

Active versus Passive Equity Fund Performance in Indonesia: Evidence from Risk-Adjusted Measures and Manager Fees (2018–2025)

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Submitted: Dec 15, 2025

Accepted: Jan 05, 2026

Published: Jan 12, 2026

ABSTRACT

This study examines whether actively managed Indonesian equity mutual funds deliver superior net-of-fee, risk-adjusted performance compared to the Jakarta Composite Index (JCI) as a proxy for passive investment. Using a quantitative approach, the analysis covers 119 conventional Indonesian equity mutual funds over the period 2018–2025, encompassing pre-COVID, COVID, and post-COVID market regimes. Risk-adjusted performance is evaluated using the CAPM-based Single Index Model and a matrix of Sharpe ratio, Treynor ratio, and Jensen's alpha, with non-parametric statistical tests applied to assess performance differentials. The results indicate that, after fees, active equity mutual funds underperform the JCI benchmark across most performance measures, with median Sharpe ratios and Jensen's alphas not statistically different from or lower than the benchmark. Evidence of partial market efficiency and widespread closet indexing is observed, while any behavioural mispricing appears insufficient to generate persistent alpha capable of offsetting higher management and expense fees. These findings suggest that active management does not provide significant added value in the Indonesian equity market over the long term. Investors may benefit more from passive investment strategies, while regulators are encouraged to enhance fee transparency and performance disclosure to support informed investment decisions.

Keywords: Active investment, passive investment, Indonesian equity funds, JCI, risk-adjusted performance, CAPM

INTRODUCTION

Indonesia's capital market has expanded substantially over the past two decades, supported by increasing investor participation, regulatory modernization, and the growth of listed companies, sectoral indices, and mutual fund assets under management (IDX, 2023; OJK, 2024). Alongside this development, global investment practices have increasingly shifted toward passive strategies that offer low-cost and transparent benchmark exposure (Bogle, 2002). In Indonesia, however, passive equity mutual funds remain limited in scale, while actively managed equity funds continue to dominate the mutual fund universe.

The dominance of active funds has raised concerns regarding whether higher management and operating costs are justified by superior performance. Prior literature suggests that persistent outperformance by active managers is difficult to achieve after fees, particularly in markets that exhibit increasing informational efficiency (Fama & French, 2010). At the same time, theoretical perspectives such as the Grossman–Stiglitz equilibrium argue that some degree of inefficiency must exist to reward informed trading and sustain active management (Grossman & Stiglitz, 1980). Other studies emphasize that managerial skill, market conditions, and investor composition may influence the potential for active outperformance (Berk & Van Binsbergen, 2015; Cremers & Petajisto, 2009).

As an emerging market, Indonesia provides a relevant context for examining whether market inefficiencies are sufficient for active equity fund managers to generate superior risk-adjusted returns. Rather than focusing on detailed factor attribution, this study evaluates active fund performance relative to a passive benchmark within a market efficiency framework. Fund characteristics such as assets under management, expense ratios, management fees, and fund age are also considered, as these factors may affect net returns and operational flexibility.

Empirical evidence comparing active and passive performance in Indonesia remains limited, particularly over longer horizons and across different market regimes. This study addresses this gap by examining the net-of-fee, risk-adjusted performance of actively managed Indonesian equity mutual funds relative to the Jakarta Composite Index (JCI). The analysis covers the period from January 2018 to September 2025, capturing pre-pandemic, pandemic, and post-pandemic market conditions.

Accordingly, the central research question of this study is: Do actively managed Indonesian equity mutual funds deliver superior net-of-fee, risk-adjusted performance compared to the JCI benchmark, and how does this performance vary across market regimes and fund characteristics?

By addressing this question, the study contributes to the literature on active versus passive investing in emerging markets and provides insights relevant to investors and regulators regarding fee efficiency, benchmark selection, and the role of active management in Indonesia's evolving capital market.

LITERATURE REVIEW

Modern Portfolio Theory (MPT), introduced by (Markowitz, 1952), provides the foundational framework for evaluating how investors balance risk and return through diversification, efficient portfolio construction, and risk-adjusted performance assessment. Within this framework, passive strategies such as Jakarta Composite Index (JCI) index funds apply broad diversification that reduces unsystematic risk, while active managers concentrate holdings to generate excess return. MPT also justifies the use of Sharpe ratio, Treynor ratio, Jensen's alpha, and tracking error when comparing active and passive portfolios because these measures evaluate whether returns sufficiently compensate for the risks taken.

