**JAFA**, 9(1), June 2022, 1-10 P-ISSN: 1979-6862 **DOI**: 10.21512/jafa.v9i1.8150 E-ISSN: 2746-6019

# FACTORS INFLUENCING FIXED INCOME MUTUAL FUND PERFORMANCE

# Triasesiarta Nur<sup>1\*</sup>, Frederick Valerio Fernandika<sup>2</sup>

<sup>1,2</sup> Accounting Department, School of Accounting, Bina Nusantara University, Jakarta, Indonesia, 11480

<sup>1</sup>triasesiarta.nur@binus.ac.id, <sup>2</sup>frederick.fernandika@binus.ac.id

# **ABSTRACT**

A mutual fund is one of the investment instruments currently developing in Indonesia. There are many types of mutual funds, such as money market funds, fixed-income funds, equity funds, and mixed funds. When an investor invests their money in mutual funds, the investor has to be able to pick the best mutual funds based on mutual funds' performance and their risk profile. There are a lot of factors to determine mutual funds' performance. This research aims to analyze the effect of fund age, fund size, expenditure ratio, and past performance on fixed income mutual funds performance starting from 2016 – 2019. The performance of fixed income mutual funds is measured with the Sharpe method. Multiple regression results analyzed data from the research. The research results show that fund age has a negative and significant effect on fixed income mutual funds. Meanwhile, fund size, expenditure ratio, and past performance don't significantly affect the performance of fixed-income mutual funds. This research provides investors insight into being more selective in choosing mutual fund products, especially fixed income mutual funds. Furthermore, portfolio managers might use this study to assess the performance of the mutual funds they manage. So that the mutual funds they manage might have a higher future performance. The study contributes to a better understanding of the factors to consider when investing in fixed income mutual funds.

Keywords: Fund Age, Fund Size, Expenditure Ratio, Past Performance, Income Funds Performance

## INTRODUCTION

As we enter the era of globalization, it is even more crucial for people to invest. However, not everyone has the necessary knowledge, ability, information, time, or capital to invest. As an investment product in the capital market, mutual funds provide an alternative investment solution for the community considering these constraints. Investors can invest in mutual funds based on their capabilities by entrusting their management to the Investment Manager (Rout & Mohanty, 2020) (Bitomo & Muharam, 2016).

Mutual funds are one of the portfolio diversification instruments. Based on Law Number 8 of 1995 concerning the Capital Market, mutual funds are a forum for collecting funds from the public to be invested in portfolios by investment managers. Mutual funds are investment platforms for potential investors guaranteed and regulated by the OJK (Financial Services Authority). Currently, the development of mutual funds in Indonesia is quite fast compared to other countries (Bitomo & Muharam, 2016). This is evidenced by the growth of the mutual fund industry which reached 60% from the end of 2015 to the end of 2020 (OJK, 2021). Based on KSEI (Indonesian Central Securities Depository), the number of investors in the capital market reached 7.86 million investors. Mutual fund investors were the largest contributor, with a total of 4.93 million investors (Dirgantara, 2022).

Fixed-income mutual funds are mutual funds that allocate invested funds towards debt securities and bonds. Bond instruments are debt-based securities. Investing in financial instruments such as debt securities or bonds provides regular returns, for example, once a month or every three months. However, what is called investment cannot be separated from risk. However, the risk of fixed income mutual funds is small compared to other mutual funds but is greater than money market mutual funds. Fixed-income mutual funds can generate 8% to 9% per year (Anam, 2021). Mutual fund performance is the primary concern for investors when making investment decisions. Investors are less likely to experience losses if they are informed of the performance of the mutual funds they are considering investing in. Many

factors impact mutual fund performance, determining whether a mutual fund performs well or poorly. One of the factors that influence the Mutual Fund's performance is its past performance (Ben-David, Li, Rossi, & Song, 2021), (Ammann, Bauer, Fischer, & Müller, 2019), (Bitomo & Muharam, 2016).

