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Performance Analysis of Equity Mutual Funds in the Form of Collective Investment Contracts (KIK) Using Sharpe, Treynor and Jensen Methods after the Issuance of Pojk Number 4 of 2023

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Mutual Funds are one of the rapidly growing investment instruments in the Indonesian capital market. This study aims to evaluate the performance of equity Mutual Funds in the form of Collective Investment Contracts (KIK) following the issuance of POJK No.04 of 2023. Using a quantitative descriptive method, this research analyses 36 equity Mutual Funds selected through purposive sampling. Performance was measured using Sharpe, Treynor, and Jensen methods by comparing the periods before (January 2020-March 2023) and after (April 2023-August 2024) regulation implementation. The results show that all Mutual Funds experienced performance decline based on the Sharpe method. Using the Treynor method, 24 Mutual Funds showed decreased performance while 12 others improved. Meanwhile, with the Jensen method, 25 Mutual Funds experienced decreased while 11 others improved. These findings indicate that the implementation of POJK No.04 of 2023 had varying impacts on KIK equity Mutual Fund performance, with the majority experiencing decreased efficiency in risk and return management.

Keywords: Mutual Fund Performance, Net Asset Value (NAV), Collective Investment Contracts (KIK), POJK No.04 of 2023, Sharpe method, Treynor method, and Jensen method.

1. Introduction

Investment is important to deal with the uncertainty of future economic conditions. People can choose to invest in the real sector or in financial instruments. Investors often face challenges in determining investment instruments that offer a certain level of return and appropriate risk (Salim, et al., 2022). Thus, success in investment requires a deep understanding, one of which is through mastering investment literacy (Richter, 2024). In the investment process, the two main aspects that must be considered are risk and expected return (Simu, 2019). A high expected return is always accompanied by high risk. Investors need to conduct a more in-depth analysis before making investment decisions. Factors such as fluctuations in the value of the index and other factors that can affect investment performance also need to be considered (Yunita et al., 2018).

Investing in the capital market is one of the ways that investors can do. However, standard investment instruments such as stocks, bonds, and time deposits are often not enough as an alternative for the investor community. This is due to the amount of capital that must be owned and the complexity of managing an investment portfolio (Nabilah & Tutik, 2020). Such as stock, there are a large number of variables that an be used to predict the stock prices so it is difficult for a potential investor to choose which variables should be used in predicting the stock prices (Fitriyana, et al., 2020).

For investors, especially small investors who do not have the time or skills to calculate investment risks, mutual funds are a good investment option. Mutual funds allow people with similar long-term investment goals to pool their funds together. In addition, mutual funds are also a simple investment vehicle (Sakinah & Silalahi, 2022).

Mutual funds are containers used to raise funds from the investor community with the same investment objectives. Investments in Mutual Funds are spread (diversified) in various instruments traded in the capital market and money market, such as stocks, bonds, and fixed income. Mutual Funds are an investment alternative for the investor community, especially for small investors and those who do not have the time or expertise to calculate their investment risk (Darmadji, 2001).

According to Capital Market Law No. 8 of 1995 article 1 paragraph 27, Mutual Fund is defined as "a container used to raise funds from the investor community to be invested in a securities portfolio by an investment manager".

The fund manager, which is usually a limited liability company, is the party entrusted with managing mutual fund investments. With their professional expertise, the fund manager manages the fund in the type of investment deemed most profitable. The responsibilities of the fund manager include analyzing and selecting investment types, making investment decisions, monitoring the investment market, and taking necessary actions for the benefit of investors (Ilham, 2020).

Figure 1. Mutual Fund definition and process flow

Source: www.ojk.go.id, (year 2024)

From the picture above, it is explained that the mutual fund in the form of KIK is a contract between the Investment Manager and the Custodian Bank that binds the unit holders, where the investment manager is authorized to carry out collective custody.

At the time of mutual fund establishment, details regarding the Collective Investment Contract between the Investment Manager and the Custodian Bank, such as the name and type of mutual fund, investment policy, number of participation units offered, information about the Investment Manager, information about the Custodian Bank, taxation rules and imposition of mutual fund fees, as well as the mechanism of subscription and redemption of mutual funds, will be informed in a document called Prospectus. This prospectus is printed at the expense of the Investment Manager and then distributed to investors through the Selling Agent (Irdiana & Lukiana, 2022).

After the mutual fund management is running, the mutual fund is obliged to announce information on the development of its performance, one of which is through the Prospectus Update. Prospectus Update is a prospectus update that must be made every year and is generally published around March or April. However, the cost of printing and producing this document is no longer borne by the Investment Manager, but by the mutual fund investor. The fee is charged by reducing the Net Asset Value (NAV) of the mutual fund, so investors do not pay directly (Shohiha, 2021).

Since mutual funds were introduced in Indonesia in 1996 until now (year 2024), mutual funds have experienced encouraging growth. Mutual funds that have grown and developed rapidly are open-ended mutual funds. In 1996, there were only 25 mutual funds, with 24 of them being open-ended mutual funds or mutual funds in the form of KIK (Collective Investment Contract), with total managed funds of IDR 5.02 billion. As of February 2024, the total value under management of mutual funds has reached IDR 499,307 billion, the highest compared to other AUM in investment managers.

