

Influence of Indonesia Exchange Rate, Inflation and Bank Indonesia Sharia Certificates on Net Asset Value of Sharia Mixed Mutual Funds in Indonesia

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Keywords: Rupiah Exchange Rate, Inflation, SBIS, Net Asset Value, Sharia Mixed Mutual Fund.

Abstract: Sharia Mutual Fund is the first sharia investment instrument in Indonesia on 1996 by Danareksa company, then there is a sharia mixed mutual funds whose performance is seen from Net Asset Value (NAV) issued by the Financial Services Authority (OJK). Net Asset Value of Sharia Mutual Funds has reached 16,204.97 Billion, the achievement is quite good. However, it is still smaller than the achievements made by conventional mutual funds that amounted to 340,186.39 billion. This study aims to examine the effect of macroeconomic variables which are Indonesia Rupiah Exchange Rate, Inflation and Bank Indonesia Sharia Certificates (SBIS) against NAV Sharia Mutual Funds. This research uses quantitative approach by using pooled data from January 2013 until February 2017. Data analysis technique used is pooled data regression analysis. The result of this research concludes Indonesia exchange rate has a significant negative effect on NAV of sharia mixed mutual fund, Inflation has positive significant effect to NAV of sharia mixed mutual fund and SBIS has a significant positive effect on NAV of sharia mixed mutual fund. The implication of this study that if the exchange rate rises or in the sense of depreciated rupiah, then the influence is very significant to Sharia Mixed Mutual Funds NAV.

1 INTRODUCTION

Sharia mixed mutual funds are one of the instruments of investment in the capital market wherein 2016 the average of Sharia Mixed Mutual Funds get the highest performance of 9.29% above the average of stock mutual funds that only provide 7.7% performance (Hendrayana, 2017). It shows that Sharia Mixed Mutual Funds have good potential in sharia capital market. However, if viewed by its funds, Sharia Mixed Mutual Fund is ranked fourth compared to the type of investment in Islamic mutual funds (Utami, et al., 2014). The development of Sharia Mutual Funds can be seen from Net Asset Value (NAV) which is every day announced. NAV is the purchase price or selling price of mutual fund units. NAV can be calculated by summing up the total value of securities owned and subtracted by the obligations of mutual funds (Rangkuti & Ja'far, 2012).

2 LITERATURE REVIEW

Theoretically, the exchange rate hurts investment because a decline in the exchange rate will reduce investment through its negative influence on domestic absorbs or known as expenditure reducing effect. Because of this decline in exchange rates will cause the real value of public assets caused by the rise in the price level in general and will further reduce the domestic demand of the community. The symptoms at company level respond by decreasing in capital expenditure/allocation on investment (Ulfa, et al., 2014).

Inflation influence on Investment is an increase in the inflation rate that will lead to a decrease in investment activity due to two things, the savings decreased and investment returns expected by investors to rise. Rising inflation rate causes investors to expect high returns because of the impact of rising inflation impact on the decline in the value of investor savings (Purwanto, 2004).

The effect of Bank Indonesia Sharia Certificates (SBIS) on Net Asset Value of Sharia Mutual Funds

(Beik & Ali, 2012) is the increase of SBIS will be an incentive for investment managers to invest their managed funds into SBIS instruments, so it is expected to increase returns for investors. With the conditions, then, as a result, NAV Mutual fund sharia will also increase. By the theory put forward by Keynes on Liquidity Preference which states that the function of money is also used to speculate, depending on the interest rate savings of a country, whereby a higher expected profit will be selected (Boediono, 2001).

3 METHODOLOGY

The objects of this research are Exchange Rate, Inflation Rate, Bank Indonesia Sharia Certificate (SBIS) and Net Asset Value Sharia Mixed Mutual Fund with data amounted to 50 periods from January 2013 to February 2017.

Data analysis is done through a series of test using Data Panel analyst whose excellence is to show and consider the heterogeneity of individual variables specifically.

4 RESULT AND DISCUSSION

4.1 Classical Assumption Test

4.1.1 Multicollinearity Test

Table 1: Multicollinearity Test Result.

	XRATE	INF	SBIS
XRATE	1.000000	-0.326234	0.642540
INF	-0.326234	1.000000	0.193243
SBIS	0.642540	0.193243	1.000000

Based on the results of multicollinearity test in Table 1 it can be seen that all variables have a low coefficient which is below 0.80, so the conclusion, there is no multicollinearity.