Aside from historical performance, Fund Size is another aspect that determines mutual fund performance. The mutual fund size reflects the size of mutual funds based on funds managed by the TNA (Total Net Assets). Mutual funds with high assets have benefits over small ones. Economies of scale, ease of diversification of portfolios, and more resources for research are all advantages of a large mutual fund. Moreover, fund managers with huge assets have more access to advantageous investment opportunities that portfolio managers with lesser managed funds do not have (Fisch, Hamdani, & Solomon, 2019). A mutual fund's age is how long it has been in existence. The age of a mutual fund is determined by the mutual fund's effective date. Compared to newer or younger mutual funds, the longer the life of a mutual fund, the more expertise an investment manager will get in managing portfolios. Furthermore, the cash flow allocation and the portfolio are better organized (Hertina, Bilal, & Wirand, 2022).

The Expense Ratio is a ratio that compares a mutual fund's operational expenditures to the total amount of money it manages. All mutual fund operating costs, including management and administrative expenditures, are included in these charges. Consulting services account for most mutual fund management expenditures (Bitomo & Muharam, 2016). This cost is intended to cover portfolio management, fund manager recruitment, and remuneration for research and analysis. So that the fees paid result in the optimum portfolio structure that may deliver the highest returns, hence improving mutual fund performance (Bitomo & Muharam, 2016).

Several prior studies have investigated the characteristics that influence mutual fund performance. However, the acquired results are not yet consistent. Previous research has proven that age significantly affects mutual fund performance (Pambudi & Mahfud, 2016). On the other hand, (Carlsson & Eikner, 2020), (Nguyen & Nguyen, 2019) and (Hada & Suri, 2020), (Hertina et al., 2022) shows that age has no significant impact on mutual fund performance. Different research finding by (Filip, 2018) and (Carlsson & Eikner, 2020) has proved that age has a negative significant effect on fund performance. The result of (Kaur, 2018) 's research stated that past performance negatively impacted mutual fund performance. Meanwhile (Carlsson & Eikner, 2020) showed that past performance has no significant impact on mutual performance.

Mutual fund performance is negatively affected by its size. The higher the Total Net Assets, the lower the performance (Kaur, 2018), (Chhapra, Rehan, & Rafay, 2018). However, contrary to this study (Filip, 2018) obtained a result that showed that size had a positive effect on mutual funds. Meanwhile, (Nguyen & Nguyen, 2019) (Carlsson & Eikner, 2020) stated that size did not significantly affect the performance of mutual funds.

(Carlsson & Eikner, 2020), (Kaur, 2018), (Chhapra et al., 2018), and (Filip, 2018) stated that expense ratios significantly and positively impact mutual performance. Meanwhile, a research finding by (Mahmood & Ghulame Rubbaniy, 2016) showed that expense ratios do not have a significant impact on mutual fund performance. With an emphasis on fixed income mutual funds, this study attempts to reexamine those determinants.

## **Effect of Fund Age on Fixed Income Mutual Fund Performance**

Based on research (Kaur, 2017), the Age of the fund is the total number of times a mutual fund has been adequate since it was first traded. The more mature the Age of a mutual fund, the better its performance. It is due to a lot of experience managing funds and minimizing risk in portfolio trading. Mutual funds that are more mature can also allocate cash flow in their investment portfolio. On the other hand, the younger the Age of the mutual fund, the greater the risk.

Mutual fund age is a numerical category that shows the Age of each mutual fund which is calculated from the effective date of trading the mutual fund (Hada & Suri, 2020). Mutual funds with old Age will provide better performance due to their mature experience. The statement above is evidenced by the research of Pambudi & Mahfud (2016), where the study states that Age has a positive and significant effect on the performance of mutual funds. However, a different view emerges in the research conducted

by Filip (2018), which proves that Age has a negative and insignificant effect on mutual fund performance.

H1 = Age of funds affects the performance of mutual funds.

#### **Effect of Fund Size on Fixed Income Mutual Fund Performance**

Based on Ayu & Asriwahyuni (2017), which discusses the Effect of Fund Size and Age on Mutual Fund Performance in Indonesia, fund size is another crucial factor that must be considered carefully in measuring mutual fund performance. This is because in this study, it was found that the size of the mutual fund had a positive effect on the performance of the mutual fund. The larger the size of the mutual fund, the greater the possibility of creating economies of scale, which can impact cost depreciation such as custodial fees, transaction fees, and other costs (Gallagher, 1988), (Kaur 2018).