Performance measurement is central to distinguishing active from passive outcomes. The Sharpe ratio evaluates excess return relative to total volatility, the Treynor ratio evaluates excess return relative to systematic risk, Jensen's alpha measures performance relative to the Capital Asset Pricing Model benchmark, and tracking error captures the degree of deviation from index weights. These metrics clarify whether active managers deliver value beyond passive exposure and whether deviations from the benchmark justify the associated costs.

The Efficient Market Hypothesis (EMH), introduced by (E. F. Fama, 1970), proposes that financial markets incorporate available information into prices. Its weak, semi-strong, and strong forms imply that technical analysis, fundamental analysis, or even insider information should not consistently yield excess returns. If the Indonesian equity market aligns with semi-strong or strong efficiency, active managers should struggle to outperform passive benchmarks after fees. If inefficiencies arise due to market immaturity or behavioural influences, opportunities for alpha may exist. Behavioural finance challenges EMH by showing that cognitive biases and emotional factors influence investor decisions. Biases such as overconfidence, herd behaviour, anchoring, and loss aversion can lead to mispricing in Indonesian markets (Gupta et al., 2014). (Shiller, 2003) demonstrates that market fluctuations often exceed what rational models predict because of sentiment and irrational exuberance, indicating possible opportunities for skilled active managers in emerging markets (Shiller, 2003);(Meegle, 2025).

Global evidence generally finds that active managers underperform passive benchmarks after fees and expenses (Prondzinski, 2024); (E. F. Fama & French, 2010); (Blake et al., 1996); (Cremers & Petajisto, 2009); (Morningstar, 2025). Although some studies identify persistent outperformance among a subset of high active-share funds (Cremers & Petajisto, 2009), broad surveys show that fewer than 25 percent of active U.S. equity funds outperform over long horizons (Morningstar, 2025). Evidence from emerging markets is mixed. (Bessler et al., 2010) report stronger active performance in Southeast Asia, whereas (Galdi & Lopes, 2013) find inconsistent

excess returns among Brazilian mutual funds. (Charupat et al., 2017) note that tracking error and liquidity constraints diminish the advantages of passive investing in less liquid markets. Indonesian studies are extremely limited and largely restricted to pension-fund analyses, such as (Novryansyah & Sumirat, 2024). Research gaps are evident because Indonesia's market has undergone rapid development between 2022 and 2024, including higher stock listings, digital distribution platforms, and updated OJK regulations such as SEOJK 5/2023. Existing studies do not adequately examine net-of-fee performance, risk-adjusted persistence across market cycles, ETF inclusion, or survivorship bias. Literature also lacks comprehensive analysis of active mutual funds relative to the JCI benchmark using multi-metric risk-adjusted approaches.

To address these gaps, the present study evaluates whether actively managed equity mutual funds outperform passive JCI exposure on a net-of-fee basis. The study investigates 119 equity mutual funds benchmarked to the JCI from January 2018 to September 2025 and assesses performance using Sharpe ratio, Treynor ratio, Jensen's alpha, and tracking error. Fund performance is evaluated across market regimes, including pre-COVID, COVID, and post-COVID periods, to understand how volatility affects relative returns. The study further examines whether assets under management, expense ratio, and fund age influence performance, based on prior evidence that cost efficiency, scale, and maturity may affect return outcomes (ESMA, 2019) ; (Morningstar, 2025); (Sun et al., 2009); (Crane, 2018). The conceptual framework applies the single-factor Capital Asset Pricing Model to estimate fund-specific alpha and beta, followed by difference-in-means testing to evaluate the statistical significance of performance gaps between active funds and the JCI. Risk-adjusted metrics and fund characteristics are analyzed together to determine whether active managers deliver value that exceeds passive benchmark returns over varying market and regulatory environments.

METHODOLOGY

The study adopts a quantitative, comparative, and descriptive explanatory research design to assess whether actively managed Indonesian equity mutual funds outperform passive benchmarks. The analysis is based on objective numerical data, with fund returns derived from Net Asset Value (NAV) series that already reflect management fees. Prior empirical evidence indicates that mutual funds rarely generate positive net-of-fee alpha and that observed performance is largely explained by common risk factor exposures rather than managerial skill (Carhart, 1997; Fama & French, 2010; Jensen, 1968; Green & Berk, 2002). Accordingly, this design enables a systematic comparison of active and passive strategies using risk-adjusted performance metrics, including the Sharpe ratio, Treynor ratio, Jensen's alpha, and tracking error.

The descriptive explanatory approach facilitates interpretation of performance patterns through established asset-pricing frameworks, namely the Efficient Market Hypothesis (Fama, 1970), Modern Portfolio Theory (Markowitz, 1952), and the Capital Asset Pricing Model (Sharpe, 1964). These theories provide a basis for evaluating whether active managers deliver abnormal returns beyond market exposure, while also allowing consideration of behavioural finance insights related to investor bias and market inefficiencies.