4.1.2 Heteroskedasticity Test

Table 2: Heteroskedasticity Test Result.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.078154	0.630456	-0.123963	0.9014
XRATE	0.019316	0.075151	0.257029	0.7974
INF	-0.032228	0.022231	-1.449714	0.1484
SBIS	0.001624	0.070294	0.023107	0.9816

Based on Table 2 it can be seen that the probability of each variable >0.05 . Inflation rate variable $0.1484 > 0.05$, exchange rate variable $0.7974 > 0.05$ and SBIS variable $0.9816 > 0.05$. So, the conclusions are that all variables do not occur heteroscedasticity.

4.2 Selection of Panel Data Regression Model

4.2.1 Chow Test

Table 3. Chow Test Result.

Redundant Fixed Effects Tests Pool: NAB_RDS Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	354.740731	(4,242)	0.0000
Cross-section Chi-square	481.553766	4	0.0000

From table 3 results can be seen that the value of chi-square is 0.0000 which the value is smaller than the alpha value of 0.05. From these results, it can be concluded that the right model for panel data regression is Fixed Effect Model, which means H_0 is rejected, and H_1 is accepted.

4.2.2 Hausman Test

Table 4: Hausman Test Result.

Correlated Random Effects - Hausman Test Pool: NAB_RDS Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	3	1.0000

This study has a large number of time series units while N (number of cross section units) are small, so in this case, the general choice will be based on the convenience of calculation and more efficient using fixed-effect model.

The following models are best used for estimation results:

Table 5: Fixed-effect Model Result.

Dependent Variable: NAB? Method: Pooled Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.19882	1.604925	11.33936	0.0000
XRATE	-1.578346	0.181213	-8.709870	0.0000
INFLASI	0.017782	0.008861	2.006739	0.0459
SBIS	0.087303	0.028100	3.106836	0.0021
Fixed Effects (Cross)				
_MISB—C	-0.443044			
_TRIM—C	0.371954			
_DSB—C	0.716621			
_PNM—C	-0.569918			
_CSB—C	-0.075613			

The result of regression estimation in Table 5 shows the following equation:

$$\begin{aligned}
 NAB_{it} = & 18.19882 - 0.443044D_1 \\
 & + 0.371954D_2 + 0.716621D_3 \\
 & - 0.569918D_4 - 0.075613D_5 \\
 & - 1.578346X_{1it} + 0.017782X_{2it} \\
 & + 0.087303X_{3it} + \epsilon_{it}
 \end{aligned}$$

The model explained that every 1% increase in rupiah exchange rate, the amount of NAV would decrease by 1.54%. As for every 1% rise in inflation, NAV will increase by 0.12%, and for a 1% increase in SBIS rate, NAV will increase by 0, 09%. Then D1, D2, D3, D4, and D5 are Dummy variables to know the change of intercept between companies explaining the effect of each company's difference Sharia Mixed Mutual Funds.

4.3 Hypothesis Testing

4.3.1 Partial Test (t-Test)

The t values of the tables in this study were obtained from the distribution tables t, alpha/significance rate () and degree of freedom (df), where $df = n - k = 250 - 4 = 246$, then with $df = 246$ and $\alpha = 5\% (0,05)$ equal to 1.969654. Next t table value will be compared with the value of t values to determine the decision to accept H_0 or reject H_0 .

4.3.2 Influence of Exchange Rate on NAV of Sharia Mixed Mutual Funds

Table 6: Exchange Rate to NAV t-Test Result.

Coef	Std. Error	t-Stat	Prob.
-1,578346	0.181213	-8,709870	0.0000

Based on Table 6, shows the t value (-8,71) because the t-values analysis (\pm) is considered absolute, then t arithmetic is (8.71) larger than t-table (1.969) which means reject H_0 and receive H_1 . Then the probability level is smaller than $\alpha = (0.05)$, so the conclusion is exchange rate has significant influence to NAV with the negative relationship, it shows that every 1% increase of Exchange Rate will influence to decrease NAV of 1.58%.

4.3.3 Influence of Inflation on NAV Sharia Mixed Mutual Funds

Table 7: Inflation Rate to NAV t-Test Result.

