Management Science Research Journal
MSR JOURNAL

MSR Journal, Vol 4 issue-3 2025 *ISSN : 2828-4216*

The Evaluation of Portfolio Performance: The Risk-Adjusted Performance of Sharia Equity Mutual Funds using Sharpe, Treynor, And Jensen's Alpha based on Daily Data on period 2022 - 2025

Siti Epa Hardiyanti[1*]
siti.epa.hardiyanti@untirta.ac.id
Department of Banking and Finance, Faculty of Economics and Business, University Sultan Ageng Tirtayasa, Indonesia [1*]

Article Info

Article history:
Received: August 9, 2025
Revised: Augut 20, 2025
Accepted: Sept 11, 2025

Keywords:
Sharia Equity Fund
Mutual Fund Performance
Sharpe Ratio
Treynor Ratio
Jensen's Alpha

ABSTRACT

This study evaluates the risk-adjusted performance of three Sharia equity mutual funds in Indonesia (Manulife Syariah Sektoral Amanah, Mandiri Investa Ekuitas Syariah, and Batavia Dana Saham Syariah) using daily data from 2022 to 2025. The analysis employs daily returns, excess returns, total volatility, market beta, and three major performance measures: the Sharpe Ratio, Treynor Ratio, and Jensen's Alpha. Results show that all three funds consistently underperformed the Jakarta Islamic Index (JII), reflected in negative Sharpe and Treynor Ratios and negative, statistically insignificant Jensen's Alpha values. These findings indicate that performance is predominantly driven by market movements rather than managerial skill. The study contributes empirical evidence on the behavior of Islamic mutual funds in volatile market periods and offers practical insights for investors seeking risk-adjusted performance evaluation in Islamic finance contexts.

Corresponding Author:
Siti Epa Hardiyanti

INTRODUCTION

Sharia equity mutual funds in Indonesia have grown significantly in recent years, driven by rising investor interest in Sharia-compliant financial products and the broader global trend toward ethical and sustainable investing. Owing to strict Sharia screening (excluding firms engaged in non-permissible activities or with non-compliant financial ratios) Sharia mutual funds exhibit distinct

portfolio characteristics and patterns of risk exposure compared to their conventional counterparts. Prior studies show that such screening can influence corporate governance quality and sectoral allocation, which in turn affects performance dynamics and volatility behavior (Naeem et al., 2024; Yan et al., 2022).

Despite the increasing popularity of Islamic equity funds, questions remain regarding whether these funds deliver adequate performance after accounting for risk both total (unsystematic and systematic risk). Existing evidence suggests that achieving sustainable outperformance is difficult, even for professionally managed funds (Bessembinder et al., 2022). Moreover, empirical studies using high-frequency (daily) data to evaluate Islamic fund performance in Indonesia remain scarce, leaving a gap in understanding how fund managers respond to short-term market fluctuations.

The present study addresses these gaps by evaluating the performance of three major Islamic equity funds using three widely recognized performance metrics: the Sharpe Ratio, Treynor Ratio, and Jensen's Alpha. The study compares funds with different investment styles (sectoral, broad-market, and balanced) to determine whether fund characteristics influence risk-adjusted performance.

The research objectives are: to describe the risk and return characteristics of selected Islamic equity funds using daily data; to evaluate risk-adjusted performance through Sharpe and Treynor Ratios; to estimate abnormal returns (alpha) using Jensen's Alpha under the CAPM framework; and to compare the performance of each fund relative to the Jakarta Islamic Index (JII).

LITERATURE REVIEW

The performance evaluation of mutual funds has long been a central topic in asset pricing and portfolio management. Foundational theories such as Markowitz's (Markowitz, 1952), Modern Portfolio Theory (MPT) emphasize the trade-off between risk and return and the importance of diversification in reducing unsystematic risk. Building on this framework, subsequent studies have introduced risk-adjusted performance measures that allow investors to compare portfolios not only based on returns but also on the level of risk undertaken.

MSR Journal, Vol 4 issue-3 2025 *ISSN : 2828-4216*

Risk-Adjusted Performance Measures

Sharpe (Sharpe, 1964), introduced the Sharpe Ratio to assess portfolio performance relative to total risk, measured through standard deviation. This metric has become widely used to evaluate whether a fund delivers an adequate excess return per unit of total risk. However, in well-diversified portfolios, systematic risk becomes more relevant, leading Treynor to develop the Treynor Ratio, which measures excess return per unit of systematic risk (beta) (Treynor, 1961). Jensen (Jensen, 1968), expanded the evaluation framework by introducing Jensen's Alpha, which quantifies a manager's ability to generate abnormal returns after adjusting for market risk using the Capital Asset Pricing Model (CAPM). These three metrics form the core tools used in both academic research and industry practice for assessing fund performance.

