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Macroeconomic variables towards net asset value of sharia mutual funds in Indonesia and Malaysia

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Abstract

Sharia mutual fund as one of the investment instruments in sharia capital market shows significant development. There are various factors that may influence, among these factors are macroeconomic variables. This research aims to analyze the effect of macroeconomic factors on the development of sharia capital market industry. Macroeconomic variables that are used is the money supply (M1), Gross Domestic Product (GDP), and inflation. The data used in this research is a quarterly money supply data, GDP, and inflation from January 2012 to December 2016. The methods used to analyze regression data is the data panel. The results of the analysis showed that all of the independent variable used in this study i.e. the money supply (M1), GDP, and inflation has a positive influence and significance to the Net Asset Value (NAV) mutual funds sharia in Indonesia and Malaysia. These results can provide a sound contribution for further research, government, management of the company, and investors regarding the Net Assets Value mutual funds sharia in Indonesia and Malaysia.

Abstrak

Reksa dana syariah sebagai salah satu instrumen investasi di pasar modal syariah menunjukkan perkembangan yang signifikan. Ada berbagai faktor yang dapat memengaruhi, di antara faktor-faktor ini adalah variabel ekonomi makro. Penelitian ini bertujuan menganalisis pengaruh beberapa faktor makroekonomi terhadap perkembangan industri pasar modal syariah. Variabel-variabel makroekonomi yang digunakan adalah Jumlah Uang Beredar (JUB), Produk Domestik Bruto (PDB) dan inflasi. Sementara variabel Nilai Aktiva Bersih (NAB) dipilih dengan pertimbangan sebagai sebuah cerminan dari perkembangan Reksadana syariah di kedua negara. Data yang digunakan dalam penelitian ini adalah data kuartalan Jumlah Uang Beredar (JUB), Produk Domestik Bruto (PDB) dan inflasi selama Januari 2012 sampai Desember 2016. Metode yang digunakan untuk menganalisis data adalah regresi data panel. Hasil analisis menunjukkan bahwa semua variabel independen yang digunakan dalam penelitian ini yaitu Jumlah Uang Beredar (JUB), Produk Domestik Bruto (PDB) dan inflasi mempunyai pengaruh positif dan signifikan terhadap Nilai Aktiva Bersih (NAB) reksadana syariah di Indonesia dan Malaysia.

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1. Introduction

A mutual fund is a company that pools money from many investors and invests the money in securities such as stocks, bonds, and short-term debt. The combined holdings of the mutual fund are known as its portfolio. Investors buy shares in mutual funds. Each share represents an investor's part ownership in the fund and the income it generates. Mutual funds are a popular choice among investors because they generally offer the following features professional management, they will be select the securities and monitor the performance, mutual funds typically invest in a range of companies and industries. This helps to lower your risk if one company fails, affordability. Most mutual funds set a relatively low dollar amount for initial investment and subsequent purchases, liquidity. Mutual fund investors can easily redeem their shares at any time, for the current Net Asset Value (NAV) plus any redemption fees. But, in Indonesia, investment for mutual funds are still very limited, namely SBI, deposits, commercial paper/promissory notes, medium-term notes, government bonds, private company bonds.

Compared to Malaysia, the development of sharia capital market investment Indonesia lagged far. In 1990, Malaysia started to develop investment activities in the capital markets. Since sharia investment activity developed, Malaysia is already dominating compared to Indonesia. Recorded in 2004, the Net Asset Value (NAV) of the Malaysian sharia mutual funds amounted to 7.7 percent while Indonesia achieves 0.51 percent. Then republica.com (2018) stated that Malaysia continues to dominate the market of Sukuk of 38 percent of the total global Sukuk issuance followed by Indonesia which controlled 27 percent of the global Sukuk market.

We know, Indonesia is a Moslem country with a population of largest Moslem. However, for users of the Islamic capital market is still lacking. Kumalasari in gatra.com (2018) stated that some of the things that cause the Indonesian sharia capital market are inferior to the first, the government's commitment to supporting the Islamic finance industry. Malaysia has set a policy of state-owned enterprises and fund placement Fund Hajj in Islamic banking for a long time. While in Indonesia, the fund focused on still-run conventional banking.

The study about the influence of macroeconomic variables on the development of the capital market industry, especially mutual funds has been done. The first opinion reveals that macroeconomic variables affect the development of the NAV of mutual funds. Among the first groups of opinion are Hussain (2017) in Pakistan and India and Monjazeb & Ramazanpour (2013) in Iran.

The second group revealed that there is no significant effect of macroeconomic variables on the NAV of mutual funds. The second group included research conducted by Othman, Kameel, & Azis (2015) in Malaysia and Rachman & Mawardi (2015) in Indonesia. Based on the research gap above, this research will reveal further about the effect of macroeconomic variables on the NAV of mutual funds, especially Islamic mutual funds.