Table 1. Value of Managed Funds of Investment Managers February 29, 2024

Jenis Produk	Periode Data	Nilai Kelolaan
KPD	Jan-2024	279.670.486.600.693
DIRE	Jan-2024	10.336.290.527.410
RDPT	Sep-2023	17.297.575.654.488
Reksadana	Feb-2024	499.307.553.684.040
EBA	Jan-2024	2.156.305.014.815
DINFRA	Sep-2023	7.421.640.550.309
		816.189.852.031.754

Source: www.ojk.go.id (year 2024)

From the table above, it is known that the Asset Under Management (AUM) of the Mutual Fund industry as of February 2024 is the highest compared to other products such as KPD, DIRE, RDPT, EBA or DINFRA.

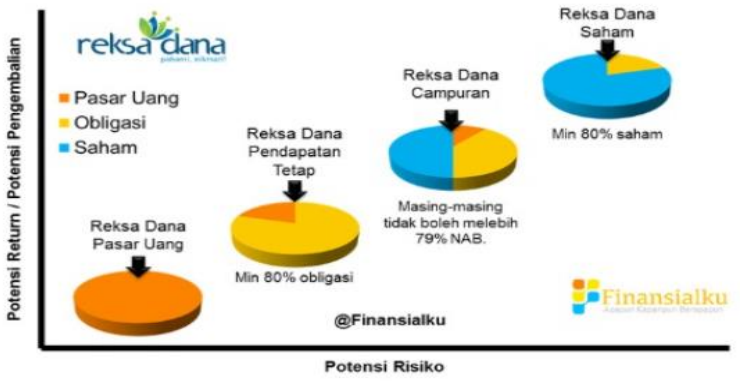

Figure 2 Mutual Fund Potential Return and Risk Levels

Source: finansialku.com (year 2024)

The figure above shows that equity mutual funds have a higher level of return and risk compared to money market, fixed income, and mixed mutual funds, with at least 80% equity composition. This is in line with the findings of (Chevalier & Ellison, 1997) which states that equity mutual funds have high returns, but are also accompanied by the highest risk and fluctuations compared to other types of mutual funds. According to Chevalier & Ellison (1997) equity mutual funds are the type of mutual funds with the highest risk due to fluctuations in stock prices, but are able to provide significant profits. Equity mutual funds are the right choice for investors who want to invest in stocks but do not have the ability to manage them themselves, so they remain a mainstay for investors to invest their capital.

Although prospective investors are assisted by investment managers in their management, the risk of loss can still occur, especially in equity mutual funds. The relationship between return and risk in investing is known as high risk-high return, where the greater the risk faced, the greater the return generated. Therefore, it is important for investors to measure the

performance of mutual funds.

There are generally two approaches to measuring Mutual Fund performance, namely through the Mutual Fund return itself and measuring the level of Risk Adjusted Return. Risk Adjusted Return is the calculation of returns adjusted for the risks that must be borne, as for the methods include: Treynor Ratio, Sharpe Ratio and Jensen Alpha. (Rebiman & Waspada, 2022). The Sharpe, Treynor and Jensen methods can be used in investment selection by looking at ongoing market conditions. The three models base their analysis on past returns to predict future returns and risks (Zurika, 2021).

The Sharpe method emphasizes total risk (standard deviation), Treynor considers market fluctuations to be instrumental in affecting returns (beta), while Jensen himself emphasizes Alpha. Thus, the three methods have their own characteristics. According to Rebiman & Waspada (2022) stated that in general, the Sharpe performance measurement model can be applied to all mutual funds, while the Treynor and Jensen methods, which require a systematic risk measurement (β) can only be applied to stock mutual funds. When investors are faced with making investment decisions, risk is the dominant factor that must be considered because the size of the risk contained in an investment alternative will affect the investment income (Blessing, 2011).

Mumtazah & Permadhy (2022) concluded that based on the average rate of return 9 out of 10 stock mutual funds obtained positive results indicating that investment in stock mutual funds can provide benefits. Research results based on the average return, all stock mutual fund products obtained a positive return, while in other years all mutual fund products obtained negative results. In contrast to the results of research conducted Bintoro & Pramesti (2021) there was not a single stock mutual fund that was able to consistently have positive performance during the study period using the Sharpe, Treynor, Jensen, and Information Ratio methods.

Factors that will affect the performance of mutual funds, especially equity mutual funds in 2024, include government policies. In 2023 OJK issued new rules related to Mutual Funds in the form of Collective Investment Contracts. The provisions that are refined in the new rules are related to the calculation of Redemption and NAV including: policies for resolving the problems of a number of mutual funds through asset settlement with their customers through an in kind Redemption mechanism, as well as the dissolution-liquidation of mutual funds, the application of Mutual Fund Redemptions through Investor Fund Unit Account (IFUA) accounts and other accounts in accordance with laws and regulations, and fifth, the use of virtual accounts in mutual fund electronic transactions, provisions relating to the calculation of Net Asset Value for Foreign Securities-Based Mutual Funds and provisions relating to the application of the "share class" feature with mutual funds (Maulana, 2023).

