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Sustainable Economy from Equity Mutual Fund Characteristic and Performance: Indonesia within 2017-2022

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Abstract

Sustainable economy become trending in past few years. It's about economic activity that will bring long term positive impact without causing any negative effect for anyone. Doing sustainable business practices can be implemented by investment. Mutual fund is one type of investment instrument in Indonesia. Mutual fund can be prepared to face sustainable economy in the future. Equity mutual fund in Indonesia within 2017 – 2022 has the most volatile NAV/UNIT. From the Mutual fund Performance, it can be known whether a mutual fund is good or not and it will represent the sustainable economy of mutual fund investment. Using a purposive sampling method there are 80 Indonesian equity mutual funds from 2017-2022. The analysis techniques used was panel data regression using the e-views version 12 application. The result from the research is that tenure and stock selection have a significant positive effect. Portfolio turnover and fund size have a significant negative effect. Market timing does not have a significant effect. If all the characteristic could give significant positive effect, it will rise the mutual fund performance so it will bring sustainable economy for Indonesia.

Keywords

Characteristic, Equity Mutual Fund, Performance, Sustainable Economy.

1. Introduction

Sustainable economy refers to practices to establish long term economic development. It can be for a company or for a nation. This long-term development also managing cultural, environmental, and social aspects. Using sustainable economy will also balancing economic growth and will also make better-greener and safer earth planet. 3 main pillars for the sustainability are planet, people and profit. Profit is something that most people seek and want to achieve in everything, and of course profits in investing. Investment itself is something that cannot be separated from human life. Investors hope to gain large profits through investment. Investment is using a certain amount of money, other resources in the hope of obtaining greater profits in the future. It can also be interpreted as a sacrifice for something that has current value in the hope that it will receive much greater value in the future (Bodie et al., 2020; Irfana et al., 2023).

Talking about time in investment, investment occurs over a medium to long period of time. There is no investment that brings huge profits in a short time. Investment is not trading, so it is not appropriate to trade investment products. Investment is a process of seeking profits in the long term, trading is a process of seeking profits in the short term (Filbert, 2016). More individual investors are choosing not to trade securities directly for their own benefit. Instead, individual investors direct their funds to investment companies that purchase securities on their behalf. The big financial intermediaries currently are mutual funds (Bodie et al., 2003). Mutual funds are an investment instrument that is growing very rapidly in Indonesia. This can be seen from the magnitude of the Net Asset Value which increases from year to year. What is even more interesting is the net asset value in 2020 – 2021, namely during the Covid-19 pandemic, which set a record high (Rp 573,5 – Rp 580,1 trillion).

Table 1. Net Asset Value per Units for All Kind Mutual Fund

No.	Year	Net Asset Value / Units (NAV/UNITS)			
		Money Market	Fixed Income	Equity	Mix
1.	2017	1437.935	1268.049	1764.935	1542.274
2.	2018	1390.992	1323.035	1665.713	1326.926
3.	2019	1418.72	1295.129	1379.35	1186.211
4.	2020	1540.205	1366.201	1307.86	1266.295
5.	2021	1480.572	1432.878	1377.319	1273.378
6.	2022	1500.186	1460.708	1334.843	1178.064
Std. Deviation		70.10564	50.68153	176.3698	121,7666

Using standard deviation to see fluctuations (variations) in research data, from Table 1, the largest standard deviation is shown by equity mutual funds. In the 6-year period from 2017 to 2022, the standard deviation value of stock mutual funds was 176.3698, it can be concluded that the NAV/UNIT value of equity mutual funds was the most volatile among other types of mutual funds. The smallest standard deviation value is owned by fixed income mutual funds, amounting to 50.68153, which means the NAV/UNIT value is less varied. Mutual fund performance is influenced by mutual fund characteristics (Rachmawati et al., 2020). Mutual fund characteristics can be: Mutual fund tenure (Tenure), Portfolio Turnover, Fund Size, and market timing - stock selection for the portfolio / Market timing & Stock selection Ability. This topic is relevant for both investors and investment managers, because of its significant impact on the profits obtained.

