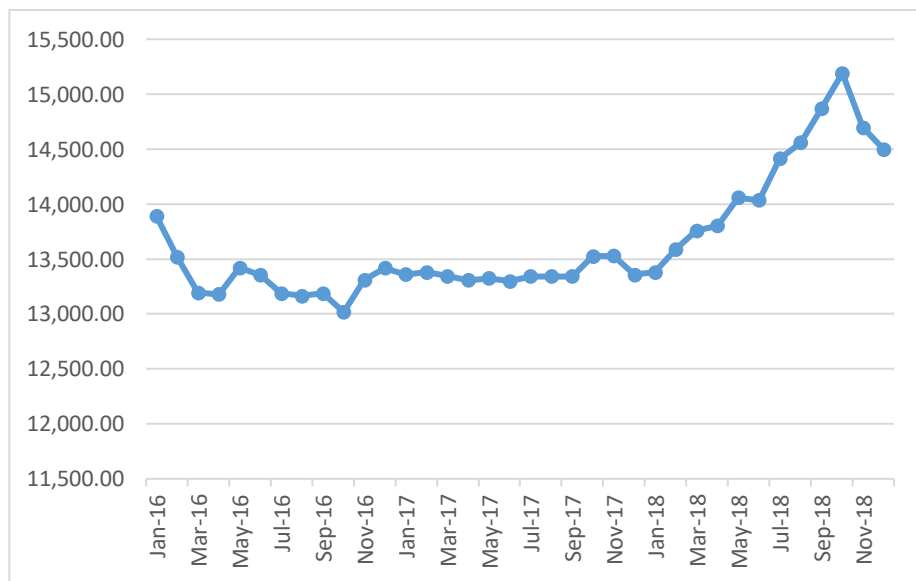Source : BI monthly report (Data Processed)

Figure 4.2

Inflation (in percentage units)

Based on the table above, the inflation value in Indonesia is in the range of reasonable inflation fluctuations. Can be seen starting at the beginning of 2016, inflation is at the position of 4.14% and closed with a value of 3.02% in

December 2016. Then in the following year, inflation as of January 2017 was at 3.49% and closed at 3.61% at the end of 2017. As well as in the following period, inflation per January 2018 was at 3.25% and closed at 3.13% as of December 2018. Therefore, it can be concluded that fluctuations occurred in the inflation rate in the range of 2016 to 2018.

3. Exchange Rate

Exchange rate is the value of exchanging one money with other money. Exchange rates describe the price of a currency against another country's currency, also the price of an asset or asset price. Exchange rate is one of the important things in an open economy, because it has a very large influence on the current account balance and other macroeconomic variables.
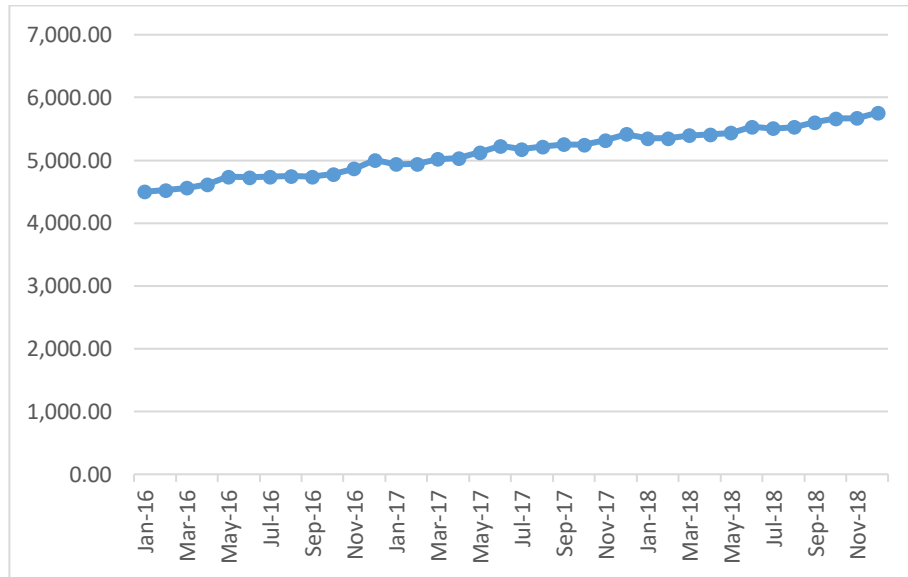

Source : BI monthly reports (Data Processed)

Figure 4.3

Exchange Rate

Based on the graph above, there is a fluctuation in the value of the Rupiah exchange rate in the USD. At the beginning of the 2016 period, which is in January, the exchange rate is opened with a value of Rp. 13,889.05 and at the end of 2016, in December closed with a value of Rp. 13,417.67. then in early 2017, in January, the exchange rate opened with a value of 13,358.71 and closed at the end of 2017 in December with a value of 13,356.21. and in January 2018 it opened with a value of 13,380.36 and had reached the peak point with a value of 15,191.32 in October 2018 but then at the end of 2018 namely in December it was closed again with a value of 14,496.95. fluctuations occur very clearly in variable rates with a range of 2016-2018.