Based on the above background, this research determines that KIK stock mutual funds are the object of research. With the aim of analyzing the performance of these mutual funds in Indonesia affected by POJK 4 of 2023. The data used are Net Asset Value (NAV), JCI, SBI, and renewal prospectus of stock mutual funds in the form of Collective Investment Contracts for the period 2020 - August 2024. This research is quantitative descriptive research. Descriptive research is research that aims to obtain as complete information as possible from existing data (Sugiyono, 2020). The author uses quantitative descriptive research because in

this study the author aims to find the performance of stock mutual funds, thus JCI here acts as a benchmark for the performance of these mutual funds, using the Sharpe, Treynor and Jensen methods. So that this research is titled "Analysis of the Performance of Stock Mutual Funds in the Form of Collective Investment Contracts (KIK) Using Sharpe, Treynor and Jensen Methods After the Issuance of POJK Rule Number 4 of 2023".

In the era of globalization, technology has become an effective tool for disseminating information. It helps news and issues, including those related to business, reach a wide audience. This has significant social and economic impacts, such as influencing changes in stock prices and increasing uncertainty in market values. Therefore, accurate market information and predictions of stock movements are crucial in supporting investment decision-making (Alamsyah, et al., 2019). Today, various promising investment options continue to emerge, but people often face difficulties in choosing an investment instrument that suits their desired level of return and risk. Equity mutual funds in the form of Collective Investment Contracts (KIK) are one of the attractive investment instruments because they offer risk diversification and competitive potential returns.

With the enactment of POJK Number 4 of 2023 which introduces a new mechanism in calculating the value and redemption of mutual funds, this study aims to evaluate the performance of equity mutual funds in the form of Collective Investment Contracts (KIK) in the context of the new regulation. Mutual fund performance is analyzed using three main methods, namely Sharpe, Treynor, and Jensen, which respectively measure risk-adjusted returns, sensitivity to market risk, and fund manager superiority in generating alpha. This study answers the question of how these three methods reflect changes in equity mutual fund performance after the implementation of the new regulations.

The purpose of this study is to provide a comprehensive understanding of the performance of equity mutual funds in the form of KIK after the implementation of POJK Number 4 of 2023. Using the Sharpe method, this study measures the ratio of return to total risk. The Treynor method is used to assess returns based on systematic risk, while the Jensen method evaluates whether the fund manager succeeded in providing higher returns than expected. The results of this study are expected to be a reference for academics and practitioners in understanding the impact of regulations on the performance of investment instruments in the capital market.

This research provides academic and practical benefits. From an academic aspect, this research broadens the horizons in the study of mutual funds in the form of KIK, especially in the context of new regulations. Practically, this research provides valuable information for investors in choosing the best performing equity mutual funds, as well as for fund managers as input to improve portfolio management. Thus, this research contributes to the development of financial literacy and investment management in the Indonesian capital market.

2. Research Methods

The research design is a plan or guide made by the researcher to direct the entire research process (Cresswel, 2019). The design in this study is a descriptive design, which is designed to provide a systematic description of scientific information obtained from the subject or object of research (Fadillah, et al., 2024). The approach used is a quantitative approach, which

involves collecting and analyzing data in the form of numbers.

This research uses a quantitative descriptive method, which aims to provide a clear description of ongoing phenomena or those that have occurred in the past. Quantitative research involves collecting data in the form of numbers used to analyze information relevant to the research topic (Sugiyono, 2021)

This study focuses on analyzing the performance of collective contract mutual funds and their comparison between before and after the issuance of POJK Number 4 of 2023 using the Sharpe, Treynor, and Jensen methods. The variables analyzed include: Mutual Fund Return, Risk-Free Rate, and Standard Deviation.

3. Results and Discussion

Research Results

Average Monthly Return of Equity Mutual Funds

The average monthly return of equity mutual funds reflects the level of return earned by investors in a one-month period from their equity mutual funds. This monthly return can show the performance of mutual funds in responding to market conditions and prevailing economic policies. In this study, the average monthly return is analyzed to illustrate the impact of regulatory changes, especially related to POJK Number 4 of 2023 rules. Monthly returns can be obtained from Net Asset Value / Participation Units. The formula used is as follows:

$$R_p = \frac{NAB_t - NAB_{t-1}}{NAB_{t-1}}$$

Where:

R_p = monthly return of equity mutual fund

NAV_t = NAV/UP in the month of observation

$NAV_{t-)}$ = NAV/UP in the month before observation

The following is an example of calculating the Allianz Alpha Sector Rotation monthly return in February 2020:

$$R_p = \frac{1440.91 - 1564.21}{1564.21}$$

$$R_p = -7.88\%$$

After calculating the monthly return, then calculate the average monthly return periodically. In this research, there are two periods, namely; the period before POJK 4/2023 (January 2020 - March 2023) and the period after POJK 4/2023 (April 2023 - August 2024).