Dawe, Pokhariyal, & Mwaura (2014) evaluates the performance persistence of equity and blended mutual funds in Kenya for the period from 2006 to 2009. The general finding was that for both equity and blended fund, there was evidence of performance differences which tend to persist over time. This implies that there is significant performance persistence over the research period and therefore investors can successfully use the measures of past performance as a decision tool for fund selection.

According to Ahmad, Roomi, & Ramzan (2015), their results show open-ended mutual funds performance is better than close-ended mutual funds. KSE (Karachi Stock Exchange) - market portfolio performance is grater over the all sample base mutual funds. Most risk adjusted funds returns are negative, which probably due to mutual fund industry set back by the financial crisis during the sample period.

Qamruzzaman (2014) on his paper found that over the research period selected mutual funds shows a positive monthly return and an upward trend in comparison to the market return. Different risk-return measures show similar performance indication except for few mutual funds schemes due to market return in inconsistent with the return from mutual funds, i.e., negative market return.

Bhatti, Mubashar, & Sial (2015) investigate the conditional performance of a sample of German equity mutual funds, their results indicate that the performance of equity mutual funds of Pakistan is not of commendable quality owing to the deficient supervision of the managers in stock selection and market timing abilities which are indispensable for outperforming the market.

The history of the establishment of sharia capital market begins by the Jordanian and Pakistan countries who first apply the principles of sharia in the capital market. Marked by the issuance of the legal basis for the publishing of Islamic bonds by both countries. Furthermore, this became the beginning of the development of sharia capital market industry in several other parts of the world such as Asia, Europe, and America. Sharia mutual fund as one of the investment instruments in sharia capital market shows significant development. This is especially happening in some countries with a majority Muslim population. In the ASEAN region itself, there are two countries that have a majority of the Moslem population which are Indonesia and Malaysia. Based on Indonesian statistics book of the year 2018 (2018) population of 265 million people, Malaysia in the year 2018 is 32.4 million.

It can be seen from Table 1, the development of Malaysian Sharia Funds is higher than Indonesia. This is reflected in the total net asset value of Malaysian Sharia Mutual Funds that reach more than 100 million USD, and continuously show significant improvement every year. While in Indonesia, the market of Islamic mutual funds has not shown a high achievement compared to Malaysia. However, a reflection of NAV shows that sharia mutual funds continue to grow annually. Commonwealth Bank noted on Merdeka.com (2018), the interest of the community investment fund against Indonesia is still very small. Where the number of communities that invest in mutual funds recently reached 570,000 or about 0.7 percent of the total population of Indonesia. This amount is much if compared with Malaysia that reached 40 percent, Thailand reaches 30 percent.
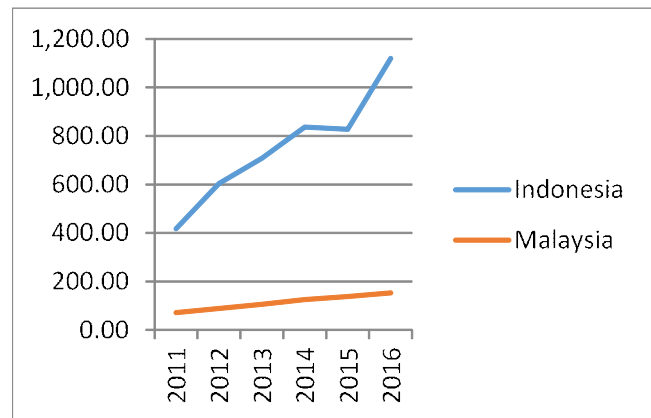

Figure 1. Sharia Net Asset Value of Indonesia and Malaysia period 2011-2016
Source: www.ojk.go.id, www.sc.com.

Furthermore, during the development of the capital market itself, especially sharia mutual funds. There are various factors that may influence, among these factors are macroeconomic variables. Macroeconomic variables can provide both positive and negative effects on the Sharia mutual funds market. The macro variables used in this study are the money supply (M1), Gross Domestic Product (GDP), and inflation.

One of the things that can affect the increase in the money supply is the government budget deficit. When this deficit condition happens, the government is trying to finance it by producing more money which can lead to the expansion of the money supply. During this money expansion, people tend to have a higher potential to invest because of the decreasing of the interest rate. This cause the de-

mand for investment instruments will increase so that the positive impact on stock prices, which also means to increase the NAV of mutual fund assets, in this case, is sharia mutual funds. But this condition is not in line with the research done by Musembi (2016) which shows that the money supply variable has no positive effect on the NAV of mutual funds in Kenya. There are two differences or research gap from many research, the results of the study so the researchers wanted to examine the influence of macroeconomic factors on the development of sharia capital market industry, especially in Indonesia and Malaysia. So on this research can help investors to diversify investment in securities, so as to minimize the risks. Moreover, it can help take the company to the ole policy with the government

The purpose of this study is to find out the relationship between money supply (M1), Gross Domestic Product (GDP), and inflation partially and simultaneously toward Net Asset Value (NAV) of Islamic mutual funds in Indonesia and Malaysia from January 2012 to December 2016.