4.   Money Supply (M2)

Is the total money circulating in the community, and people's deposits and all their savings in the bank. M2 which can be a measure of the economic development of a country, because it affects the development of production, prices and things that intersect with other economies.

Source : BI monthly report(Data Processed)

Figure 4.4

Money Supply M2(in trillion units)

The number of m2 in the graph above continues to experience a positive trend, can be seen from the beginning of 2016 which opened at a value of 4,498.40 trillion rupiah per January and closed with a value of 5,003.30 trillion per December 2016. Then at the beginning of 2018, m2 opened with a value of 4,938.70 trillion with a value of 5.418.50 trillion in December 2017. And continued in 2018 with an initial value per January of 5.351.70 trillion and closed with a value of 5,758.30 trillion in December 2018. The number of m2 which continues to experience positive trends can be assumed to be a good indicator of the economy, especially investment.

C.   Classical Assumption Test

This test aims to detect the presence or absence of normality, heteroscedasticity, autocorrelation and multicollinearity at each calculation of data.

1.   Normality Test

This test aims to detect normal or not distributed residual values. Residuals can be categorized as normal or abnormal based on the Jarque-Bara test performed. The null hypothesis (Ho) states that the residual has a normal distribution. Whereas, the alternative hypothesis (Ha) states that the residual is not normally distributed.

Ho is accepted if the Jerque-Bera probability is> 0.05

Ha is accepted if the Jerque-Bera probability is <0.05

Table 4.2

Normality Test Result

Series: Residuals	
Sample 1 36	
Observations 29	
Mean	-6.12e-15
Median	-0.003838
Maximum	0.124665
Minimum	-0.134650
Std. Dev.	0.048148
Skewness	0.030142
Kurtosis	4.661877
Jarque-Bera	3.341609
Probability	0.188096
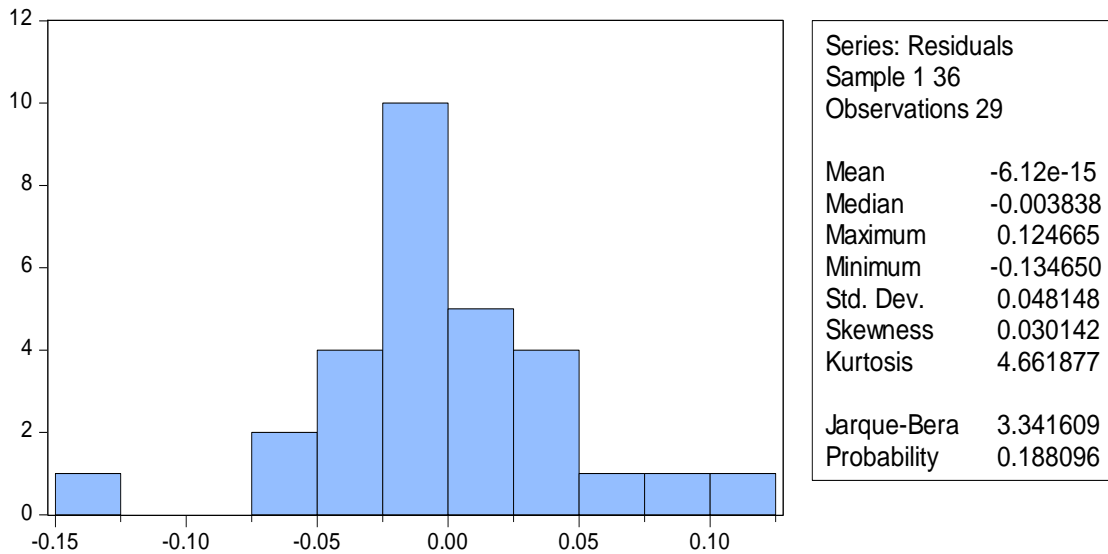
Source: Secondary Data Processed

Based on the normality test performed, the value of the fingerprint is 0.188096 which is greater than 0.05 or 5%. Which means that Ho is acceptable and the residuals are in a normal distribution.

