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THE EFFECT OF STOCK SELECTION SKILL AND FUND SIZE ON THE PERFORMANCE OF STOCK FUNDS IN INDONESIA WITH INFLATION AND INTEREST RATE AS MODERATING VARIABLES

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ABSTRACT

In this study, an assessment of mutual fund performance was conducted to determine the ability of mutual funds to generate high returns for investors by testing the effect of the variable stock selection skill and fund size on mutual fund performance moderated by inflation and interest rates in 2019-2021. The method of determining the sample using purposive sampling method is that there are 251 conventional stock mutual funds that meet the criteria as many as 67 conventional stock mutual funds as a sample. The data analysis tools used in this study were statistical descriptive and moderated regression. To measure the performance of mutual funds in this study using Sharpe Ratio, Stock Selection Skill using Treynor-Mazuy Ratio and Fund Size using Net Asset Value with Ln (natural logarithm).

KEYWORDS: Mutual fund performance, stock selection skills, fund size, inflation and interest rates.

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1. INTRODUCTION

According to Tandelilin (2010), investment is a commitment to a number of other funds made at this time with the aim of obtaining profits in the future. The development of increasingly advanced investment, especially investment in the Indonesian capital market, is one of the profitable investment alternatives. However, the lack of information in the community regarding investment makes it difficult for people to choose and assess which investments are able to provide optimal performance and profits. One of the right investment products for novice investors who have limited information about investing in the capital market is mutual funds. According to Law

Number 8 of 1995 concerning the Capital Market. In this study, the classification of mutual funds used is equity mutual funds on the grounds that stock mutual funds are more volatile than other types of mutual funds. Equity mutual funds are mutual funds that invest at least 80% of the portfolio they manage into equity securities (shares). An assessment of mutual fund performance is important to determine the mutual fund's ability to generate income return all one. Return of mutual funds is known as net asset value (NAV) where the value will be updated every day based on the results of mutual fund transactions on that day. The amount of NAV of a mutual fund is a measuring tool to assess the performance of a mutual fund. One of the methods that can be used to measure mutual fund performance is: Sharpe Ratio (Pal & Chandani, 2014). In general, investors in investing definitely want high return. Therefore, it is important for investors to make investment decisions by looking at the past performance of mutual funds. In this study, a mutual fund performance assessment was conducted to determine the mutual fund's ability to generate revenue high return value for investors by testing the effect of the variable stock selection skills and fund size on the performance of mutual funds moderated by inflation and interest rates. Inflation and interest rates are external factors that cannot be controlled by the company but can affect the performance of mutual funds.

2. LITERATURE REVIEW

2.1. Investment

According to Tandelilin (2010), investment is a commitment to a number of other funds made at this time with the aim of obtaining profits in the future. In general, investment is divided into two types, namely; first, real investment is an investment that is real or tangible such as buildings, vehicles, jewelry, land and others. Second, financial investment is an investment in financial assets, namely deposits and securities such as stocks and bonds, Azis et al, (2017),

2.2. Portfolio Theory

Markowitz theory shows return and risk in an investment where risk can be minimized through diversification and combining various investment instruments in the portfolio (Markowitz, 1952). According to Azis et al, (2017), the form in portfolio theory assumes that future returns can be anticipated which can then be used to evaluate risk with changes in the current distribution. Basically portfolio theory exists to reduce future risk.

2.3. Stakeholder Theory

Freeman, (2005) states that the theory of stakeholders is a theory that describes to which party the company is responsible. Stakeholders is a person who holds control or shareholders and portfolio holders to determine the success of a company that will have an impact and affect the performance of mutual funds (Azis et al,2017).

2.4. Mutual fund performance

Mutual fund performance is defined as a portfolio that does not only look at the level of return generated but must also pay attention to the level of risk and other factors (Azis et al,2017). The purpose of mutual fund performance is to ensure in choosing the type of mutual fund that will be the investment destination and how to determine the ability of the investment manager to manage

the portfolio. In this study, mutual fund performance is calculated using the Sharpe Ratio based on the calculation formula below:

$$\text{Sharpe Ratio} = (R_p - R_f) / \sigma_p$$

Information:

R_p : portfolio return or market rate of return

R_f : risk-free return risk-free interest rate

σ_p : standard deviation of portfolio return over the observation period

2.5. Stock Selection Skill

Stock selection Skill is the ability of investment managers to choose the right securities in their portfolio so that they are able to provide high returns. Good mutual fund performance is carried out by investment managers into the mutual fund portfolio so as to produce better performance compared to the index (Deb, 2019). Level stock selection skills can be found through Treynor-Mazuy ratio method. Treynor (1965) introduced the Treynor ratio which is also known as Reward-To-Volatility ratio which is based on security market line (SML). Security market line or securities market line (SML) is a line drawn on a chart that serves as a graphical representation of the capital asset pricing model (CAPM). Stock Selection Skill is measured using the Treynor-Mazuy Ratio based on the calculation formula below:

$$R_p - R_f = \alpha + \beta(R_m - R_f) + \gamma(R_m - R_f)^2 + \varepsilon_p$$

Information:

α : Intercept which is an indication of stock selection from investment manager

R_p : Average mutual fund in period t

R_f : Average risk-free investment return period t

R_m : Average market return in period t

β : Regression coefficient of excess market return or slope when the market is down (bearish)

γ : Regression coefficient which is an indication of the investment manager's market timing ability

ε_p : random error

2.6. Fund Size

Fund Size is a mutual fund measure based on the funds in the managed portfolio and described in the securities portfolio (Chen et al., 2004). The larger the size of the assets managed will provide higher flexibility in the mutual fund services and facilitate the creation of economies of scale which can have an impact on reducing indirect costs such as custodial fees, transaction fees and other costs (Asriwahyuni, 2017). Fund size can be calculated based on monthly Net Asset Value (NAV). Net assets are calculated by subtracting liabilities from the total assets of the mutual fund. After the net asset value is obtained, it is then converted into log form, so that the value is not too large when compared to other variables. Fund Size calculation is based on the following calculation formula:

$$\text{Ln(NAV)}$$

Information:

NAV = Net Asset Value

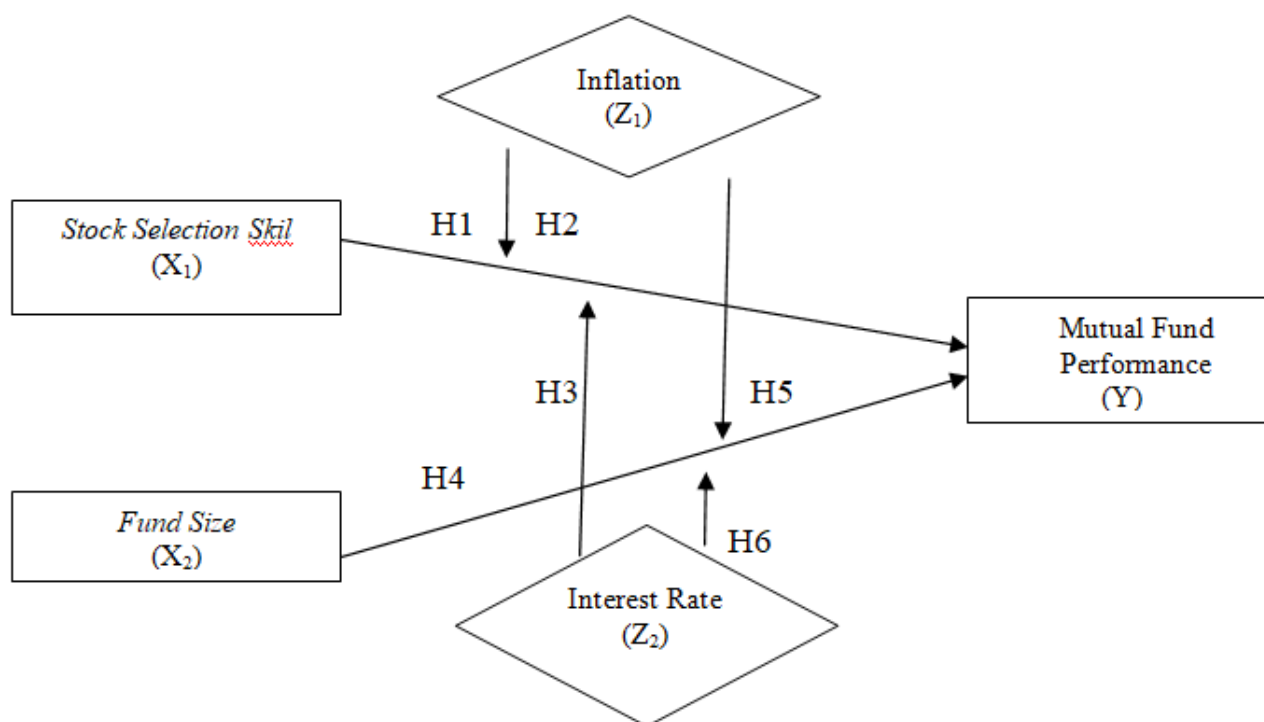
2.7. Inflation

Inflation is an economic condition where there is an imbalance between the demand and supply of a product because the demand for the product is higher than the supply so that there is a tendency to increase prices (Putra & Yaniartha, 2014). The development of inflation is one of the factors that is of concern to investment managers, especially its influence on the development of the net asset value (NAV) of mutual funds (Pasaribu & Kowanda, 2014).

2.8. Interest Rate

The interest rate is one of the monetary instruments that can influence the public and entrepreneurs to make investments, issued by Bank Indonesia which is used as the standard interest rate by state banks and private banks. (Rismawati, 2013) According to Fahmi (2015), the rise and fall of banking interest rates will affect investors' decisions in making decisions. If the bank's interest rate is high, then investors will save their funds in the bank so that it can affect the performance of the mutual fund because when interest rates are high, the price of the mutual fund will decrease so that the net asset value will also decrease, and vice versa.

Gambar 1.1. Conceptual framework



Hypothesis:

H₁: Stock Selection Skill has a significant positive effect on Mutual Fund Performance.

H₂: Inflation has the effect of weakening the stock selection skill variable on Mutual Fund Performance.

H₃: The interest rate has the effect of weakening the stock selection skill variable on Mutual Fund Performance.

H₄: Fund Size has a significant positive effect on Mutual Fund Performance.

H₅: Inflation has the effect of weakening the stock selection skill variable on Mutual Fund Performance.

H₆: The interest rate has the effect of weakening the stock selection skill variable on Mutual Fund Performance.

3. RESEARCH METHODOLOGY

3.1. Sampling

The sampling technique in this study used purposive sampling method. According to Turner D.P (2020), purposive sampling is a sampling technique used when researchers already have individual targets with characteristics that are in accordance with the research. With these criteria, the samples in this study during the 2019 to 2021 period were 67 conventional stock mutual fund companies.

3.2. Data analysis technique

In this study, there are two analytical tools used in this study, namely descriptive statistics and moderated regression. Descriptive statistics are used to analyze an event that occurs at the present time and occurs in mutual fund companies registered and published by the Financial Services Authority (OJK) for the period 2019-2021. Moderation regression analysis involves moderating variables that play a role in strengthening or weakening the influence of the independent variable on the dependent variable. The model used in this study is as follows:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 * Z_1 + \beta_4 X_1 * Z_2 + \beta_5 X_2 * Z_1 + \beta_6 X_2 * X_4 + e$$

Information:

Y: Mutual Fund Performance

α : Constant

β_1 : Stock Selection Skill regression coefficient

β_2 : Fund Size regression coefficient

β_3 : Inflation regression coefficient

β_4 : Interest rate regression coefficient

X₁: Stock Selection Skill

X₂: Fund Size

Z₁: Inflation (Variabel Moderasi)

Z₂: Interest Rate (Variabel Moderasi)

e: Confounding Variable

4. RESULT

Table 1 Descriptive statistics

	KR	SSS	FS	INF	SB
Mean	-0.377622	-0.0136	1978.818	0.4533	9.1333
Median	-0.374000	-0.0070	27.55252	0.4500	8.8800
Maximum	2.043000	0.8190	63047.62	0.5700	9.9900
Minimum	-3.204000	-0.8840	15.02170	0.3400	8.5300
Std.Dev	0.495033	0.1398	7395.167	0.0941	0.6239
Observations	201	201	201	201	201

Source: calculated by Eviews 8, (2022)

The results of descriptive statistics can be explained briefly as follows:

- a. The number of observations on each valid variable is 201.
- b. The stock selection skill variable has a mean (average) value of -0.0136, which means that the investment manager has poor stock selection skills with a negative value obtained. The maximum stock selection skill value is 0.1398.
- c. The fund size variable has a mean (average) value of 1978,818, this indicates that the fund size of a mutual fund is large and good. The maximum fund size value is 30.54090171 while the minimum fund size value is 15,02170.
- d. Inflation variable has an average value (mean) of 0.453333 percent with a standard deviation of 0.09 percent. Inflation in the last three years has continued to increase from 0.34 percent in 2019 and continues to increase to 0.57 percent in 2021.
- e. The interest rate variable has an average value (mean) of 9.133333 percent with a standard deviation of 0.62 percent. In contrast to inflation, interest rates have actually decreased over the last three years. In 2019, the interest rate was 9.99 percent and then decreased to 8.53 percent in 2021.
- f. Mutual Fund Performance Variables measured using the Sharpe Ratio overall has an average value (mean) of - 0.377. The maximum performance value is 2.043. While the minimum performance value is -3.204.