In China, mutual fund age influences mutual fund performance, both before the pandemic and during the pandemic (Rao et al., 2017). The results of other research in China (Lin et al., 2023) also show that the longer the age of mutual funds causes

better performance. Signaling theory and Resource Based Theory (RBT) can be used as the theory to support this research. Portfolio turnover is the ratio of a portfolio's trading activity to portfolio assets. When portfolio turnover is big, it will have a positive impact on the performance of an investment as shown in research (Rachmawati et al., 2020). Likewise, research Andreu et al. (2018) shows that the higher the portfolio turnover, the better the mutual funds. The greater the portfolio turnover value, the more active an investment manager is, so the performance will be better (Agapova & Kaprielyan, 2019; Rao et al., 2017). There is a contradictory opinion, namely that a low portfolio value will lead to better mutual fund performance (Bodie et al., 2003). Other research says that doing more portfolio rotations will be detrimental, because investment costs will increase and additional taxes will occur when you frequently rotate your portfolio. Moneta (2015) shows that mutual funds with low portfolio turnover indicate that their portfolio selection has been appropriate and produces good performance. Large funds can perform better as their investment managers have greater flexibility and investment opportunities in forming investment portfolios using such large assets (Titi et al., 2021). Additionally, large funds can gain more bargaining power, economies of scale, and create better returns compared to their peers. Analyzing Chinese equity mutual funds and showing that fund size is positively related to fund performance meaning the larger the fund the better the performance (Adams et al., 2018). This is consistent with findings about the positive relationship between fund size and fund returns as well as those examining mutual funds Taiwan (Fang & Parida, 2022).

Good investment manager will buy stock for his portfolio when a stock is below its book value or under rated (bearish) and then will sell the shares when it is above its book value or over rated (bullish). In this way, investment managers can get large capital gains which will greatly influence the NAV value of their mutual funds. Market timing ability influences the performance of stock mutual funds because this ability is a direct way to find out what portfolio management strategy is being implemented by the investment manager. With this market timing ability, it will then become a recommendation for investors so that the final decision to invest in stock mutual funds is in the hands of the investor (Rachmawati et al., 2020; Ünal & Tan, 2015; Zebrowska-Suchodolska et al., 2022). Stock selection skills influence performance because stock selection skills are an ability that is often used to increase profits in managing funds. There are 2 ways to generate profits through shares, namely from dividends and from capital gains. Good stock selection ability can increase capital gains accompanied by company dividends, therefore a mutual fund portfolio will continue to increase its NAV value. Stock selection is also inseparable from Markowitz's portfolio theory regarding portfolio diversification so that it can reduce risk and increase profits as much as possible. Research results show that stock selection positively influences the performance of equity mutual funds (Rachmawati et al., 2020; Ünal & Tan, 2015; Zebrowska-Suchodolska et al., 2022).

Table 2. Phenomenon Table (Equity Mutual Fund, Composite Index & Bank Interest)

Year	Equity Mutual Fund NAV/UNITS	Equity Mutual Fund Return	Jakarta Composite Index (IHSG) Return	Indonesia Bank 7-Day Repo Rate Return
2017	1764,935	-8.19%	19.99%	4.75%
2018	1665,713	-5.62%	-2.54%	4.25%
2019	1379,35	-17.19%	1.70%	6%
2020	1307,86	-5.18%	-5.09%	5%
2021	1377,319	5.31%	10.08%	3.75%
2022	1334,843	-3.08%	4.09%	3.5%

The greater the tenure of a mutual fund, the better it is expected to manage its portfolio so as to produce better returns. In the Table 2, it is known that tenure is seen from the age of the mutual fund, the more tenure, it does not guarantee an increase in returns, in fact there will be a decrease. When the net asset value and fund sizes of mutual funds increase, the return value should also increase. Based on the phenomenon that occurred, the value of Net Assets and Fund sizes increased, but returns decreased. The BI Bank Indonesia interest rate (BI 7 Day Repo Rate) has increased, the return value of mutual funds should have decreased and vice versa. This is because investors will switch to investing in risk-free investment instruments. However, based on the phenomenon that occurred, when the Bank Indonesia interest rate decreased, mutual fund returns also fell. The problems that occur are interesting for further research.