$$\underline{R} = \frac{\Sigma_{i=1}^{n} R_i}{n}$$

Where:

R_i = return in period i

n = number of periods observed

The calculation example is for the Allianz Alpha Sector Rotation Mutual Fund as follows:

- Before POJK 4/2023 (39 Months)

$$\underline{R}_p = \frac{-6.03\% + -7.88\% + -21.08\% + \cdots + 0.42\% + 0.43\% + 0.75\%}{39}$$

$$\underline{R}_p = \frac{-1.85\%}{39}$$

$$\underline{R}_p = -0.05\%$$

- After POJK 4/2023 (17 Months)

$$\underline{R}_p = \frac{2.01\% + -0.62\% + 0.76\% + \cdots + 2.82\% + 3.82\% + 4.19\%}{17}$$

$$\underline{R}_p = \frac{5.30\%}{17}$$

$$\underline{R}_p = 0.31\%$$

Average Monthly Return of JCI

The monthly average market return or the Jakarta Composite Index (JCI) provides an overview of the overall performance of the Indonesian stock market in a given period. This return reflects the average price change of stocks listed on the Indonesia Stock Exchange, as well as being an indicator of investor sentiment towards economic conditions. In the context of this study, an analysis of the average monthly return of the JCI is used to understand the impact of POJK Regulation No. 4 of 2023 on the capital market.

$$R_m = \frac{JCI_t - JCI_{t-1}}{JCI_{t-1}}$$

Where:

R_m = JCI monthly return

JCI_t = JCI in the month of measurement

JCI_{t-1} = JCI in the month before measurement

The following is an example of JCI monthly return calculation and in February 2020:

$$R_m = \frac{5{,}453 - 5{,}940}{5{,}940}$$

$$R_m = -8.20\%$$

Then, the periodic calculation is as follows:

$$\underline{R} = \frac{\Sigma_{i=1}^{n} R_i}{n}$$

Where:

R_i = return in period i

n = number of periods observed

- Before POJK 4/2023 (39 Months)

$$\underline{R}_m = \frac{-5.71\% + -8.20\% + -16.76\% + \cdots + -0.16\% + 0.06\% + -0.55\%}{39}$$

$$\underline{R}_m = \frac{11.92\%}{39}$$

$$\underline{R}_m = 0.31\%$$

- After POJK 4/2023 (17 Months)

$$\underline{R}_m = \frac{1.62\% + -0.48\% + 0.43\% + \cdots + 1.33\% + 2.72\% + 5.72\%}{17}$$

$$\underline{R}_m = \frac{12.63\%}{17}$$

$$\underline{R}_m = 0.74\%$$

Risk Free Rate

Risk free rate is an important component in measuring the performance of investments, including equity mutual funds. Risk free rate refers to the rate of return on financial instruments that are considered the safest, such as government bonds or Bank Indonesia Certificates. In this study, the risk-free rate is used as a basic benchmark to assess whether the performance of equity mutual funds provides better risk compensation compared to risk-free investments.

$$R_f = \frac{\Sigma SBI}{n}$$

Where:

R_f = Average risk-free investment return

ΣSBI = number of Bank Indonesia Tribes in a certain period

n = number of calculation periods

Then, the periodic calculation results are as follows:

- Before POJK 4/2023 (39 Months)

$$R_f = \frac{5\% + 4.75\% + 4.50\% + \cdots + 5.75\% + 5.75\% + 5.75\%}{39}$$

$$R_f = \frac{162.56\%}{39}$$

$$R_f = 4.06\%$$

- After POJK 4/2023 (17 Months)

$$R_f = \frac{5.75\% + 5.75\% + 5.75\% + \cdots + 6.25\% + 6.25\% + 6.25\%}{17}$$

$$R_f = \frac{101.75\%}{17}$$

$$R_f = 5.99\%$$

Standard Deviation

Standard deviation is one of the statistical measures used to measure the volatility or variation of an investment's return, including equity mutual funds. In the context of risk measurement, standard deviation gives an idea of how far the actual return can differ from the average return. The higher the standard deviation value, the greater the fluctuation in return, which means the investment risk also increases. In this study, standard deviation is used as the main indicator in the Sharpe method to measure the performance of equity mutual funds before and after the enactment of POJK Number 4 of 2023.

$$\sigma = \sqrt{\frac{\Sigma(R_p - \underline{R}_p)^2}{n - 1}}$$

Where:

σ = standard deviation of portfolio return

R_p = monthly return of Equity Fund

$\underline{R}_p$ = average monthly return of equity mutual funds

n = number of data

Then, an example of the periodic calculation for the Allianz Alpha Sector Rotation Mutual Fund is as follows:

- Before POJK 4/2023 (39 Months)

$$\sigma = \sqrt{\frac{(-5.99\%)^2 + (-7.48\%)^2 + (-21.03\%)^2 + \cdots + (0.46\%)^2 + (0.47\%)^2 + (0.80\%)^2}{39 - 1}}$$

$$\sigma = \sqrt{\frac{0.0036 + 0.0061 + 0.0442 + \cdots + 0.0000 + 0.0000 + 0.0001}{39 - 1}}$$

$$\sigma = \sqrt{\frac{0.1311}{38}}$$

$$\sigma = \sqrt{0.0035}$$

$$\sigma = 0.0587$$

- After POJK 4/2023 (17 Months)

$$\sigma = \sqrt{\frac{(1.70\%)^2 + (-0.93\%)^2 + (0.44\%)^2 + \cdots + (2.50\%)^2 + (3.51\%)^2 + (3.88\%)^2}{17-1}}$$

$$\sigma = \sqrt{\frac{0.0003 + 0.0001 + 0.0000 + \cdots + 0.0006 + 0.0012 + 0.0015}{17-1}}$$

$$\sigma = \sqrt{\frac{0.0179}{16}}$$

$$\sigma = \sqrt{0.0011}$$

$$\sigma = 0.0335$$

Market Risk Beta

Market risk beta is a measure used to assess the sensitivity of an asset or mutual fund's return to changes in the overall market return. Beta reflects the level of systematic risk, i.e., risk that cannot be eliminated through diversification, faced by an investment in relation to the market. In this study, beta is used in the Treynor and Jensen method to assess the performance of equity mutual funds by considering how much influence market fluctuations have on mutual fund returns, before and after the enactment of POJK Number 4 of 2023.

$$\beta = \frac{R}{R_m}$$

Where:

β = Beta portfolio

R = Stock Mutual Fund Return

R_m = Market Return or JCI

Then, an example of the periodic calculation for the Allianz Alpha Sector Rotation Mutual Fund is as follows:

- Before POJK 4/2023 (39 Months)

$$\beta = \frac{-0.05\%}{0.31\%}$$

$$\beta = -0.1553$$

- After POJK 4/2023 (17 Months)

$$\beta = \frac{0.31\%}{0.74\%}$$

$$\beta = 0.4195$$

Stock Mutual Fund Performance with Sharpe Method

The Sharpe method is one of the methods used to measure the performance of equity mutual funds by taking into account the total risk faced by investors. This method evaluates how much excess return is generated by a mutual fund compared to the risk-free rate of return, relative to volatility or total risk measured by standard deviation. The higher the Sharpe ratio value, the better the performance of the mutual fund because it shows that investors get a higher return for each unit of risk taken.

$$S_p = \frac{R_p - R_f}{\sigma_p}$$

Where:

S_p = Mutual Fund Performance Sharpe Method

R_p = Stock Mutual Fund Return

R_f = Risk Free

σ_p = Standard Deviation of Equity Mutual Funds

Then, an example of the periodic calculation for the Allianz Alpha Sector Rotation Mutual Fund is as follows:

- Before POJK 4/2023 (39 Months)

$$S_p = \frac{-0.05\% - 4.06\%}{0.0587}$$

$$S_p = -0.700$$

- After POJK 4/2023 (17 Months)

$$S_p = \frac{0.31\% - 5.99\%}{0.0335}$$

$$S_p = -1.695$$

Table 2. Performance of Stock Mutual Funds Sharpe Method Before and After POJK 4/2023

NO.	MUTUAL FUNDS	Before	After	Description
1	Allianz Alpha Sector Rotation	-0.700	-1.695	DOWN
2	Avrist has Blue Sapphire Class A Shares	-0.671	-1.587	DOWN

NO.	MUTUAL FUNDS	Before	After	Description
3	Bahana Primavera Plus	-0.723	-1.984	DOWN
4	Batavia Dana Saham	-0.698	-1.926	DOWN
5	Batavia Optimal Stock Fund	-0.698	-1.891	DOWN
6	BNI - AM Inspiring Equity Fund	-0.722	-1.927	DOWN
7	BNP Paribas Equity	-0.553	-2.198	DOWN
8	BNP Paribas Infrastructure Plus	-0.687	-2.159	DOWN
9	BNP Paribas Enchantment	-0.743	-2.491	DOWN
10	BNP Paribas Solaris	-0.778	-2.197	DOWN
11	BRI Mawar Consumer 10 Class A	-0.711	-2.130	DOWN
12	Cipta OVO Ekuitas	-0.580	-1.272	DOWN
13	Eastspring Investments Alpha Navigator Class A	-0.769	-1.887	DOWN
14	Eastspring Investments Value Discovery Class A	-0.664	-1.884	DOWN
15	HPAM Ultima Equity 1	-0.759	-1.318	DOWN
16	Mandiri Investa Equity ASEAN 5 Plus	-0.851	-1.912	DOWN
17	Manulife Class A Equity Fund	-0.687	-2.006	DOWN
18	Manulife Saham Andalan	-0.512	-2.379	DOWN
19	Manulife Saham SMC Plus	-0.502	-1.877	DOWN
20	Maybank Equity Fund	-0.831	-1.560	DOWN
21	Prospera Wise	-0.734	-1.781	DOWN
22	Prospera SMC Shares	-0.594	-1.622	DOWN
23	Smart Plan	-0.655	-1.584	DOWN
24	Schroder 90 Plus Equity Fund	-0.817	-2.497	DOWN
25	Schroder Dana Istimewa	-0.676	-2.438	DOWN
26	Schroder Dana Prestasi	-0.771	-2.209	DOWN
27	Schroder Dana Prestasi Plus	-0.775	-2.280	DOWN
28	Sequis Equity Maxima	-0.727	-2.415	DOWN
29	Simas Featured Shares	-0.878	-2.250	DOWN
30	Sucorinvest Equity Fund	-0.579	-1.934	DOWN
31	Sucorinvest Maxi Fund	-0.782	-1.329	DOWN
32	Syailendra Equity Opportunity Fund Class A	-0.662	-1.844	DOWN
33	Tram Consumption Plus Class A	-0.690	-1.922	DOWN
34	Tram Infrastructure Plus	-0.612	-1.828	DOWN
35	Capital Trim	-0.631	-2.144	DOWN
36	Trim Kapital Plus	-0.615	-1.820	DOWN