The size of the fund is also a factor to consider when investing. This is because the size of the mutual fund will affect the market capitalization. The probability of diversifying assets will be greater if the size of the fund is getting bigger. This statement is evidenced by research conducted by (Wu & Ching, 2014) and (Filip, 2018), which states that fund size positively affects mutual fund performance. Another study conducted by (Chhapra et al., 2018) and (Kaur, 2018) found that the size of the mutual fund had a negative effect on its performance of the mutual fund this was because of the size of the fund was too large, so the investment manager experienced saturation.

H2 = The size of the fund affects the mutual fund's performance.

### The Effect of Expenditure Ratio on Fixed Income Mutual Fund Performance

The expense ratio is the operational costs used by investment managers in managing a mutual fund (Haslem, 2011), (Ammann et al., 2019). The expenditure ratio must be transparent. In other words, there should be no cover-up transactions with brokers. The costs in the expense ratio may include management fees, distribution costs, transaction costs, and other costs. The research conducted by (Kaur, 2018), (Filip, 2018), (Carlsson & Eikner, 2020) proved that expense ratio had a positive effect on company performance. The third hypothesis is as follows:

H3= Expenditure Ratio affects mutual fund performance

#### The Effect of Past Performance on Fixed Income Mutual Fund Performance

Another determinant of whether a mutual fund performs well or poorly can be seen from the mutual fund's previous performance. The previous performance is the historical performance of a mutual fund in generating returns or returns. With previous research, investors can use it as a reference and consideration in mutual fund investment.

Through asset allocation, the investment manager acts as the investor's fund manager, selecting assets and investments in a diversified securities portfolio(Paramitha & Purnawati, 2017). The historical performance of the investment manager has an influence on the mutual fund portfolio's performance. An investment manager's ability to develop his portfolio in line with the targeted amount of profit and an acceptable degree of risk is critical to his success (Chen, Gao, Zhang, & Zhu, 2018).

Several studies have found empirical evidence showing that a mutual fund's past performance can affect a mutual fund's future performance. The results of research by (Grinblatt & Titman, 1993) and (Darryel Hendricks, Jayendu Patel, 1993), (Kaur, 2018), (Chen et al., 2018), (Rout & Mohanty, 2020) stated in their research that the performance of mutual funds in the past provides useful information for analyzing the performance of mutual funds in the future.

H4 = Previous performance affects the price of mutual funds.

## RESEARCH METHOD

This type of research is quantitative research. Quantitative research is research conducted using numbers and statistical processing, where the results will be presented in data that will be in the form of numbers. The data source of this research uses secondary data. The data used in this study is secondary

data based on financial reports issued by fixed income mutual fund companies from 2016 – 2019, both the monthly net asset value, the effective date of the mutual funds, and the costs incurred by the company. The data was obtained from several sites as follows: (www.ojk.go.id), (www.bareksa.com), (www.infovesta.com), (www.pasardana.id).

The population in this study is monthly data for each mutual fund registered with the Financial Services Authority (OJK) during 2016 - 2019. The method used in the research sample is purposive sampling. The sample collection method used in this research is the Literature Study Method. The literature study method can be done by studying books, journals, or other literary sources carried out by experts so that they can become supporting theories related to research variables. The sample collection was carried out to obtain data on the price of mutual funds, net asset value (NAV), effective date, and other data.

In this study, researchers used a sample of conventional fixed income mutual funds registered with the Financial Services Authority (OJK) during the 2016-2019 period. Of the 100 conventional fixed income mutual funds registered with the OJK, which meet the sample criteria in this study, there are 31 mutual funds during the 2016-2019 (4 years) period, so the number of research samples is 124. Table 1 shows the details of the sample used. The authors carried out descriptive statistics, testing assumptions classical and multiple linear regression analysis using the SPSS software program *in this study*.