Research related to mutual funds in Indonesia is still quite rare. Research on the age of mutual funds on mutual fund performance has had a positive influence, but there has also been a negative influence. The size of fund sizes and portfolio turnover also have previous research results that have positive and negative effects. For stock selection and market timing, most previous research shows positive results on mutual fund performance. Research gap regarding the performance of mutual funds in Indonesia with various influencing variables still has many results. Many mutual fund research is conducted outside Indonesia, but still rare in Indonesia. This is due to limited complete data on mutual funds in Indonesia. Unlike in developed countries like America, there is a Morning Star site that provides free and accurate open data. Based on the research gap, there are 5 hypothesis that will be discussed in this paper.

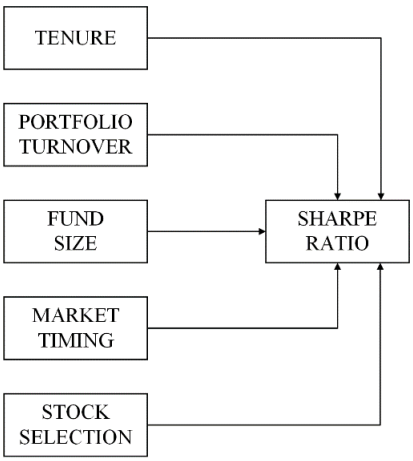

Figure 1. Theoretical Framework of the research

2. Methods

This research is quantitative research. Generally used in economic and financial research where the data to be processed is numerical data. The data used is secondary data. Secondary data is data obtained from third parties, in this research the third parties referred to are Bareksa, Infovesta, and OJK. In this research, the data is limited to equity mutual funds in Indonesia from 2017 - 2022. For better data, the renewal prospectus for each mutual fund is also used. The sampling technique used by the author is purposive sampling. This technique is included in non-probability sampling. This includes non-probability sampling because data is selected based on certain criteria without paying attention to the chance of selecting a sample (Ferdinand, 2014). The author uses purposive sampling because it uses samples with certain criteria, sizes and considerations that have been chosen. By using this method, the sample is able to represent results that are in line with the author's expectations.

The sample criteria for mutual fund data used by the author are conventional (non-sharia) stock mutual funds and use the rupiah currency. Apart from that, in terms of fund sizes, the research sample population is limited to mutual funds with a minimum fund size of IDR. 10,000,000,000 (ten billion rupiah) and also has a NAB/UP (net asset value per investment unit) of 1,000. Time is also limited to mutual funds that started operating in 2015. There were 80 stock mutual funds that met the author's sampling criteria and were equipped with annual financial reports and an updated prospectus to support the author's research.

Table 3. Population and Sampling Research

Category	**Amount**
Equity Mutual Fund in Indonesia since 2016	139
Equity Mutual Fund in Indonesia that have complete financial statement and update their prospectus annually	(35)
Equity Mutual Fund in Indonesian with Fund Size less than Rp. 10.000.000.000	(16)
Equity Mutual Fund in Indonesia with NAV/UNITS < 1.000	(8)
Total	80

The age of a mutual fund is obtained from the first public offering of a mutual fund until December 2022. Age describes the sustainability of a mutual fund. The longer the age of a mutual fund, the mutual fund investment manager is considered to have gained a lot of experience and sufficient knowledge, so that with this capital he can provide good mutual fund performance. There has been a lot of research on the age of mutual funds on mutual fund performance, and the result is that the longer the age of the mutual fund, the better the performance. Fund size reflect the amount of money a mutual fund has to be managed by an investment manager. The large amount of fund sizes proves the high level of confidence investors have in investing their money. With a large number of funds under management, it will provide opportunities and flexibility for a mutual fund to adjust its portfolio. Large funds can also provide freedom in haggling over prices. The larger the fund sizes, the better the mutual fund performance.