2. Method, Data, and Analysis

This study using a quarterly panel data NAV of sharia in Indonesia and Malaysia from January 2013 until December 2016. For the data analysis using panel data regression and classical assumption test with e-views software. The study uses panel data where data analysis panel provides a combination between the data time series and cross-section data. Cross section data is data collected over time of many individuals, whereas the time series data collected from time to time against an individual. Panel data regression analysis tool is where data is collected individually (cross section) and followed at a certain time (time series). The model using in this research is:

$$LNAB_{it}: \ \beta_0 + \beta_1 LM1_{it} + \beta_2 LGDP_{it} + \\ \beta_3 INFLATION_{it} + \varepsilon \quad (1)$$

Where:

$LNAB_i$	: Log Net Asset Value in i country on t period
$LM1_{it}$	: Log Money Supply in i country on t period
$LGDP_{it}$	: Log Gross Domestic Product in i country on t period
$INFLATION_{it}$	: Inflation in i country on t period
β_0	: Constants
β_1	: Regression coefficient of LM1
β_2	: Regression coefficient of LGDP
β_3	: Regression coefficient of inflation

3. Results

Panel Data Model Estimation

Pooling and fixed model regression approach

The first step is processing data using Pooling Regression Model Approach; this is done as one of the requirements to do the F-Restricted test. From the results of the e-views 9.0 software, obtained the following result in Table 1.

Table 1. Panel Data Regression: Pooling and Fixed Model Regression

	Pooling Model Regression	Fixed Effect Model
R-squared	0.996597	0.999679
Adjusted R-squared	0.996313	0.999642

F-Restricted test

To compare the PLS and Fixed Effect Model methods, an F-restricted test is used to decide which model to use. This test is done by comparing F-statistics and F-tables. Before comparing F-statistics and F-tables, the hypothesis is first made. The hypothesis is as follows:

H_0 : Model PLS (Restricted)

H_1 : Model FEM (Unrestricted)

From the F-restricted test conducted, the following results are showed in Table 2.

Table 2. F-Restricted test

Effect Test	Statistic	d.f.	Probability
Cross Section F	335.750662	1,35	0.0000
Cross-section Chi-square	94.407268	1	0.0000

Based on Table 2, we get F-statistic 335,750662 with F-table value at df (1,35), probability value cross-section F and chi-square 0,0000 with α = 0,05 then H_0 is rejected, so panel data model that can be used is the Fixed Effect Model.

Classical assumption test was performed by using the Normality Test, Multicollinearity test, Autocorrelation Test, and Heteroscedasticity Test. Normality test in this research is done by using histogram analysis and Jarque-Bera probability shown in the following Figure 2.
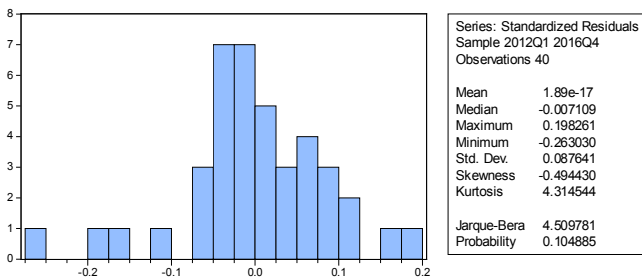

Figure 2. Histogram analysis output

Based on Multicollinearity Test there is no correlation coefficient between independent variables that exceed 0.8. Therefore, it can be concluded that there is no multicollinearity issue in this regression model.

Based on Durbin-Watson Test, the value is in between of dU and 4-dU 1.6589 <2.038 <2.3411 and can be inferred that there is no autocorrelation issue on the regression model.

The results of data processing using the Glejser Test show that the probability values of each inde-pendent variable are as follows: Money Supply variable 0.5481> 0.05; GDP variable is 0.7986> 0.05; inflation variable is 0.1569> 0.05. Therefore, it can be concluded that there is no problem of heteroscedasticity in the model. That's because all independent variables have a probability of t-statistics above 0.05.

Hypothesis Test

This test is conducted to test whether the independent variable of the money supply, gross domestic product, and inflation rate partially influence the dependent variable (net asset value of sharia mutual fund), that is by comparing each t-statistic value from regression with t-table. At the level of significance α = 0.05, df = 36, then obtained t-table 1.697.