Table 2. Multicollinearity test

Variable	Collinearity Statistic		Conclusion
	Tolerance	VIP	
SSS	0.021892	1.529607	No Multicollinearity
FS	4.85E-12	1.185113	No Multicollinearity
INF	2.28E-05	6.890031	No Multicollinearity
SB	0.000151	1.074897	No Multicollinearity

Source: calculated by Eviews 8, (2022)

Source: calculated by Eviews 8, (2022) Based on table 5.2 above, it can be seen that there is no multicollinearity problem. This can be seen from the VIP value is less than 10 (< 10). So it can be concluded that there is no close relationship between the independent variables in the research model.)

Table 3. Heteroscedasticity Test: White Method

F-statistic	2.281860	Prob. F(4,202)	0.0619
Obs*R-Squared	8.943782	Prob. Chi-Square(4)	0.0625
Scaled explained SS	291.4265	Prob. Chi-Square(4)	0.0000

Source: calculated by Eviews 8, (2022)

Based on the estimation results using the test white heteroscedasticity it can be seen that the probability value of Obs*R-Squared is 0.0619 (greater than 0.05), then H_0 rejected, which means there is no heteroscedasticity problem. If this occurs, then to overcome the problem of heteroscedasticity, the GLS method is used (Generalized Least Square by using cross section lengths).

Autocorrelation test

Based on the calculation results of the Durbin Watson value of 0.712767 which then refers to the Durbin-Watson benchmark, the test results show that the DW value of 0.712767 is between +2 and -2 where there is no autocorrelation, which means that H1 is accepted. So, this research model has a negative autocorrelation.

Table 4. Regression Analysis Results

Variable Bound	Variable	Coefficient Regression	t-count	Prob.	Direction	Ket.
Mutual Fund Performance (KR)	Constant	-0.390059	-8.223376	0.0000		
	SSS	0.709535	9.002491	0.0000	(+)	Significant
	FS	1.01E-06	2.054448	0.0413	(+)	Significant
	INF	-0.001974	-0.415129	0.6785	(+)	Not Significant
	SB	0.003312	0.887845	0.3757	(-)	Not Significant
	SSS*INF	-0.166452	-15.69585	0.0000	(-)	Significant
	FS*INF	-3.09E-06	-6.087925	0.0000	(-)	Significant
	SSS*SB	-0.396038	-5.694093	0.0000	(-)	Significant
	FS*SB	6.93E-07	3.091492	0.0023	(+)	Significant
R-Square		0.826350				
Adjust RSquare		0.819115				
F-Stats		114.2094				
F Significant		0.000000				

Source: calculated by Eviews 8, (2022)

DISCUSSION OF RESEARCH RESULTS

- Based on the regression results described above, it is found that the stock selection skill variable has a positive and significant effect on mutual fund performance in conventional stock mutual fund companies registered with the OJK until the 2019-2021 period. This positive result shows that the higher the level of ability or skill of the investment manager in selecting the securities to be included in the mutual fund portfolio or what is called the stock selection skill, the higher the level of performance that can be generated significantly. These results are also in line with previous studies by Alexandri (2015), Amini & Azib (2019), Hermawan & Wiagustini (2016), Syahid (2015) and Trisnopati & Titik, (2015).