Table 1 Sample Selection Criteria

No	Min	SD
1	Fixed Income Mutual Funds listed on the OJK official website from January 2016 to December 2019	337
2	Fixed Income Mutual Funds registered on the OJK official website from January 2016 to December 2019, other than conventional types.	-237
3	Conventional Type, Fixed Income Mutual Funds that do not have a net asset value published in the media	-69
4	Sample: Conventional Type, Fixed Income Mutual Funds	31
5	Observation 31 x 4	124

Sources: OJK

## **ANALYSIS**

Conducting descriptive statistical tests can provide a clear interpretation of the data and is easier to understand. A descriptive statistical test aims to find out and obtain a description related to the data used in the study by understanding and obtaining an overview of the data used in the study from the average, standard deviation, minimum, maximum, and sum. The results of descriptive statistics can be seen in Table 2 below:

Table 2 Student Distribution Frequency

No	Min	Max	Mean	SD
124	2.5785	16.2253	10.9001	3.3415
124	19.0628	29.1006	25.6811	1.6517
124	0.0059	0.0901	0.0224	0.0093
124	-1.2060	2.5846	0.0428	0.5223
124	-1.2060	2.5846	0.1609	0.5070

Source: Results of data processing

The classical assumption test is one of the tests that must be carried out in testing a regression model. The tests carried out in the classical assumption test include the normality test, multicollinearity

test, and heteroscedasticity test. The normality test shows that the data used, and the regression model are normal and do not have symptoms. In the autocorrelation test, the results obtained indicate that the test results using the two dependent variables have symptoms of autocorrelation. Still, because this study uses the random effects method using the GLS (Generalized Least Squared) approach, it does not require the assumption that the model is free from serial correlation. In this study, the classical assumption test used is the normality, autocorrelation, multicollinearity, and heteroscedasticity. The normality test is designed to determine the presence of confounding variables or residuals having a normal distribution in the regression model. It can be concluded that the data is normally distributed because 0.096 > 0.05. The results of the normality test can be seen in Table 3 below:

Table 3 Normality Test Results

		Unstandardized Residuals
Normal Parameter <sup>a,b</sup>	Mean	,0000000
Normal Parameter	Std. Dev	,48599276
Most Extreme Differences	Absolute	,074
	Positive	,074
	Negative	-,058
Test Statistics	-	0.074
Asymp.Sig.(2-tailed	l)	$0.096^{c}$

a. Test distribution is Normal

Source: Results of data processing

Techniques and methods to test the existence of the model summary table. The autocorrelation test of autocorrelation symptoms uses the Runs test and Durbin-Watson method, designed to test whether there is a correlation between the confounding error in period t and the confounding error in period t-1 in the regression model. It can be concluded that the data does not detect autocorrelation symptoms because the run test value is t > 0.05, and the DW value is greater than DL and smaller than 4-DU. The results of the autocorrelation test can be seen in table 4 and table 5 below:

Table 4 Autocorrelation Test Result

Model Summary						
Model R R Square		Adj. R Square	St. Error of Estimate	Durbin-Watson		
1	,258a	,081	,050	,494093	2,200	

Source: result of data processing

Table 5 Runs Test autocorrelation Test

	Unstandardized Residual
Test Value <sup>a</sup>	,00183
Cases <test td="" value<=""><td>62</td></test>	62
Cases>= Test Value	62
Total Cases	124
Z	1,803
Asymp.Sig (2-tailed)	,071

Source: Result of data processing

The multicollinearity test is a test that aims to find out whether there is intercorrelation or collinearity in the regression model. The results of the multicollinearity test can be seen in table 5. The

b. Calculated from data

<sup>&</sup>lt;sup>c.</sup> Liliefors Significance Correction

multicollinearity test was obtained from the coefficients table in the collinearity statistics section, which contained tolerance values and VIF (Variance Inflation Factor). Based on table 5 above, it shows that all independent variables have a tolerance value greater than 0.10 and a VIF (Variance Inflation Factor), which is smaller than 10. So, it can interpret that the regression model does not have symptoms of multicollinearity.