A good and profitable investment portfolio is a portfolio that is managed by adapting to environmental conditions. An investment strategy is needed to adjust to uncertain circumstances in order to obtain optimal returns. Portfolio turnover is a measure of the average securities traded by an investment manager in a given time period. In other words, it can be said how often the investment manager exchanges mutual fund assets in an effort to obtain the most optimal return or can exceed the benchmark. The portfolio turnover ratio is used to calculate how active the investment manager is in rebalancing the portfolio (Rao, 2010). Portfolio turnover is measured using the lowest purchase / sale value (choose the lowest) in a certain period and then compared with the average value of fund sizes / AUM (assets under management) (Dahlquist et al., 2018). Formula to get Portfolio Turnover:

$$Portfolio\ Turnover\ (TR) = \frac{Buy/Sell(lower)}{Average\ NAB_t}$$

The Treynor and Mazuy models can be used to measure market timing and stock selection. This model uses Excess Return. Excess Return or excess return, is a return that is greater than the interest rate in a period. Excess Return is obtained from the difference between mutual fund returns and Risk Free Returns (Ri – Rf: Ri is the mutual fund return, while Rf is the BI 7 day repo rate return)(Bodie et al., 2003). The assumption is that the mutual fund investment management team has a market timing value greater than 0 ($\beta 2 > 0$), meaning that the mutual fund investment

management team has market timing capability, and vice versa. If the β2 result is positive and significant, this indicates that an investment manager uses market timing. However, if the β2 result is negative, it shows that the investment manager does not have market timing skills. However, if the β2 result is negative, then this indicates that the mutual fund investment management team does not have market timing capabilities (Rachmawati et al., 2020). The second assumption related to stock selection is that if the alpha results are positive and significant then the mutual fund investment management team has stock selectivity capabilities. The alpha value is a description of the level of sensitivity of stock returns to changes in market returns (Treynor & Mazuy, 1966).

$$R_i - R_f = \alpha_1 + \beta_1.(R_n - R_f) + \beta_2.(R_n - R_f)^2 + e_p$$

The measurement of mutual fund performance variables as the dependent variable is using the Sharpe Ratio method. Calculations using the Sharpe ratio method were chosen because this method takes into account systematic risk and non-systematic risk. Systematic risk is in the form of macroeconomic conditions, while non-systematic risk is in the form of micro conditions of a particular company or individual. The Sharpe ratio introduced by Sharpe is one of the most frequently used performance measurement ratios. The Sharpe ratio is very appropriate for measuring when investors place all risky assets into one investment (Sharpe, 1994).

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

3. Results and Discussion

In the research carried out, we discussed the characteristics and performance of stock mutual funds in Indonesia in the 2017 - 2022 time period. The sample determination method used in this research was purposive sampling. A sample of 80 stock mutual funds in Indonesia was obtained. The data processing method used is panel data regression, because the research data has cross section and time series characteristics. The performance of an equity mutual fund will be influenced by its characteristics. In this research, the characteristics of stock mutual funds consist of Tenure (share mutual fund experience), portfolio turnover, Fund Management, and Market timing & Stock selection Ability. The performance of stock mutual funds is seen using the Sharpe Ratio method. This research uses the e-views application version 12. The e-views application is one of the most widely used applications for processing and analyzing econometric & multivariate data. Various types of data can be processed, such as cross-section, time series and panel data. E-views are also easy to use because they have a user-friendly display. In this research, the type of data used is panel data so it is very appropriate to use the e-view application.