2. Heteroscedasticity Test

Heteroscedasticity is detection to see if the variable is not constant interference. Heteroscedasticity test aims to test whether in the regression model there is a variance inequality from the observation of one residual to another fixed observation, called homoskedasticity and if the variant is not constant or change is called heteroscedasticity. A good regression model is homoskedasticity or there is no heteroscedasticity (Gujarati, 2007).

The white test is used in this section and is done by registering the residual squared as the dependent variable with the dependent variable added to the square of the independent variable, then added again by multiplying the two independent variables. The testing procedure is carried out with the following hypothesis:

- H0: Does not contain indications of heteroscedasticity
- H1: contains indications of heteroscedasticity

Table 4.3

Heteroskedasticity test result

Heteroskedasticity Test: White

F-statistic	0.549963	Prob. F(7,21)	0.7871
Obs*R-squared	4.492705	Prob. Chi-Square(7)	0.7216
Scaled explained SS	6.113159	Prob. Chi-Square(7)	0.5266

Source: Secondary Data Processed

Based on the results of the table above, the white test regresses the squared residue on the cross product of the original regressors and constants, indicating the value of Obs * R Squared is 4.492705with Prob. Chi-Square is 0.7216 greater than alpha 5% (> 0.05). So, the result is not heteroscedasticity.

3.   Autocorrelation Test

The autocorrelation test aims to test whether in the linear regression model there is a correlation between confounding errors in period t with errors in period

t-1 (before). Correlation test aims to determine whether there is a correlation between members of a series of data observed based on time seriesor or cross-section. This study uses Breusch-Ggodfrey Serial Correlation LM Test by comparing the probability value of Obs * R Squared with α = 5% (0, 05). The LM Serial Breusch-Ggodfrey test results for autocorrelation are as follows:

Hypothesis:

If the probability of Obs R> 0.05 is not significant.

If the probability of Obs R2 <0.05 is significant

If the probability value of Obs * R-Squared is more than 0.05, it can be concluded that there is no autocorrelation.

Table 4.4

Autocorrelation Data Result

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.801287	Prob. F(2,23)	0.4609
Obs*R-squared	1.889017	Prob. Chi-Square(2)	0.3889

Source: secondary data processed

from table 4.4 above, it can be seen that the results of Obs * R-squared are in the value of 1.889017 and prob. Chi-Square is at a value of 0.3889 which is greater than 0.05 or 5%, indicating that there is no heteroscedasticity.

4. Multicollinearity Test

Multicollinearity is a condition in which one or more independent variables are expressed as linear conditions with other variables. This means that if among the independent variables used there is no correlation with each other it can be said that multicollinearity does not occur.

The detection of multicollinearity can be done by looking at the value of the paired correlation coefficient between the two regressions. The coefficient with a value of less than 0.8 indicates that it does not show multicollinearity. The results of this test can be seen from the Variance Inflation Factor (VIF) with the VIF equation = 1 / tolerance. If VIF is less than 10, there is no multicollinearity (Basuki, 2016).

Table 4.5

Multicollinearity Data Result

Variance Inflation Factors
Date: 03/16/19   Time: 20:13
Sample: 1 36
Included observations: 29

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	6.618597	73926.19	NA
INFLASI	0.000119	3.317058	1.015352
KURS	0.129991	131565.4	1.922250
M2	0.038596	31479.78	1.936674

Based on the data above we can see the results of the multicollinearity test at the centered VIF coloum. Centered VIF values from M2, Exchange and Inflation are at points, 1.015352, 1.922250 and 1.936674 which of the three variables there is no value greater than 10. Therefore, it can be concluded that there is no multicollinearity in the independent variable.

D.   The Result of Regression Test

Table 4.6

The Result of Regression Estimation

Variables	Regression		
	Coefficient	**T-Test**	**Prob**
Constanta	-23.89990	-9.289943	0.0000
Inflation	0.001978	0.181631	0.8573
Exchange Rate	0.794437	2.203448	0.0370
M2	3.092671	15.74201	0.0000
R-Squared		0.958741	
F-Statistic		193.6430	
Prob F-Statistic		0.000000	

Dependent Variable : Sukuk

Source : Secondary Data Processed

This study uses multiple linear regression analysis. The model of this study is:

$$Y = \beta + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + E$$

$$I = 1,\ldots,\ldots,n$$

Description:

Y = **Sukuk Emissions**

β = **Konstanta**

X_1 = **Inflation**

X_2 = **Exchange Rate**

X_3 = **Money Supply**

Based on regression estimation, dependent variable in this research is sukuk with inflation, exchange rate and money supply (m2) as independent variables. Based on table 4.6 above, it can be concluded that all independents, namely inflation, exchange rates and m2 have a positive effect on (emissions) sukuk in the 2016-2018 period.