- Stock selection skill and inflation variables have a negative and significant effect on mutual fund performance in conventional stock mutual fund companies registered with the OJK until the 2019-2021 period. This negative result shows that the higher the level of ability or skill of the investment manager in choosing the securities to be included in the mutual fund portfolio or the so-called stock selection skill, the higher the level of performance that can be generated significantly. However, if it is followed by an increase in inflation, this will actually weaken the performance of mutual funds. The real value of mutual fund performance will decrease in line with rising inflation. This result is also in line with previous research which shows that inflation has a negative impact on mutual fund performance such as research conducted by Hermawan & Wiagustini, (2016).
- Stock selection skill variables and interest rates have a negative and significant effect on mutual fund performance at conventional stock mutual fund companies registered with the OJK until the 2019-2021 period. This negative result shows that the higher the level of ability or skill of the investment manager in choosing the securities to be included in the mutual fund portfolio or the so-called stock selection skill, the higher the level of performance that can be generated significantly. However, an increase in interest rates will distract investors. An increase in interest rates will cause a decrease in stock mutual fund returns due to a lack of investor interest in investing in mutual funds so that investment managers must have high stock selection skills in choosing the right stocks to get the expected return. These results are in line with previous studies such as Hermawan & Wiagustini, (2016) and Monjazebe & Ramazanpour (2013).
- Based on the regression results that have been described, it is significant to the performance of mutual funds in conventional stock mutual fund companies registered with the OJK until the 2019-2021 period. This positive result shows that the larger the fund managed by the investment manager will increase the rate of return of the mutual fund or improve the performance of the mutual fund. This result is in line with Syahid et al., (2015) who found that large mutual funds have better performance, because apart from showing a high level of investor confidence in mutual funds, they also have stronger bargaining power so they can generate higher returns.
- The results showed that the effect of Fund Size and Inflation Interaction weakened Mutual Fund Performance. This result is due to the significant influence of the interaction between Fund Size and Inflation on mutual fund performance. This is because inflation in Indonesia has a negative impact on large and small mutual funds. Therefore, mutual fund companies with large fund sizes need to anticipate the negative impact of inflation in order to create economies of scale which can have an impact on reducing costs charged to customers, including high inflation conditions. These results are in line with previous studies such as Hermawan & Wiagustini, (2016) and See & Jusoh (2012)
- The results of the study show that the interaction of fund size with interest rates has a significant impact on the performance of conventional stock mutual funds registered with the OJK until the 2019-2021 periods. The existence of significant results shows that an increase in interest rates does not make some people or investors prefer to save their funds in mutual funds. The fact that fund size affects mutual fund performance can also mean that mutual funds with small managed funds are more likely to record higher performance. This is quite understandable because the arrangement of asset portfolios in small mutual funds is relatively easier to change quickly so

that the liquidity is higher to increase the portfolio's rate of return. These results are in line with previous studies such as Hermawan & Wiagustini, (2016)

5. CONCLUSION

This study examines the effect of inflation and interest rates as moderating variables on the effect of stock selection skills and fund size on the performance of conventional stock mutual funds for the period 2019 to 2021. Based on the results of the analysis and discussion, the following conclusions are obtained:

1. Stock Selection Skill has a positive and significant effect on mutual fund performance. This positive result shows that the higher the level of ability or skill of the investment manager in selecting the securities to be included in the mutual fund portfolio or what is called the stock selection skill, the higher the level of performance that can be generated significantly.
2. Inflation has the effect of weakening the stock selection skill variable on mutual fund performance. Good stock selection skills will have a positive impact both in terms of returns generated and in terms of attracting potential investors, but if the increase in inflation is not overcome then the ability of investment managers must be able to maintain and improve their stock selection skills to anticipate risks from inflation.
3. Interest rates have the effect of weakening the stock selection skill variable on mutual fund performance. An increase in interest rates will distract investors. An increase in interest rates will cause a decrease in stock mutual fund returns due to a lack of investor interest in investing in mutual funds so that investment managers must have high stock selection skills in choosing the right stocks to get the expected return.
4. Fund size has a positive and significant effect on mutual fund performance in conventional stock mutual fund companies registered with the OJK until the 2019-2021 periods. This positive result shows that the larger the fund managed by the investment manager will increase the rate of return of the mutual fund or improve the performance of the mutual fund.
5. Inflation has the effect of weakening the fund size variable on mutual fund performance. This is because inflation in Indonesia has a negative impact on large and small mutual funds. As a result, both companies with large and small fund sizes have a significant impact on mutual fund performance, because an increase in inflation will cause the prices of goods and services to increase so that the company's profits will decrease. As a result, the distribution of profits to be distributed to investors also decreases; this will make investment unattractive for investors because it cannot provide the expected return and decrease the value of net assets (NAV).
6. The interest rate has the effect of strengthening the fund size variable on mutual fund performance. Indeed, the larger the fund size, the greater the possibility of diversifying assets. Furthermore, the high fund size will also reduce operating costs and investment selection. The concept of economies of scale also plays a role. A large fund under management allows for the spread of transaction costs over a large number of assets and results in lower average transaction costs, which is expected to improve mutual fund performance.

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