Source: Processed Data (2024)

From the table above, it can be seen that the Sharpe ratio value for all equity mutual funds has decreased after POJK 4/2023 was issued, which is marked with the caption "DECREASE". This decrease in the Sharpe ratio value indicates that the performance of equity mutual funds became worse in generating excess return per unit of risk after the regulation was enacted.

Stock Mutual Fund Performance with Treynor Method

The Treynor method is used to measure the performance of equity mutual funds by considering the systematic risks faced, namely risks that cannot be eliminated through diversification. The Treynor ratio measures the excess return earned by a mutual fund over the risk-free rate of return, relative to beta or sensitivity to the market. As such, this method focuses on the market risk that affects the mutual fund in relation to market fluctuations.

$$T_p = \frac{R_p - R_f}{\beta_p}$$

Where:

T_p = Mutual Fund Performance Treynor Method

R_p = Stock Mutual Fund Return

R_f = Risk Free

β_p = Beta Risk of Equity Mutual Fund

Then, an example of the periodic calculation for the Allianz Alpha Sector Rotation Mutual Fund is as follows:

- Before POJK 4/2023 (39 Months)

$$T_p = \frac{-0.05\% - 4.06\%}{-0.1553}$$

$$T_p = 0.265$$

- After POJK 4/2023 (17 Months)

$$T_p = \frac{0.31\% - 5.99\%}{0.4195}$$

$$T_p = -0.135$$

Table 3. Performance of Stock Mutual Funds Treynor Method Before and After POJK 4/2023

NO.	MUTUAL FUNDS	Before	After	Description
1	Allianz Alpha Sector Rotation	0.265	-0.135	DOWN
2	Avrist has Blue Sapphire Class A Shares	-0.046	-0.221	DOWN
3	Bahana Primavera Plus	0.068	-0.621	DOWN
4	Batavia Dana Saham	-0.053	-0.112	DOWN
5	Batavia Optimal Stock Fund	-0.540	-0.116	INCREASE

NO.	MUTUAL FUNDS	Before	After	Description
6	BNI - AM Inspiring Equity Fund	-0.105	-0.105	INCREASE
7	BNP Paribas Equity	0.694	-0.852	DOWN
8	BNP Paribas Infrastructure Plus	0.225	-0.665	DOWN
9	BNP Paribas Enchantment	0.209	0.218	INCREASE
10	BNP Paribas Solaris	0.249	-0.112	DOWN
11	BRI Mawar Consumer 10 Class A	-0.097	-0.114	DOWN
12	Cipta OVO Ekuitas	-0.008	-0.130	DOWN
13	Eastspring Investments Alpha Navigator Class A	-0.048	-0.076	DOWN
14	Eastspring Investments Value Discovery Class A	-0.051	-0.212	DOWN
15	HPAM Ultima Equity 1	0.057	-0.024	DOWN
16	Mandiri Investa Equity ASEAN 5 Plus	0.095	0.320	INCREASE
17	Manulife Class A Equity Fund	0.164	0.123	DOWN
18	Manulife Saham Andalan	-0.020	0.063	INCREASE
19	Manulife Saham SMC Plus	-0.057	0.178	INCREASE
20	Maybank Equity Fund	0.122	-0.070	DOWN
21	Prospera Wise	-1.831	-0.053	INCREASE
22	Prospera SMC Shares	-0.059	-0.051	INCREASE
23	Smart Plan	-0.031	-0.145	DOWN
24	Schroder 90 Plus Equity Fund	-0.051	-5.068	DOWN
25	Schroder Dana Istimewa	-0.051	0.148	INCREASE
26	Schroder Dana Prestasi	-0.033	-0.251	DOWN
27	Schroder Dana Prestasi Plus	-0.033	-0.352	DOWN
28	Sequis Equity Maxima	10.551	-0.250	DOWN
29	Simas Featured Shares	0.020	-0.140	DOWN
30	Sucorinvest Equity Fund	-0.016	-0.264	DOWN
31	Sucorinvest Maxi Fund	-0.025	8.434	INCREASE
32	Syailendra Equity Opportunity Fund Class A	-0.102	-0.069	INCREASE
33	Tram Consumption Plus Class A	-0.103	-0.074	INCREASE
34	Tram Infrastructure Plus	-0.047	-0.077	DOWN
35	Capital Trim	-0.027	-0.208	DOWN
36	Trim Kapital Plus	-0.018	-0.053	DOWN