Table 4. Summary of descriptive statistic for dependent & independent variable

Variable	Min	Max	Mean	Std. Deviation
Tenure	1.27	26.47	10.33	6.24
Portfolio Turnover	0.01	5.86	1.52	1.15
Fund Size (billion)	10.4	18.400	777	1.730
Market Timing	-11.94	19.97	0.33	5.40
Stock Selection	-6.86	9.09	-0.01	2.11
Sharpe Ratio	-14.61	19.81	0.88	4.12

From Descriptive statistics it can be known minimum and maximum values, average values (mean), median values, standard deviation, skewness, and normality

values (Jarque - Bera). Table 4 shows a summary of the descriptive statistical results of the research.

Table 5. Test Result for determining research model

Method Testing	Prob	Model
Chow	0.3694 > 0.05	CEM
Hausman	0.0838 > 0.05	REM
LM	0,0000 < 0.05	REM

There are 3 models, CEM (Common Effect Model), REM (Random Effect Model) and FEM (Fixed Effect Model). To gain best result 3 testing is required. First is Chow, to decide either CEM or FEM. From the result, because the prob is more than 0.05, CEM model is chosen. Second test is Hausman. to decide either FEM or REM. From the result, because the prob is more than 0.05, REM model is chosen. Final test is LM (Lagrange Multiplier), to decide either CEM or REM. From the result, because the prob is less than 0.05, REM is chosen. From table t, the conclusion from the test is that this paper is using REM (Random Effect Model).

Table 6. Result of Classical Assumption Test

Test	Method	Score	Benchmark	Conclusion
Normality Test	Jarque-Berra	523.59	> 15.08	Pass
Multicollinearity Test	Matrix	< 0.9	< 0.9	Pass
Heteroscedasticity Test	Uji Glejser	P < 5%	P < 5%	Pass
Autocorrelation Test	Durbin-Watson	2.130	> 1.866 < 2.133	Pass

For classical assumption test, there are 4 steps that need to pass. First is normality test. Using Jarque-Berra method, the score is 523.59, and it is bigger than 15.08 so the data is pass normality test. Second test is multicollinearity test, using matrix method, all the variables have score less than 0.9, so it passes the test. Third test is heteroscedasticity test, using Glejser test, all the variable obtains P value less than 5% so it means pass the heteroscedasticity. Finally, is autocorrelation test, using Durbin-Watson method, the score is 2.130. It is bigger than 1.866 but still lower than 2.133, so it passes the autocorrelation test. From table 6, it can be concluded that the data pass classical assumption test.

Table 7. Result of F Test for testing Independent Variable as the Hypothesis

Variable	Coefficient	Std. Error	t-Statistic	Prob
Tenure	0.0964	0.0308	3.1213	0.001
Turnover Portfolio	-0.3235	0.1582	-2.0451	0.041
Fund Size	-2.10E-13	1.09E-13	-1.9169	0.055
Market Timing	-0.0472	0.0353	-1.3354	0.182
Stock Selection	0.4587	0.0882	5.1978	0.000

From Table 7, by looking at the prob value, it is found that tenure has a positive significant impact with a value of 0.001 < 5% significance. Portfolio turnover has a negative significant impact with a value of 0.041 < 5% significance. Stock selection has a positive significant effect with a value of 0.0000 < 5% significance. 1 variable that do not have a significant effect is Market Timing with a value of 0.1824 > 5% significance. However, if we use a significance of 10%, then fund size still have a negative significant effect with a value of 0.0558 < 10%.

Table 7. Result of F Test for testing Independent Variable as the Hypothesis

Variable	Coefficient	Signification	Conclusion
Tenure	0.096438	0.0019	Significant Positive*
Turnover portfolio	- 0.323531	0.0414	Significant Negative *
Fund Size	- 0.002	0.0558	Significant Negative**
Market timing	- 0.047271	0.1824	Not Significant
Stock selection	0.458731	0.0000	Significant Positive*