Table 3. t-test result

Variabel	t –statistic	Probability	Result
LM1	2.893971	0.0065	Accepted
LGDP	1.834034	0.0752	Accepted
Inflation	3.314443	0.0021	Accepted

Independent variables (Money Supply, GDP, and Inflation) have a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. Money Supply has a probability value 0.0065 in the signification level α = 0.05. So money supply variable has a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. GDP has a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. GDP has probability values 0.0752 in the the signification level α = 0.1. Inflation has a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. Inflation has probability values 0.0021 in the signification level α = 0.05. So the inflation variable has a significant effect on the NAV of Islamic mutual funds in Indonesia and Malaysia.

F-Test

Table 4. F-test result

F-test	F-table	Result
0.136431	2.87	significant effect

From the result of the regression obtained value of F-statistic 0.136431. At the signification level $\alpha = 0.05$, $k = 4$, and $n = 40$, then obtained F-table 2.87. Based on this, it can be seen that F-statistic (0.136431)< F-table (2.87), that means independent variables (money supply, GDP, and inflation) have significant effect simultaneously to the dependent variable (net asset value mutual funds sharia) at a signification level of 95 percent.

4. Discussion

Independent variables (Money Supply, GDP, and Inflation) have a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. Money Supply has a probability value 0.0065 in the signification level $\alpha = 0.05$. So money supply variable has a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. But this condition is not in line with the research done by Musembi (2016) which shows that the money supply variable has no positive effect on the Net Asset Value of Mutual Funds in Kenya. The increase in the money supply will lead to inflation resulting in a small profit dividend given to shareholders. The smaller dividend causes a decrease in NAB, it makes fewer investors invest in mutual funds

GDP has a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. GDP has probability values 0.0752 in the signification level $\alpha = 0.1$. So the GDP variable has a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. Hussain (2017) stated that the GDP variable has a negative influence on the net asset value of mutual funds in

India and Pakistan. This is because the country that became the object of research is a developing country. If we look at developed countries with high educational factors and also a supportive investment environment, investors have a high sensitivity to respond to the market situation. However, this can't be applied to developing countries that don't have a high level of education and a supportive investment environment. The research is in line with that expressed by the Tandelilin (2010) which stated that rapid GDP growth is an indication of the onset of economic growth, if economic growth improves, then the purchasing power will be increased so that on the provider of funds will increase sales. Increased sales of the company will make the company earn profits more quickly. So GDP is a factor that must be considered in making an investment decision.

At last, inflation has a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. Inflation has probability values 0.0021 in the signification level $\alpha = 0.05$. So the inflation variable has a significant effect on the net asset value of Islamic mutual funds in Indonesia and Malaysia. According to research conducted by Monjazeb & Esmaeel (2013) indicates that the variable of inflation has a significant and positive relationship to the net asset value of Islamic mutual funds in Indonesia. This happens when prices increase, production revenues also increase. This tends to increase the national income; meaning also increases the disposable income. When this condition happens, it will trigger people to consume more. The increase in the consumption of goods and services will trigger the production sector to increase their production as well in order to fulfill the demand. Furthermore, the production sector needs more capital to produce, then the tendency of investors to invest will be increased, which means an increase in the NAV of Islamic mutual funds as well.

According to Huda (2018) in Islamic Economics does not know inflation. This due to the economics of Islam, *zakat, infaq*, and alms as instrument

governing the amount of money circulating in the community. Improvement on *zakat*, alms, and *infaq* will increase your purchasing power so the value of the currency is maintained stability. Improvement on *zakat, infaq*, and alms can also move the economy in the real sector so that money will turnaround increased. As a result of growth, increased economic and investment climate will increase. This has resulted in changes that occur at the level of inflation does not affect the value of assets Sharia-compliant mutual fund net.

5.   Conclusion, Limitations, and Suggestions

Conclusion

The results indicate that significant positive impact of money supply on net asset value, according to the results of the model estimation. The significant positive effect of the gross domestic product on net asset value. a significant positive impact of inflation on net asset value confirmed as well. The simultaneously significant positive impact of the money supply, gross domestic product, and inflation on net asset value. So on this research can help investors to diversify investment in securities, so as

to minimize the risks. Moreover, this research can help take the company to the ole policy with the government about the NAV of Islamic mutual funds as well.

Limitations and suggestions

In this research is still limited to researching macro variables only. For further research, you can use or add variables outside the macro variables such as using additional micro variables as independent variables that could affect the net asset value (NAV) of Islamic mutual funds in Indonesia and Malaysia. The suggestion for investors can use variables Money Supply, GDP, and Inflation as a parameter in investing. An investor can give attention to information on the economic condition that can be seen on them. Because of this research, these variables have a significant effect on the NAV of Islamic in Indonesia and Malaysia. For investment managers, we recommend considering variables Money Supply, GDP, and Inflation in the decision making of fund placement from the investor community in order to maintain or increase the yield of the NAV of Islamic in Indonesia and Malaysia.

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