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Potential of Mutual Funds in Facing Changes in the Macroeconomic Situation

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ABSTRACT

In pandemic conditions, Indonesia's macroeconomic situation experienced very sharp changes. Inflation and BI 7 Day Repo Rate (BI7DRR) set record lows. Gross Domestic Product (GDP) has also experienced a decline, which last occurred during the economic crisis in 1998. This research was conducted to analyze the influence of inflation, BI7DRR and GDP on the Net Asset Value (NAV) of conventional and sharia mutual funds as well as the influence of mutual fund types on mutual fund NAV. Panel data regression was carried out on mutual fund NAV, inflation, BI7DRR and GDP data collected quarterly during the 2013-2022 period. Dummy variables are used in regression analysis to determine whether there is a significant difference between the NAV of islamic and conventional mutual funds. The estimation results using the random effect model show that inflation and BI7DRR are not proven to have a significant effect on the NAV of sharia and conventional mutual funds, while GDP is proven to have a positive and significant effect on the NAV of sharia and conventional mutual funds. It is also not proven that there is a significant difference in the NAV of sharia and conventional mutual funds, so it is stated that the type of mutual fund has no effect on the NAV of mutual funds.

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INTRODUCTION

COVID 19 was initially only a health problem, but even worse, it has caused a global economic recession, including in Indonesia. This economic recession is reflected in macroeconomic figures such as inflation, interest rates and economic growth. Inflation in 2020 of 1.68% was the lowest inflation figure since BPS released inflation data (Fauzia, 2021). Bank Indonesia's benchmark interest rate, the BI 7 day repo rate (BI7DRR), was lowered to its lowest point in history, namely 3.75% on November 19 2020 (Ulya, 2020). In 2020, Gross Domestic Product (GDP) decreased by 2.07% from 2019. This means that in 2020 the economy experienced a contraction of 2.07% compared to 2019 (Central Statistics Agency, 2021). Economic contractions in Indonesia have only been recorded twice, namely in 1963 and during the financial crisis that hit Asia in 1998 (Central Statistics Agency, 2022).

In this recessionary atmosphere, the Net Asset Value (NAV) of mutual funds experienced a decline, the peak of which occurred in March 2020, decreasing by 10.00% from the NAV in February 2020. However, on an annual basis, the NAV of mutual funds at the end of 2020 managed to rebound by 5,000. 78% of NAV in 2019. This condition is inversely proportional to the JCI which has not been able to recover from the fall in March 2020. If you look deeper based on sharia and conventional perspectives, there are also differences between the NAV of sharia mutual funds and conventional mutual funds. The decline in the NAV of sharia mutual funds in March 2020 was only 1.01%, while the NAV of conventional mutual funds fell by 11.11%. At the end of 2020, the NAV of sharia mutual funds managed to increase by 38.40% compared to 2019, while the NAV of conventional mutual funds only rose 2.19%.

This research is aimed at analyzing the influence of inflation, BI7DRR and GDP on mutual fund NAV as well as seeing whether the type of sharia or conventional mutual funds influences mutual fund NAV. According to the Capital Asset Pricing Model (CAPM) theory, beta, in this case market risk, is the only factor that determines the expected asset return. Criticism of the CAPM emerged where the results of empirical testing found that stocks with low beta produced higher returns while stocks with high beta actually produced lower returns. In addition, it was found that market risk is not the only risk determining factor that determines market prices (Fabozzi & Drake, 2009). Arbitrage Pricing Theory (APT) states that the expected return on an asset is linearly related to multiple risk factors. Chen, Roll and Ross (1986) used economic variables, namely inflation, interest rate structure, risk premia and industrial production, to test their effect on stock returns (Elton et al., 2014). According to the BIRR multifactor macroeconomic model, macroeconomic variables that influence stock returns are the business cycle, interest rates, investor confidence, short-term inflation and inflation predictions (Fabozzi & Markowitz, 2011). Other factors that influence asset returns include GDP growth and political upheaval (Reilly & Brown, 2012)