1. **F-Test**

   This test is used to determine the effect of independent variables on the dependent variable simultaneously, which is shown through the Anova table. Independent variables are said to simultaneously influence the dependent variable if the significance value is $<\alpha$ (0.05). According to Ghazali (2013) the F test basically aims to show whether all the independent or independent variables included in the model have reciprocal

effects on the dependent or dependent variable. The F test in this study uses Eviews-9. The following is a table for the f-test.

Tabel 4.7

F-Test: Inflasi, Kurs M2 to Sukuk

F-Statistic	193.6430
Prob F-Statistic	0.000000

Dependen Variabel : Sukuk

Source: Secondary Data Proccesed

Explanation of the f-test results in table 4.7 above, where the results of the F test in this study have a result of 193.6430 with (Prob F-stat) of 0.00000 results can explain that the F-stat Prob is smaller than the significance level of 0.05, so that it can be concluded that the regression model that is estimated to be feasible is used to explain the effect of independent variables (Inflation, exchange rates and m2) on the dependent variable Sukuk.

2.   **T-Test**

The t-test in multiple linear regression is intended to test whether the parameters (regression coefficients and constants) that are expected to estimate the equation / multiple linear regression model are the appropriate

parameters or not, these parameters are able to express the behavior of independent variables in influencing the dependent variable. The t-test in this study used the Eviews-9 program. The results of several linear regression outputs are as follows:

Table 4.8

T-test : Inflation, Exchange Rate and Money Supply toward Sukuk

Variables	Regression		
	Coeficient	T-Test	Prob
Constanta	-23.89990	-9.289943	0.0000
Inflation	0.001978	0.181631	0.8573
Exchange Rate	0.794437	2.203448	0.0370
M2	3.092671	15.74201	0.0000

Source: Secondary Data Processed

a. Constanta

Based on the regression results in table 4.6, the constant value is -23.89990 That is, if all the independent variables are inflation, the

exchange rate and M2 are considered constant, then the number of Sukuk is -23.89990

b. Inflation

The null hypothesis (Ho) states that inflation has a positive and significant effect on sukuk emissions. The alternative hypothesis (Ha) states that inflation does not have a positive and significant effect on sukuk emissions.

Ho is accepted if the variable probability level is <0.05

Ha is accepted if the variable probability level is> 0.05

According to the results of the regression estimation table, the probability level of the inflation variable is greater than $0.8573 > 0.05$. So, it can be concluded that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. The result is that the inflation variable has no positive and significant effect on sukuk emissions.

c. Exchange Rate

The null hypothesis (Ho) states that Exchange Rate have a positive and significant effect on sukuk emissions. The alternative hypothesis (Ha) states that Exchange Rate does not have a positive and significant effect on sukuk emissions.

Ho is accepted if the variable probability level is < 0.05

Ha is accepted if the variable probability level is > 0.05

According to the results of the regression estimation table, the variable probability rate of the exchange rate is smaller than $0.05 > 0.0370$. So, it can be concluded that the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected. The result is that the exchange rate variable has a positive and significant effect on sukuk emissions.

d.   M2

The null hypothesis (Ho) states that M2 has a positive and significant effect on sukuk emissions. The alternative hypothesis (Ha) states that M2 does not have a positive and significant effect on sukuk emissions.

Ho is accepted if the variable probability level is <0.05

Ha is accepted if the variable probability level is > 0.05

According to the results of the regression estimation table, the probability variable m2 is smaller than $0.05 > 0.0000$. So, it can be concluded that the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is

rejected. The result is that m2 has positive and significant effect on sukuk emissions.

3. **Determination Coefficient Test (R^2)**

The Determination Coefficient (R2) basically measures how far the model's ability to explain the variation of the dependent variable. The coefficient of determination is between zero and one. A small R2 value means the ability of the dependent variable is very limited. A value close to one means that the dependent variable provides almost all the information needed to predict variations in the dependent variable (Ghazali, 2013: 97)

Determination Coefficient Test R2 is used to measure how much variation in the dependent variable can be explained by the independent variable. The coefficient of determination can be measured by the value of R-Square or Adjusted R-Square. When the coefficient of determination = 0 (adjusted R2 = 0), the variation of the related variable cannot be explained by the independent variable. Whereas if R2 = 1, then the variation of the dependent variable as a whole can be explained by the independent variable.