From the research results, the equation coefficient value for the tenure variable was 0.096438 with a probability value of 0.0019 (smaller than the significance of 0.05%). Thus, it can be concluded that tenure has a significant positive effect on the performance of stock mutual funds as a proxy for the Sharpe ratio. This is directly proportional to research (Rao et al. (2017) states that the higher the tenure of a mutual fund, the better the performance of a stock mutual fund. Research related to tenure of ETF mutual funds in Indonesia conducted by Audita et al. (2023) also showed that tenure had a significant positive effect. The explanation regarding the results of this research is that tenure is related to the term of office of a mutual fund which is seen from the age of a mutual fund's establishment until 2022. The investment manager's experience in dealing with various conditions, both micro and macro, is the basis for making decisions to invest in a mutual fund so that it can improve mutual performance. Funds are getting better. Experienced investment managers will pay attention to macroeconomic conditions, and in a pandemic the macro economy is greatly impacted. They will choose investment instruments that are safe and do not take big risks (Nguyen & Nguyen, 2019).

From the research results, the equation coefficient value for the portfolio turnover variable is - 0.323531 with a probability value of 0.0414 (less than 5% significance). Thus, it can be concluded that portfolio turnover has a significant negative effect on the performance of stock mutual funds using the Sharpe ratio proxy. This is inversely proportional to the research hypothesis Rachmawati et al. (2020) which states that the higher the portfolio turnover value, the better the performance of stock mutual funds. This result is directly the same to research Moneta (2015) which states that the lower the portfolio turnover, the better the performance of a mutual fund. The manifestation of the results of this research is that the greater the portfolio turnover value, it indicates that the investment manager is making changes to the shares in his portfolio. Replacing shares in a portfolio, without paying attention to profits, will certainly incur costs. The value of these costs, because the mutual fund buys and sells shares with a large value, will also be large. As a result, the large costs of buying and selling shares will affect the profit income of stock mutual funds which will then also affect the performance of stock mutual funds (Bodie et al., 2003).

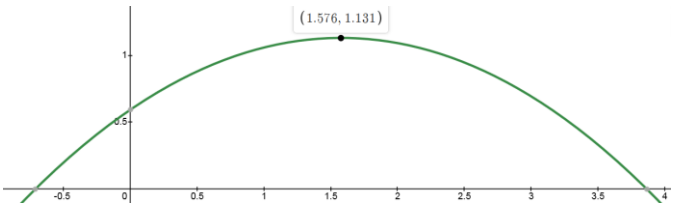

Figure 2. Non-linear graph between Sharpe ratio and portfolio turnover

From Figure 2, it shown the extreme value is 1.576. that means that when a mutual fund has too much portfolio turnover, it will cause negative impact to their performance. The maximal value for the portfolio turnover is 1.576. From the research results, the equation coefficient value for the fund sizes variable was found to be – 0.002 with a prob value of 0.055804 (greater than 5% significance). Thus, it

can be concluded that fund sizes do not have a significant effect on the performance of stock mutual funds using the Sharpe ratio proxy. This is directly proportional to research (Busse et al., 2013; Chen et al., 2004; Farid & Wahba, 2022) which states that the higher the fund sizes, the performance of stock mutual funds will decrease. The explanation for the results of this research is that the larger the funds owned by a mutual fund, the investment manager often experiences confusion about maximizing these funds into a profitable portfolio. Coupled with government regulations, namely that you must have a minimum of 10 instruments and a maximum of 10% of your fund sizes, it is not uncommon for investment managers to choose the wrong shares for their portfolio. As a result, the net asset value of stock mutual funds falls and has a negative impact on the performance of stock mutual funds.