THEORETICAL REVIEW

The research results of Setyani (2018), Arif (2021), Setiawan (2019), Mutiara (2017), Sumantyo (2019) and Ardhani (2020) found that inflation had a significant positive effect on the NAV of sharia mutual funds. On the other hand, Prabowo (2021) and Nafisah (2020), found that the effect of inflation on the NAV of sharia mutual funds was actually negative. Panigrahi (2019), Lucas (2019), and Chakraborty (2018) found a positive influence of inflation on the NAV of conventional mutual funds, whereas Purwaningsih (2019), Cheng (2020), Pratama (2021) and Kusuma (2022) actually found that the influence of inflation the NAV of conventional mutual funds is negative. The research results of Ariyanti (2020) and Zulkarnain (2022) did not find a significant relationship between inflation and the NAV of sharia mutual funds. Irhamni (2021) and Coffie (2019) also did not find a significant relationship between inflation and the NAV of conventional mutual funds.

According to research by Rahman (2022), the BI 7 Day Repo Rate (BI7DRR) has a significantly positive effect on the NAV of sharia mutual funds, whereas Ariyanti (2020), actually found that BI7DRR has a negative effect on the NAV of sharia mutual funds. Prabowo (2021), Zulkarnain (2022) and Feliyawanti (2022) concluded that BI7DRR does not have a significant effect on the NAV of sharia mutual funds. Irhamni (2021) and Panigrahi (2019) found that BI7DRR had a negative and significant effect on the NAV of conventional mutual funds, while Komariah (2020) and Coffie (2019) found that BI7DRR had no significant effect on the NAV of conventional mutual funds. Purwaningsih (2019), Coffie (2019) and Ahmed (2018) did not find a significant influence of GDP on the NAV of conventional mutual funds, but Dong (2017) and Kusuma (2022) concluded the opposite, where GDP had a positive and significant effect on the NAV of conventional mutual funds. Sumantyo (2019) and Ardhani (2020) found that GDP had a positive and significant effect on the NAV of sharia mutual funds, whereas Ahmed (2018) did not find a significant effect of GDP on the NAV of sharia mutual funds.
Based on the theoretical basis and previous research, the hypothesis of this research is as follows:

1. H1: Inflation has a negative and significant effect on the NAV of sharia mutual funds and conventional mutual funds
2. H2: BI7DRR has a negative and significant effect on the NAV of sharia mutual funds and conventional mutual funds.
3. H3: GDP has a positive and significant effect on the NAV of sharia mutual funds and conventional mutual funds.
4. H4: Mutual fund type has a positive and significant effect on mutual fund NAV.

METHODOLOGY

The research was conducted quantitatively using linear regression analysis with panel data. The research objects are sharia and conventional mutual funds registered with the Financial Services Authority that meet the criteria (1) registered with the Financial Services Authority (OJK), (2) have NAV during the 2013-2022 period and (3) are equity mutual funds. Inflation, BI7DRR and GDP data are available on the websites of the Central Bureau of Statistics, Bank Indonesia and the Financial Services Authority which are collected quarterly during the 2013-2022 period.

Dummy variables are used to analyze the effect of mutual fund type on mutual fund NAV. Conventional mutual funds are given the number 0 and sharia mutual funds are given the number 1. If the coefficient on the dummy variable is statistically significant and has a positive value, then the NAV of sharia mutual funds is proven to be higher than the NAV of conventional mutual funds so it is said that the type of mutual fund has a positive and significant effect. to the NAV of mutual funds. The multiple linear regression model is denoted by:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Information:

Y = NAB mutual funds

a = constant

b_1 , b_2, b_3, b_4 = regression coefficient

X_1 = Inflation

X_2 = BI 7 Day Repo Rate

X_3 = Gross domestic product

X_4 = variabel *dummy* (1 for sharia mutual funds and 0 for conventional mutual funds)

e = standard error

To determine the panel data estimation model used, the F test, Langrange Multiplier (LM) test and Hausman test were carried out. Next, a classical assumption test is carried out to ensure that the regression model does not contain classical assumption problems. Hypothesis testing can be carried out if it is concluded that there are no classical assumption problems.