Source: Processed Data (2024)

From the table above, most equity mutual funds show a decline in performance, marked with the caption "DECREASE". However, there are some mutual funds that showed an improvement in performance after POJK 4/2023 was implemented, marked with "INCREASE". This reflects that although most mutual funds experienced a decline in

managing market risk, some of them managed to improve their performance in generating better returns compared to systematic risk after the regulation was implemented.

Stock Mutual Fund Performance with Jensen Method

The Jensen method, also known as Jensen's Alpha, is used to measure the performance of equity mutual funds by looking at the excess return generated compared to the expected return. Jensen's Alpha shows how good the fund manager is at creating higher returns compared to the systematic risk faced. A positive alpha indicates that the fund manager managed to generate additional returns beyond market expectations, while a negative alpha indicates the opposite.

$$\alpha = (R_p - R_f) - [\beta_p (R_m - R_f)]$$

Where:

α = Mutual Fund Performance Jensen Method (Jensen's Alpha)

R_p = Stock Mutual Fund Return

R_m = Market Return or JCI

R_f = Risk Free

β_p = Beta Risk of Equity Mutual Fund

Then, an example of the periodic calculation for the Allianz Alpha Sector Rotation Mutual Fund is as follows:

- Before POJK 4/2023 (39 Months)

$$\alpha = (-0.05\% - 4.06\%) - [-0.1553\ (0.31\% - 4.06\%)]$$

$$\alpha = -4.11\% - [-0.1553\ (-3.76\%)]$$

$$\alpha = -0.047$$

- After POJK 4/2023 (17 Months)

$$\alpha = (0.31\% - 5.99\%) - [\ 0.4195\ (0.74\% - 5.99\%)]$$

$$\alpha = -5.67\% - [0.4195\ (-5.24\%)]$$

$$\alpha = -0.035$$

Table 4. Performance of Jenses Method Equity Mutual Fund Before and After POJK 4/2023

NO.	MUTUAL FUNDS	Before	After	Description
1	Allianz Alpha Sector Rotation	-0.047	-0.035	INCREASE
2	Avrist has Blue Sapphire Class A Shares	-0.007	-0.044	DOWN
3	Bahana Primavera Plus	-0.066	-0.054	INCREASE
4	Batavia Dana Saham	-0.011	-0.030	DOWN
5	Batavia Optimal Stock Fund	-0.038	-0.031	INCREASE
6	BNI - AM Inspiring Equity Fund	-0.025	-0.028	DOWN
7	BNP Paribas Equity	-0.043	-0.056	DOWN

NO.	MUTUAL FUNDS	Before	After	Description
8	BNP Paribas Infrastructure Plus	-0.048	-0.055	DOWN
9	BNP Paribas Enchantment	-0.049	-0.077	DOWN
10	BNP Paribas Solaris	-0.047	-0.030	INCREASE
11	BRI Mawar Consumer 10 Class A	-0.024	-0.030	DOWN
12	Cipta OVO Ekuitas	0.110	-0.034	DOWN
13	Eastspring Investments Alpha Navigator Class A	-0.008	-0.017	DOWN
14	Eastspring Investments Value Discovery Class A	-0.010	-0.044	DOWN
15	HPAM Ultima Equity 1	-0.071	0.055	INCREASE
16	Mandiri Investa Equity ASEAN 5 Plus	-0.059	-0.071	DOWN
17	Manulife Class A Equity Fund	-0.051	-0.091	DOWN
18	Manulife Saham Andalan	0.032	-0.124	DOWN
19	Manulife Saham SMC Plus	-0.013	-0.081	DOWN
20	Maybank Equity Fund	-0.055	-0.014	INCREASE
21	Prospera Wise	-0.040	-0.001	INCREASE
22	Prospera SMC Shares	-0.014	0.002	INCREASE
23	Smart Plan	0.008	-0.036	DOWN
24	Schroder 90 Plus Equity Fund	-0.010	-0.059	DOWN
25	Schroder Dana Istimewa	-0.010	-0.085	DOWN
26	Schroder Dana Prestasi	0.005	-0.046	DOWN
27	Schroder Dana Prestasi Plus	0.005	-0.050	DOWN
28	Sequis Equity Maxima	-0.041	-0.046	DOWN
29	Simas Featured Shares	-0.136	-0.036	INCREASE
30	Sucorinvest Equity Fund	0.044	-0.047	DOWN
31	Sucorinvest Maxi Fund	0.017	-0.060	DOWN
32	Syailendra Equity Opportunity Fund Class A	-0.025	-0.013	INCREASE
33	Tram Consumption Plus Class A	-0.025	-0.016	INCREASE
34	Tram Infrastructure Plus	-0.008	-0.018	DOWN
35	Capital Trim	0.015	-0.043	DOWN
36	Trim Kapital Plus	0.037	-0.001	DOWN

Source: Processed Data (2024)

From the table above, some equity funds experienced an increase in alpha value after the regulation, marked with "INCREASE", while most others showed a decrease in performance, marked with "DECREASE". A decrease in alpha indicates that fund managers were unable to generate additional returns beyond market expectations after the implementation of the new rules, while an increase in alpha indicates fund managers that managed to generate better returns.