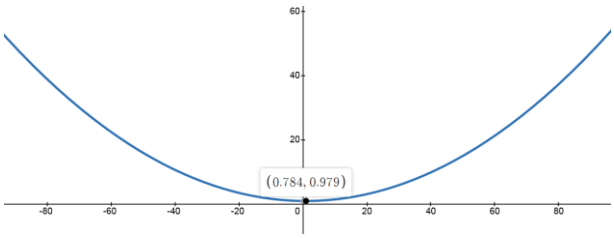

Figure 3. Nonlinear graph between Sharpe ratio and fund size

From Figure 3, it shown the extreme value is 0.784 that means that when a mutual fund doesn't have enough fund, their performance will not rise. The minimal value for the fund size is 0.784 billion rupiah. From the research results, the equation coefficient value for the market timing variable is - 0.047271 with a probability value of 0.1824 (greater than 5% significance and greater than 10% significance). Thus, it can be concluded that fund sizes do not have a significant effect on the performance of stock mutual funds using the Sharpe ratio proxy. This is inversely proportional to the research hypothesis Rachmawati et al. (2020) which states that the higher the market timing value, the better the performance of stock mutual funds. The results of this research are directly proportional to research Alexandri (2015); Chang & Lewellen (1984); Low (2012) which states that market timing has no effect on mutual fund performance. The explanation regarding the results of this research is that due to unsupportive macroeconomic conditions, the market timing of a stock mutual fund investment manager cannot influence the performance of stock mutual funds. It is important to remember that when determining market timing, bank interest rates are used as one of the variables.

From the research results, the equation coefficient value for the market timing variable was 0.458731 with a probability value of 0.0000 (less than 5% significance). Thus, it can be concluded that fund sizes have a significant positive effect on the performance of stock mutual funds using the Sharpe ratio proxy. This is directly proportional to the research hypothesis Rachmawati et al. (2020) which states that the higher the stock selection value, the better the performance of stock mutual funds. The explanation of the results of this research is that in the midst of uncertain conditions, when investment managers are correct in choosing shares for their portfolio, they can maintain their net asset value. Stock selection cannot be separated from the investment manager's ability in terms of fundamental and technical analysis of stocks in Indonesia. When an investment manager chooses shares that have an upward or stable return tendency, the mutual fund performance will improve compared to an investment manager who chooses shares that tend to fall. In the midst of high bank interest rates, the ability to select the best shares is very influential because the higher the bank interest rate, the stock returns have a tendency to fall.

4. Conclusion

In this paper, equity mutual fund performance and their characteristic are examined. Equity mutual funds have the most volatile NAV/UNIT with a standard deviation of 176.3698 and an average of 1471.67. Result from the research that Tenure as seen from the age of stock mutual funds has a significant positive effect on the Sharpe ratio as a proxy for stock mutual fund performance. This means that when the tenure of a stock mutual fund is greater, its performance will be better. Stock selection also has a significant positive effect on the Sharpe ratio as a proxy for stock mutual fund performance. This means that when the stock selection of a stock mutual fund is greater, its performance will be better. Contrary result from Portfolio turnover has a significant negative effect on the Sharpe ratio as a proxy for stock mutual fund performance. This means that when the portfolio turnover of a stock mutual fund becomes greater, its performance decreases. Fund size impact significantly negative with a significance of 10%. This means that when the market timing of a stock mutual fund gets bigger, its performance decreases. For Market timing does not have a significant effect on the Sharpe ratio as a proxy for stock mutual fund performance.

This research has several limitations. First, the data used is limited, namely 80 stock mutual fund samples from the 2017 – 2022 period. The characteristics of stock mutual funds that are used as independent variables in this research are limited to only 5 (tenure, portfolio turnover, fund sizes, market timing, and stock selection). Second, the performance of stock mutual funds as a dependent variable only uses 1 proxy, namely the Sharpe Ratio. Third, not taking measurements by comparing whether stocks are bullish or bearish. Finally, not using moderating variables or intermittent variables in research. For the future studies, will be better if add more samples of equity mutual funds also with more time period. It can also add other characteristics such as cash flow, past performance to see the performance of stock mutual funds. For more variations, add other mutual fund performance measurement proxies such as Traynor performance or Jensen performance. Use measurements by looking at whether the stock is bearish or bullish will also make different result. Finally, using moderating variables or intermittent variables or control variables in the research will add to the research results.

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