RESULTS AND DISCUSSION

Based on the sample criteria, 63 were selected, resulting in a data panel of 2,520 observations consisting of 40 time series periods (quarters) and 63 mutual funds (cross sections). Descriptive statistics of the research variables are as in table 1. The results of the Chow test show an F probability value of 0.00, which means that the Fixed Effect Model (FEM) regression model is more appropriate than the Common Effect Model (CEM) for estimating panel data. The probability chi2 value in the Hausman test is 1.00, which means the Random Effect Model (REM) regression model is more appropriate than FEM for estimating panel data. The probability chi2 value in the LM test is 0.00, which means the REM regression model is more appropriate than CEM for estimating panel data. Thus, it is concluded that the REM regression model is more appropriate to use as a panel data estimation model**.**

REM does not use OLS estimates (Widarjono, 2018) but Generalized Least Square (GLS) where there are no heteroscedasticity and autocorrelation problems (Gujarati, 2004). Therefore, the classical assumption tests carried out are normality and multicollinearity tests. The results of the multicollinearity test did not show a high correlation between the independent variables. The normality test with a histogram and the Shapiro-Francia test showed that the residual data was not normally distributed or skewed to the right. Even though the residual data is not normally distributed, the T test and F test are still valid if the sample used is large (Gujarati, 2004). As a general rule of thumb, a sample can be said to be large if there are 30 or more (Ross, 2017; Shafer & Zhang, 2023). The number of samples in this study was 2,520 observations so that hypotheses can still be carried out even though the residuals are not normally distributed.

Panel data regression with a random effect model using the Stata application gives the results as in table 2. Based on the REM estimation results, the following equation is obtained:

$$Y= 5453{,}06 - 1.056{,}18\ X_1 + 4.921{,}37X_2 + 4{,}13x10^{-13}X_3 - 5.597{,}23\ X_4$$

P value > |z| variable These results confirm the research results of Irhamni (2021), Ariyanti (2020), Zulkarnain (2022), Komariah (2020), Coffie (2019) and Ahmed (2018). A decrease in inflation should reduce the cost of producing goods and product prices so that it can increase sales, profits and the company's share price. However, the increase or decrease in demand due to price changes is determined by the elasticity of demand. Research by Kustiawati et al. (2022), Putri (2019), and Heriswanto (2022) show that Indonesian people's demand is still relatively price inelastic. The largest public consumption is still for primary needs so that high and low prices do not cause an increase in public consumption.

BI7DRR also does not have a significant effect on the Net Asset Value of Mutual Funds where the P value> |z| variable X2 is 0.244. These results confirm the research results of Prabowo (2021), Feliyawanti (2022), Komariah (2020) and Coffie (2019). A decrease in BI7DRR should lead to a decrease in banking interest rates, which will make investment in banking products less attractive because they provide lower returns. The effect can create capital flows into the capital market which will cause an increase in the value of capital market investment products, including mutual funds. However, this decline was not accompanied by an increase in public interest in investing in the capital market. The cause is low capital market financial literacy. The results of the OJK financial literacy survey in 2022 show that financial literacy in the capital markets sector is still stuck at 4.11%, actually experiencing a decline compared to 2019 which reached 4.92% (OJK, 2024). Another reason is that there are still many opinions that investing in the capital market is not a halal investment (Hidayah, Aslicha, & Hana, 2020).