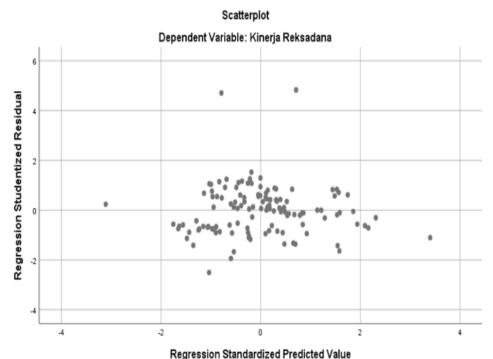
Table 6 Multicollinearity Test Results

Coefficients						
Model	Unstandardized Coefficients		Collinearity Statistics			
	В	Std.Error	Tolerance	VIF		
Constant	1,318	,754				
(X1)	-,034	,014	,947	1,056		
(X2)	-,027	,028	,950	1,053		
(X3)	-4,469	5,015	,916	1,092		
(X4)	-,162	,087	,916	1,041		

Source: Results of data processing

The heteroscedasticity test is designed to test whether there is an inequality of variance from the regression model. The regression model can be said to be good if the regression model is homoscedastic or there are no symptoms of heteroscedasticity (Ghozali, 2018). The method most often used to test heteroscedasticity is a scatter plot graph. Based on figure 1, shows that there is no certain pattern, and it spreads randomly above or below the number 0 on the Y axis, so it can interpret that the regression model does not experience heteroscedasticity problems. The results of the heteroscedasticity test can be seen in figure 1 as follows:

Figure 1 Heteroscedasticity Test Through Scatter Plot



A simultaneous test, commonly known as F, is designed to determine whether all independent variables have a simultaneous effect on the dependent variable. Test the significance of the regression model in this study by looking at the significance (sig.) contained in the ANOVA table. From table 6, it can see that the sig value is 0.038. The sig value in the table above does not exceed alpha, 5% or 0.05. It shows that the variables of fund age, fund size, expense ratio, and previous performance significantly

influence the performance of fixed-income mutual funds. So, it can conclude that H0 is rejected, and the independent variable has a significant effect on the dependent variable. Simultaneous test results can be seen in the following table:

Table 7 Simultaneous Test Results (F test)

$ANOVA^a$						
Model	Sum of Squares	df	Mean Square	F	sig	
Regression	2,560	4	,640	2,622	,038 <sup>b</sup>	
Residual	29,051	119	,244			
Total	31,612	123				

Source: Results of data processing

A partial or T-test shows how much influence the independent variables give individually in explaining the dependent variable. If the probability value is greater than the significance level of 5%, then the independent variable has no significant effect on the dependent variable. On the other hand, if the probability value is less than the 5% significance level, the independent variable has a significant effect on the dependent variable. The partial test results (T-test) can be seen in table 8.

Table 8 Partial Test Result (t Test)

Coefficients <sup>a</sup>						
	Unstandardized	Unstandardized Coefficients		t	Sig.	
	В	Std. Error	Beta			
Constant	1,318	,754		1,749	,083	
(X1)	-,034	,014	-,222	-2,455	,016	
(X2)	-,027	,028	-,087	-,962	,338	
(X4)	-4,469	5,015	-,082	-,891	,375	
(X5)	-,162	,087	-,167	-1,867	,064	

Source: Result of data processing

The probability value of the age of the fund is 0.016. The probability value of X1 is smaller than the significance level of 0.05. Then this proves that X1 of the age of the fund has a significant negative effect on the performance of fixed income mutual funds. Fund age has a negative effect because in 2018, there was a very significant decline in mutual fund performance. Fixed income mutual fund indexes also underperformed compared to other types of mutual funds. The performance of fixed income mutual funds recorded an average growth of -2.25% throughout 2018, making it the second type of mutual fund with the lowest performance, above stock mutual funds (Infovesta). It arose due to the decline in the government performance of bonds due to the six times increase in interest rates Bank Indonesia, from 4.5% to 6% in 2018 (BI Site). This situation greatly affects bonds because the higher the interest rate, the lower the bond price. It explains why fixed income mutual funds experience a decline in performance. Most fixed-income mutual funds are dominated by state debt securities (Hanif Mantiq, 2018).