Discussion

Stock Mutual Fund Performance with Sharpe Method

The results showed that the Sharpe ratio value for all equity mutual funds decreased after POJK 4/2023 was issued, which was marked with the caption "DECREASE". The decrease in the Sharpe ratio value for all equity mutual funds after the enactment of POJK Number 4 of 2023 indicates that the overall performance of equity mutual funds has worsened in terms of providing risk compensation to investors. Sharpe ratio measures how much excess return a portfolio generates compared to the risk-free return, relative to total risk (volatility). A decrease in the Sharpe ratio value means that investors are getting a lower return for each unit of risk taken compared to the period before the regulation was enacted.

This indicates that after POJK 4/2023 was issued, the risks faced by equity mutual funds may have increased, or the returns generated were lower than in the previous period, resulting in mutual funds becoming less efficient in generating risk-adjusted returns. In other words, the ability of fund managers to manage total risk and provide adequate excess returns for investors has decreased after the implementation of this new rule.

Stock Mutual Fund Performance with Treynor Method

The results of research using the Treynor method show that, as many as 24 stock mutual funds show a decrease in performance, which is marked with the caption "DECREASE". This decline indicates that after the regulation is implemented, the ability of most mutual funds to provide excess returns to the market risk faced has decreased. This means that systematic risk (beta) cannot be properly offset by the returns generated, so that risk-return efficiency decreases.

However, there were 12 mutual funds that managed to show improved performance, marked with the caption "INCREASED". This means that despite the implementation of POJK 4/2023, some fund managers were able to adapt to the changes and improve their ability to deliver better risk-adjusted returns. This means that there is variation in the ability of fund managers to respond to regulatory changes, with some successfully adapting and delivering better performance, while most others experienced a decline.

Stock Mutual Fund Performance with Jensen Method

The results of the research using the Jensen method show that, as many as 11 equity mutual funds experienced an increase in alpha value after the regulation, which is marked with "INCREASE". This increase in alpha value indicates that the fund managers managed to generate excess returns above the expected returns based on the systematic risk faced, even though the new regulation has been implemented. This means that they are able to manage investments effectively to create added value for investors, even in the midst of regulatory changes.

On the other hand, as many as 25 other equity mutual funds experienced a decrease in alpha value, which is marked with "DECREASE". This decline reflects that most fund managers are unable to provide additional returns that are higher than the expected returns, resulting in sub-optimal performance of their portfolios in response to regulatory changes. Thus, the results of this study indicate that the implementation of POJK 4/2023 had a different impact on the

ability of fund managers to create superior performance, with most experiencing a decline while some managed to adapt and improve their performance.

Based on the Sharpe Method, all mutual funds experienced a decrease in the Sharpe ratio, which indicates that risk-return efficiency decreased. This is in line with previous research by (Vidal-García & Hassan, 2018) who found that the positive alpha of most equity mutual funds indicates good performance, whereas in this study, no mutual fund was able to maintain total risk efficiency.

The findings using the Treynor Method show that the majority of equity funds experienced a decline in performance, but there were some that were able to show an increase. This suggests that despite the overall market becoming more challenging, there are fund managers who have successfully adapted their strategies to deliver better risk-adjusted returns, which emphasizes the consistency of performance between some superior funds.

The results with the Jensen Method also found that the majority of mutual funds experienced a decrease in alpha value, but some managed to improve their performance, which indicates differences in the ability of investment managers to create excess returns after the issuance of new regulations. Thus, the results of this study indicate that POJK Number 4 of 2023 has a mixed impact on the ability of fund managers in managing equity mutual funds. Some managed to improve their efficiency in dealing with risk, while most others experienced a decline, indicating that this regulation brings new challenges in investment management.

4. Conclusion

This study concludes that the implementation of POJK Number 4 of 2023 has a significant impact on the performance of equity mutual funds, with a decline in performance reflected in the Sharpe, Treynor, and Jensen methods. The Sharpe ratio showed a decline for all equity mutual funds, reflecting a decreased efficiency in managing risk and generating risk-adjusted returns. The Treynor method indicates that 24 mutual funds experienced a decline in performance in the face of systematic risk, although 12 others showed an improvement reflecting the adaptability of certain investment managers to new regulations. Meanwhile, the Jensen method shows that only 11 mutual funds managed to increase their alpha value, while 25 others experienced a decline, indicating that most investment managers have not been able to maintain performance excellence amid regulatory changes. This variation in results suggests that the impact of new regulations is uneven, with some funds being able to adapt better than others.

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