Coef	Std. Error	t-Stat	Prob.
0,017782	0,008861	2,006739	0,0459

Based on Table 7 shows the t-values (2.01) higher than t-table (1.969) which means reject H_0 and accept H_1 . Then the probability level is smaller than $\alpha = (0.05)$, so the conclusion is Inflation has a significant effect to NAV with the Positive relationship, it shows that every Inflation increase of 1% hence will influence to increase NAV of 0.017782%.

4.3.4 Influence of SBIS on NAV Sharia Mixed Mutual Funds

Table 8: SBIS to NAV t-Test Result.

Coef	Std. Error	t-Stat	Prob.
0,087303	0,028100	3,106836	0,0021

Based on Table 8 shows the t-values (3.11) is higher than t-table (1.969) which means reject H_0 and accept H_1 . Then the probability level is smaller than $\alpha = (0.05)$, so the conclusion is SBIS has a significant effect on NAV with the Positive relationship, it shows that every 1% increase of SBIS will influence to increase NAV by 0,09%.

4.3.5 Simultaneous Test (F-Test)

The provision obtains the value of F-table is $N2 = n - k, N1 = k - 1$. Where (n) is the number of observations, and (k) is the number of independent variables plus

constants. So, the value of F table used in this study is $N2 = 250 - 4 = 246$ and $N1 = 4 - 1 = 3$ and $\alpha = 0.05$, then the value of F-table used is 8.537653. The following results will be displayed using EViews software.

Table 9: F-Test Result.

F-statistic	225,6171
Prob (F-statistic)	0,000000

Based on Table 9, it is known that F-statistic (225,6171) is greater than F-table (8,537653), and its probability (0,000000) is smaller than the significance level (0.05). Then it can be concluded that all the independent variables, i.e., Exchange Rate, Inflation, and SBIS simultaneously affect the dependent variable that is NAV Sharia Mixed Mutual Fund.

4.3.6 Determination Coefficient

Table 10: R-Squared Result.

	Adjust R-Squared Value
Adjust R-squared	0.863286

Based on Table 10 which is regression analysis of panel data with fixed effect model shows adjusted R square equal to 0.863286. It shows that 86.3286 percent of NAV Sharia Mixed Mutual Funds can be explained by independent variables namely Exchange Rate, Inflation and SBIS). While the rest (100 percent - 86.3286 percent = 13.6714 percent) can be explained outside the model model. Based on the research results, the Rupiah exchange rate against US Dollar tends to rise, and Sharia Mixed Mutual Funds NAV tend to fall; thus there is a negative influence on the Rupiah Exchange Rate to Dollar with Sharia Mixed Mutual Funds NAV. Inflation tends to fall, and Sharia Mixed Mutual Funds NAV tend to fall; thus there is a definite influence between Inflation with Sharia Mixed Mutual Funds NAV. SBIS tend to decrease, and Sharia Mixed Mutual Funds NAV tend to decrease; thus there is a definite influence between SBIS with Sharia Mixed Mutual Funds NAV.

5 CONCLUSION

Based on the research results, the Rupiah exchange rate against US Dollar tends to rise, and Sharia Mixed Mutual Funds NAV tend to fall; thus there is a negative influence on the Rupiah Exchange Rate to

Dollar with Sharia Mixed Mutual Funds NAV. Inflation tends to fall, and Sharia Mixed Mutual Funds NAV tend to fall; thus there is a definite influence between Inflation with Sharia Mixed Mutual Funds NAV. SBIS tend to decrease, and Sharia Mixed Mutual Funds NAV tend to decrease; thus there is a definite influence between SBIS with Sharia Mixed Mutual Funds NAV.

Based on the findings of this research it can be exposed the implication that if the exchange rate rises or in the sense of depreciated rupiah, then the influence is very significant to Sharia Mixed Mutual Funds NAV. If left for a long tie will have an impact on the decrease Sharia Mixed Mutual Funds NAV. Then if Inflation continues to rise typically not mean in the hyper category, then Sharia Mixed Mutual Funds NAV will increase. However, if inflation left in the hyper category will cause bankrupt of Sharia mutual fund company because of high-cost burden. Otherwise, if inflation left in the deficient category will make the economic passion for being slow, so the Sharia Mixed Mutual Funds NAV will be lower. Meanwhile, if SBIS always increases will be accompanied by NAV increase because there is a guarantee of bonus from Bank Indonesia to mutual fund companies that invest in SBIS, and vice versa.

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