Another alternative reason why the age of the fund has a significant negative effect on the performance of fixed income mutual funds is that fixed income mutual funds in Indonesia have entered an old cycle stage. In this situation, the older age of a mutual fund, the smaller the growth that occurs, resulting in a decrease in performance. This statement follows research conducted by (Dharmastuti, 2017), where the research results say that the age of the fund has a significant negative effect on the performance of mutual funds. The study stated that investment managers find it difficult to find new investment opportunities in the market because mutual funds have entered an older life cycle. The study results regarding the age of funds follow research conducted by Ling (2011), which found that mutual funds with a younger age produced better performance than mutual funds with older age.

The probability value of the size of the fund is 0.338. The probability value of fund size is greater than the 0.05 level of significance, which indicates that the variable size of funds has no significant effect on the variable performance of fixed income mutual funds. So, it can conclude that the larger the size of the fund, it does not always affect the performance of fixed income mutual funds. The number of funds must be accompanied by good allocation and diversification to return to the investment manager's ability to diversify. These results are still consistently found in money market mutual funds, equity funds, and fixed income mutual funds. This statement contradicts the research conducted by (Wu & Ching, 2014). This study stated that the size of the fund had a significant positive effect on the performance of mutual funds. However, the results of the study that the size of the fund did not significantly affect the performance of mutual funds were also found in several studies. One of them is the research conducted by (Bitomo & Muharam, 2016), (Nguyen & Nguyen, 2019), and (Carlsson & Eikner, 2020) which says that the size of the fund has no significant effect on the performance of mutual funds.

This statement contradicts the research conducted by (Wu & Ching, 2014) and (Filip, 2018). Wherein this study stated that the size of the fund had a significant positive effect on the performance of mutual funds. However, the results of the study that the size of the fund did not significantly affect the performance of mutual funds were also found in several studies. The previous performance variable has no significant effect on the fixed income mutual fund performance variable. The better the performance of the previous mutual fund, it does not always affect the mutual fund's performance. This is due to fluctuating and uncertain economic conditions. For example, in 2018, when there was a trade war between America and China, which impacted the economic sector, another example was the Covid-19 pandemic, which caused a drastic delay in economic growth. So that these factors cause this indicator to not affect the performance of fixed income mutual funds, either because of the economic or political situation, this statement is following research conducted by (Isnaini, 2017), (Carlsson & Eikner, 2020), where the results of the study show that previous performance does not have a significant influence on the performance of mutual funds.

#### CONCLUSION

This study examines the effect of fund age, fund size, expense ratio, and previous performance on the performance of fixed income mutual funds. Based on the results of research and discussion on the above topics, it can be concluded that:

- 1. Simultaneously, the age of the fund has a significant effect on the performance of fixed income mutual funds for the 2016-2019 period. Meanwhile, partially, the age of the fund has a significant adverse effect on the performance of fixed income mutual funds for the 2016-2019 period.
- 2. Simultaneous fund size significantly affects the performance of fixed-income mutual funds for the 2016 -2019 period. However, partially, the variable size of funds has no significant effect on fixed-income mutual funds' performance for the 2016-2019 period.
- 3. Simultaneous expenditure ratio variables significantly affect the performance of fixed income mutual funds for the 2016-2019 period. However, partially the expense ratio variable has no significant effect on fixed-income mutual funds' performance for the 2016-2019 period.
- 4. Previous performance simultaneously significantly affected the performance of fixed income mutual funds for the 2016-2019 period. However, the previous performance variable partially did not significantly affect the performance of fixed-income mutual funds for the 2016-2019 period.
- 5. Future research is expected to employ an extended research period and a larger number of observations to improve the accuracy of the findings. Further research can compare the performance of various other mutual funds, such as equity funds, fixed-income funds, money market funds, and hybrid funds. Further study might consider either portfolio managers' or investors' behavior in explaining mutual fund performance.

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