Table 1
Descriptive Statistics of Research Variables

Variables	Mean	Modus	Maksimum	Minimum	Standard Deviation
NAV of conventional mutual funds	Rp 7.125	N/A	Rp 86.004	Rp 110	Rp 12.987
NAV of sharia mutual funds	Rp 1.528	N/A	Rp 2.675	Rp 694	Rp 469
Inflation	4,14%	5,9%	8,40%	1,33%	2,05%
BI7DRR	5,46%	7,5%	7,75%	3,50%	1,45%
PDB	Rp 3.507 T	Rp 2.235 T	Rp 5.114 T	Rp 2.235 T	Rp 748 T
Dummy Variables	0,142857	0	1	0	34,99%

GDP has a positive and significant effect on the Net Asset Value of Mutual Funds where the P value> |z| variable X3 GDP is 0.000 with a coefficient of 4.13 e-13. These results confirm the research results of Sumantyo (2019), Ardhani (2020), Kusuma (2022) and Dong (2017). GDP is a macroeconomic factor that will influence asset returns according to APT theory (Reilly & Brown, 2012). Gross domestic income (GDP) measures the market value of all goods and services produced by an economy in a certain time period or is equivalent to the aggregate income earned by all households, companies and governments in an economy in a certain time period (Piros & Pinto, 2013). Since 2012, Indonesia's GDP has always increased except in 2020 where there was a decline in GDP for two consecutive quarters, namely the second (-5.39%) and third (-3.49%) quarters of 2020 (DPR, 2020) . Without GDP growth, there will not be enough jobs and it will not be possible to redistribute income (Coyle, 2014). An increase in GDP means that there is an increase in people's overall income which has a positive impact on people's consumption (Alitasari & Yasa, 2021). An increase in public consumption causes an increase in sales, profits and company share prices.

Table 2
Random Effect Model Regression Results

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Random-effects GLS regression                   Number of obs     =      2,520
Group variable: Perusahaan                      Number of groups  =         63

R-squared:                                      Obs per group:
     Within  = 0.0259                                         min =         40
     Between = 0.0264                                         avg =       40.0
     Overall = 0.0263                                         max =         40

                                                Wald chi2(3)      =          .
corr(u_i, X) = 0 (assumed)                      Prob > chi2       =          .
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Y	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
X1	-1056.179	2503.175	-0.42	0.673	-5962.312	3849.954
X2	4921.366	4221.582	1.17	0.244	-3352.783	13195.51
X3	4.13e-13	6.61e-14	6.24	0.000	2.83e-13	5.42e-13
X4	-5597.233	4356.128	-1.28	0.199	-14135.09	2940.622
_cons	5453.062	1691.818	3.22	0.001	2137.16	8768.965
sigma_u	12096.014					
sigma_e	1692.5066					
rho	.9807976	(fraction of variance due to u_i)				

Based on Table 2, the P value> |z| The dummy variable X4 is 0.199, so it is stated that the type of mutual fund does not have a significant effect on the NAV of mutual funds. These results confirm the research results of Elfakhani (2022), Ahmed (2018) and Martia (2021). Sharia mutual funds are a type of mutual fund that applies sharia criteria in selecting its assets, not only avoiding company shares that contain things that are prohibited by Islam, such as gambling, speculation, usury, alcohol, pork and so on, but also avoiding company up to a certain level of bank debt. In recessionary conditions, companies with high interest expenses will experience difficulty in covering these costs amidst declining sales conditions. Sharia principles will prevent sharia mutual funds from owning and speculating in shares with high financial risk, so that sharia mutual funds can reduce the risk of the effects of an economic downturn due to recession conditions. However, this does not mean that conventional mutual funds do not apply the same precautionary principles in selecting investment assets. Investment managers who offer sharia mutual fund products generally also offer conventional mutual fund products so that it is possible for conventional mutual fund products to also carry out asset selection policies that are the same or close to sharia mutual fund products. In these conditions, the type of mutual fund does not have a significant effect on the NAV of the mutual fund.

CONCLUSIONS AND RECOMMENDATIONS

Based on the test results, it can be concluded that inflation and BI7DRR do not have a significant effect on mutual fund NAV, while GDP has a positive and significant effect on mutual fund NAV. Thus, investors can choose investment alternatives other than mutual funds during times of economic slowdown. The type of mutual fund does not have a significant effect on the NAV of mutual funds, so Muslim investors can choose sharia mutual funds without having to worry about differences in NAV with conventional mutual funds.

FURTHER STUDY

Further research can be carried out regarding investment instruments that are more profitable during a recession.

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