Based on the regression results in table 4.6 above, it can be seen that the test coefficient of determination for the regression model between inflation, exchange rate and m2 of sukuk is 0.958741 or 95 % of sukuk is influenced by inflation, exchange rate and m2. While the remaining 5 % is covered by various other factors.

E. **Result discussion**

Based on the findings of this study it aims to determine some correlations between variables, namely inflation, exchange rates, m2 and sukuk. The following is a further discussion of the findings of this study and hopefully it can be the subject of further research. All 3 (three) independent variables that affect sukuk will be discussed one by one.

Table 4.9

The Accumulation of Independent Variables influence on Dependent

Variable

Variable	Coefficient	Probability
Constanta	-23.89990	0.0000
Inflation	0.001978	0.8573
Exchange Rate	0.794437	0.0370
M2	3.092671	0.0000

Source: Data Processed (Eviews 9)

1. **The Influence of Inflation on Corporate Sukuk Emissions**

Inflation has no significant effect on sukuk emissions. This can be proven by the results of the regression estimation table, the probability level of the inflation variable is greater than 0.8573 > 0.05. which can be concluded that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted.

The above results go straight and in accordance with previous studies that discuss the relationship of inflation to the value of Islamic bonds from Kristina Sanjaya (2016) which states that the inflation rate has no significant effect on sukuk. As well as training conducted by Faizul Rahman, Ardi Paminto, Maryam Nadir (2016) which states that the effect of inflation on sukuk demand levels is higher inflation, the lower the level of demand for SR-005 retail state sukuk, this is due to the real value received investors will decrease. Inflation is the risk most feared by bondholders or sukuk because inflation decreases the size of interest (rent) and profits as determined at the beginning of the agreement. The fall in the value of the currency will involve the buyer, because he will lose as much money as he paid to buy bonds. The increase in inflation will erode the real income of the value of the coupon or lease of coupons owned by investors.

2. **The Influence of Exchange Rate on Corporate Sukuk Emissions**

According to the results of the regression estimation table, the variable probability rate of the exchange rate is smaller than 0.05 > 0.0370. So, it can be concluded that the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected. The result is that the exchange rate variable has a significant effect on sukuk emissions. The regression coefficient value of

Exchange Rate are 0.794437 which means that if there is an increasing 1 point on Exchange rate will affect 0.794437 percent of corporate sukuk emissions.

This is reinforced by the results of research from Gyanti (2017) which suggests that the exchange rate is the price of a currency of a country that is measured or expressed in domestic currency units, it can also be interpreted as the amount of domestic money needed, namely the amount of rupiah needed to get one unit of foreign currency. Based on the results of testing the data in table 4.6 that has been done, it can be seen that the value of T-calculated exchange rate has a significant effect on the growth of corporate sukuk. It is evident from the results of the regression coefficient calculation with a sig value smaller than the significance level (α) with a beta coefficient value that is positive which indicates that the exchange rate has a tendency to influence the growth of corporate sukuk. The second way is to compare T-count with T-table. The exchange rate regression coefficient has a significant influence on the growth rate of corporate sukuk. As well as positively influencing the growth of corporate sukuk in Indonesia. Researchers concluded, the increase in exchange rates would also be followed by the increase in the rate of growth of corporate sukuk. Thus changes in exchange rates were directly proportional to the growth of corporate sukuk. This shows that in reality the growth of corporate sukuk studied is relatively stable. And reinforced by Widia Ifana's research (2016) which states that if the exchange rate increases by one digit unit it will increase the purchase of state sukuk.

3. The Influence of M2 on Corporate Sukuk Emissions

According to the results of the regression estimation table, the probability variable m2 is smaller than $0.05 > 0.0000$. So, it can be concluded that the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected. The result is that m2 has a significant effect on sukuk emissions.

The result is that the M2 variable has a significant effect on sukuk emissions. The regression coefficient value of M2 are 3.092671 which means that if there is an increasing 1 point on M2 will affect 3.092671 percent of corporate sukuk emissions.

This goes straight with the research from the results of this study in accordance with the research conducted by Mustika Rini (2012) where the results found that the variable money supply has a significantly positive effect on sukuk issuance. This is in accordance with the theory that with the increase in the money supply, it has an impact on investment activities that are increasingly widespread. Likewise with corporate sukuk, the occurrence of shocks in the money supply where the money supply increases, will have a positive impact on the growth of corporate sukuk. This can be explained if the money supply increases, the desire of the people to exchange money for goods and services that can provide higher value. With the increase in demand for goods and services, it encourages companies to increase production and investment. Sukuk which is one of the

investment instruments can be issued as an attractive funding source for the company.