Market Efficiency and Mutual Fund Performance

A substantial body of literature argues that achieving persistent outperformance is challenging. Although some periods may exhibit short-term anomalies, long-term evidence generally suggests that mutual fund managers struggle to generate alpha consistently. Bessembinder et al (Bessembinder et al., 2022) show that most funds underperform their benchmarks after accounting for risk and costs, emphasizing the dominance of market forces over managerial skill. Similarly, Elton et al (Elton & Gruber, 2020) highlight that long-term mutual fund performance tends to converge toward the market's risk-return equilibrium, making it difficult for active managers to maintain superior performance.

Sharia Equity Funds and Sharia Screening

Sharia mutual funds operate under unique constraints due to Sharia screening processes, which exclude firms involved in non-permissible activities and apply financial ratio filters to ensure compliance. These restrictions shape portfolio characteristics, often resulting in sector concentration, lower leverage exposure, and distinct volatility patterns compared to conventional funds. Research by Yan et al (Yan et al., 2022) finds that Sharia equity funds demonstrate resilience during periods of market stress, attributed partly to their exposure to defensive sectors and the disciplined nature of

Sharia screening. Anwer et al (Anwer et al., 2023), further highlight that screening requirements can enhance corporate governance quality within the sample of eligible firms.

However, these structural differences also impact performance. Prior studies note that limited diversification opportunities and sectoral concentration may influence the risk-return profile of Sharia funds. Suleman et al (Suleman et al., 2021), observe asymmetric volatility transmission between Sharia equity markets and global commodities, suggesting that Sharia funds may respond differently to macroeconomic shocks compared to conventional counterparts.

Sharia Mutual Fund Performance in Emerging Markets

Studies on Sharia fund performance in Indonesia remain limited, and evidence is mixed. Some research suggests that Sharia funds may provide competitive returns during stable market conditions, while others report underperformance relative to benchmarks. Given the growing significance of Sharia-compliant investment vehicles in Indonesia and the lack of studies employing high-frequency data, there is a need for deeper empirical analysis of Sharia equity fund performance across different market conditions.

Research Gaps and Contribution of This Study

While previous research has explored general mutual fund performance and the behavior of Sharia financial instruments, several gaps remain evident:

1. Limited use of daily data: Most studies rely on monthly or quarterly data, potentially overlooking short-term risk dynamics.
2. Lack of integrated comparison using Sharpe, Treynor, and Jensen's Alpha: Few studies evaluate all three performance measures simultaneously for Islamic funds.
3. Insufficient evidence from Indonesia: Despite being one of the largest Islamic finance markets, empirical evidence on Indonesian Islamic mutual funds is still scarce.
4. Variation in investment strategies: Existing literature seldom compares funds with different investment styles (sectoral vs. broad-market vs. balanced strategies).

This study addresses these gaps by providing a comprehensive risk-adjusted evaluation of Islamic equity mutual funds using high-frequency (daily) data, comparing multiple performance metrics, and

analyzing differences across investment styles. The study contributes to the literature by offering updated empirical insights and linking performance outcomes to market sensitivity and managerial effectiveness

RESEARCH METHOD

Data Sources and Period

The study uses daily net asset value (NAV) data for three Islamic equity mutual funds and the Jakarta Islamic Index (JII) as the market benchmark. The dataset covers the period from 8 November 2022 to 7 November 2025. All returns, excess returns, and risk-free rates are harmonized at a daily frequency to ensure consistency across variables.

Analytical Approach

This study employs three primary performance metrics:

- **Sharpe Ratio:**

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

where $R_p$is portfolio return, $R_f$is the risk-free rate, and $\sigma_p$is total volatility.

- **Treynor Ratio:**

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

where $\beta_p$measures systematic risk.

- **Jensen's Alpha (CAPM Alpha):**

$$R_p - R_f = \alpha + \beta(R_m - R_f)$$

where αcaptures abnormal performance.

Regression Model and Statistical Tests

The CAPM regression provides beta and alpha estimates. Significance testing is performed using t-statistics and p-values. Statistical significance of beta indicates the influence of market movements

on fund returns, while the significance of alpha identifies managerial contribution beyond market effects.

RESULTS AND DISCUSSION

Return and Volatility Characteristics

All three funds exhibit fluctuating daily returns reflecting the volatility of the Indonesian Islamic equity market. Batavia Dana Saham Syariah records the highest volatility, while Manulife and Mandiri funds show relatively more stable patterns. Average daily returns across all funds are negative, reflecting broader market pressures during the observation period.

Sharpe Ratio Analysis

Sharpe Ratios for all three funds are negative, indicating that total risk is not adequately compensated by excess returns. Batavia Dana Saham Syariah performs the worst, whereas Manulife and Mandiri display similar risk-return efficiency. Negative Sharpe Ratios typically suggest market weakness or suboptimal risk management relative to volatility.

Treynor Ratio Analysis

Treynor Ratios are also negative for all funds, meaning that the excess returns are insufficient relative to systematic risk exposure. Across funds, beta values—ranging from 0.67 to 0.73—are statistically significant, indicating strong dependence on market movements. The negative Treynor values reinforce the pattern of underperformance.

Jensen's Alpha Analysis

Regression results show that all alpha estimates are negative and statistically insignificant. This implies no evidence of positive abnormal performance after adjusting for market risk. In contrast, beta coefficients are highly significant, confirming that market shocks are the primary drivers of return behavior.

Interpretation and Comparative Assessment

Overall, results consistently indicate underperformance across all three performance measures. The findings suggest:

- Total and systematic risks outweigh the funds' ability to generate excess return;
- Abnormal return generation by fund managers is statistically unsupported;
- Performance across the three funds is largely market-driven.

These outcomes align with prior literature emphasizing the difficulty of achieving persistent outperformance in mutual fund management and highlight structural sensitivities of Islamic portfolios to market conditions.

CONCLUSION

This study concludes that the three Islamic equity mutual funds examined—Manulife Syariah Sektoral Amanah, Mandiri Investa Ekuitas Syariah, and Batavia Dana Saham Syariah—consistently underperformed relative to the Jakarta Islamic Index (JII). Negative Sharpe and Treynor Ratios and negative, statistically insignificant Jensen's Alpha values indicate insufficient compensation for total and systematic risks and no meaningful managerial contribution to abnormal performance.

Research contributions:

- Provides empirical evidence using high-frequency data on Islamic fund performance in Indonesia;
- Offers a comparative assessment across differing investment styles;
- Enhances understanding of risk-adjusted performance in Islamic finance.

Implications:

Investors should consider that Islamic funds may not always outperform the market after risk adjustments, and fund selection should include an assessment of volatility, beta sensitivity, and historical performance consistency.

MSR Journal, Vol 4 issue-3 2025 *ISSN : 2828-4216*

Limitations:

This study covers a limited number of funds and a specific time horizon. Future research may incorporate alternative models such as multifactor asset pricing frameworks or market-timing analyses.

Future Research Recommendations:

- Include more Islamic funds for broader generalization;
- Use multi-factor models (e.g., Fama–French, Carhart);
- Examine sub-period behavior during crisis and recovery phases.

REFERENCES

Anwer, Z., Azmi, W., & Mohamad, S. (2023). Shariah screening and corporate governance: The case of constituent stocks of Dow Jones US Indices. *International Review of Economics and Finance*, *86*, 976–1002. https://doi.org/10.1016/j.iref.2020.12.013

Bessembinder, H., Jacobsen, S., Maxwell, W., & Venkataraman, K. (2022). Overallocation and secondary market outcomes in corporate bond offerings. *Journal of Financial Economics*, *146*(2), 444–474. https://doi.org/https://doi.org/10.1016/j.jfineco.2022.08.001

Elton, E. J., & Gruber, M. J. (2020). A Review of the Performance Measurement of Long-Term Mutual Funds. *Financial Analysts Journal*, *76*(3), 22–37. https://doi.org/10.1080/0015198X.2020.1738126

Jensen, M. C. (1968). THE PERFORMANCE OF MUTUAL FUNDS IN THE PERIOD 1945–1964. *The Journal of Finance*, *23*(2), 389–416. https://doi.org/10.1111/j.1540-6261.1968.tb00815.x

Markowitz, H. (1952). PORTFOLIO SELECTION*. *The Journal of Finance*, *7*(1), 77–91. https://doi.org/10.1111/j.1540-6261.1952.tb01525.x

Naeem, M. A., Anwer, Z., Khan, A., & Paltrinieri, A. (2024). Do market conditions affect interconnectedness pattern of socially responsible equities? *International Review of Economics & Finance*, *93*, 611–630. https://doi.org/https://doi.org/10.1016/j.iref.2024.03.031

Sharpe, W. F. (1964). CAPITAL ASSET PRICES: A THEORY OF MARKET EQUILIBRIUM UNDER CONDITIONS OF RISK. *The Journal of Finance*, *19*(3), 425–442. https://doi.org/10.1111/j.1540-6261.1964.tb02865.x

Suleman, M. T., McIver, R., & Kang, S. H. (2021). Asymmetric volatility connectedness between Islamic stock and commodity markets. *Global Finance Journal*, *49*, 100653. https://doi.org/10.1016/j.gfj.2021.100653

Treynor, J. L. (1961). Market Value, Time, and Risk. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2600356

Yan, L., Mirza, N., & Umar, M. (2022). The cryptocurrency uncertainties and investment transitions: Evidence from high and low carbon energy funds in China. *Technological Forecasting and Social Change*, *175*, 121326. https://doi.org/https://doi.org/10.1016/j.techfore.2021.121326