Data are sourced from Bareksa, Infovesta, fund prospectuses, the Indonesia Stock Exchange, Otoritas Jasa Keuangan, and Bloomberg. The sample includes conventional equity mutual funds registered with OJK and benchmarked to the Jakarta Composite Index (JCI). The study covers January 2018 to September 2025 and distinguishes pre-COVID, COVID, and post-COVID market regimes. Monthly data are used to balance return granularity and noise reduction.

Performance is evaluated using NAV-based returns to ensure net-of-fee comparability. Risk-adjusted metrics are applied following standard definitions: the Sharpe ratio measures excess return per unit of total risk, the Treynor ratio assesses return relative to systematic risk, Jensen's alpha captures abnormal performance under CAPM, and tracking error reflects deviations from the benchmark and the degree of active risk.

Fund performance is modelled using the CAPM specification of:

$$eRp_t - Rf = \alpha p + \beta p(Rm_t - Rf_t) + \varepsilon_t$$

Where αp measures manager skill (abnormal performance), and βp captures systematic risk vs JCI market return.

Individual CAPM regressions are estimated for each of the 119 Indonesian equity mutual funds to obtain fund-specific alpha, representing abnormal performance, and beta, capturing systematic risk relative to the Jakarta Composite Index (Sharpe, 1964). Standard diagnostic tests are applied to assess linearity, residual behavior, heteroskedasticity, and autocorrelation, with heteroskedasticity- and autocorrelation-consistent standard errors used where necessary (Newey & West, 1987; Brooks, 2019). Cross-sectional analyses examine the relationship between performance outcomes and fund characteristics, including assets under management, expense ratios, management fees, and fund age, in line with prior fund-performance literature (Carhart, 1997; Green & Berk, 2002).

The primary inferential method is the Wilcoxon signed-rank test, which compares the median performance of active funds to the JCI benchmark for each risk-adjusted metric. This non-parametric test is appropriate given the non-normal distribution typically observed in mutual fund returns (Wilcoxon, 1945; Hollander et al., 2014). The null hypothesis of no difference between median fund performance and the benchmark is rejected when systematic outperformance or underperformance is detected.

Performance is further evaluated across pre-COVID, COVID, and post-COVID market regimes to assess whether active managers demonstrate skill under varying volatility conditions. Fund characteristics are incorporated as explanatory variables to determine whether differences in Sharpe ratios, Jensen’s alpha, or tracking error reflect managerial skill or structural fund attributes. Together, the CAPM estimations, non-parametric testing, regime-specific analysis, and fund-level controls provide a robust framework for assessing the value of active management after accounting for risk, costs, and market conditions, consistent with established standards in asset-pricing and mutual fund performance research (Grinold & Kahn, 1999; Ferson & Schadt, 1996).

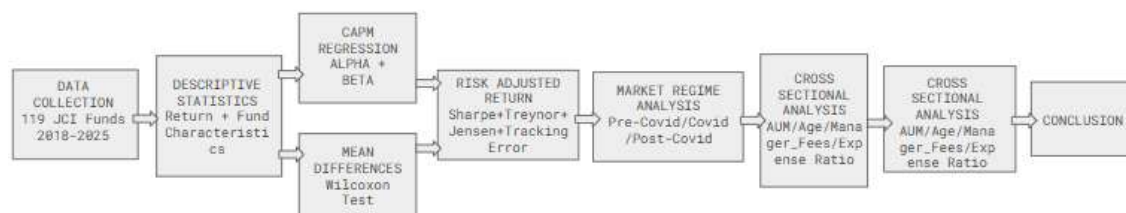


Figure 1 Research Methodology

RESULT

The empirical analysis evaluates the performance of 119 actively managed Indonesian equity mutual funds relative to the Jakarta Composite Index (JCI) from January 2018 to September 2025. Using NAV-based monthly returns, the study examines whether active managers deliver superior net-of-fee, risk-adjusted performance; how results vary across the pre-COVID, COVID, and post-COVID regimes; and whether fund characteristics influence performance outcomes. For this purpose, the study applies Sharpe ratios, Treynor ratios, Jensen’s alpha, tracking error, CAPM regressions, and Wilcoxon signed-rank tests. Descriptive statistics show that month-on-month returns for most funds cluster around zero, with limited dispersion except during periods of heightened market volatility, particularly the COVID-19 downturn. Although the JCI generated a modest positive average monthly return, the equally weighted fund portfolio produced lower average returns and higher volatility, indicating weaker risk-return characteristics on a net-of-fee basis.

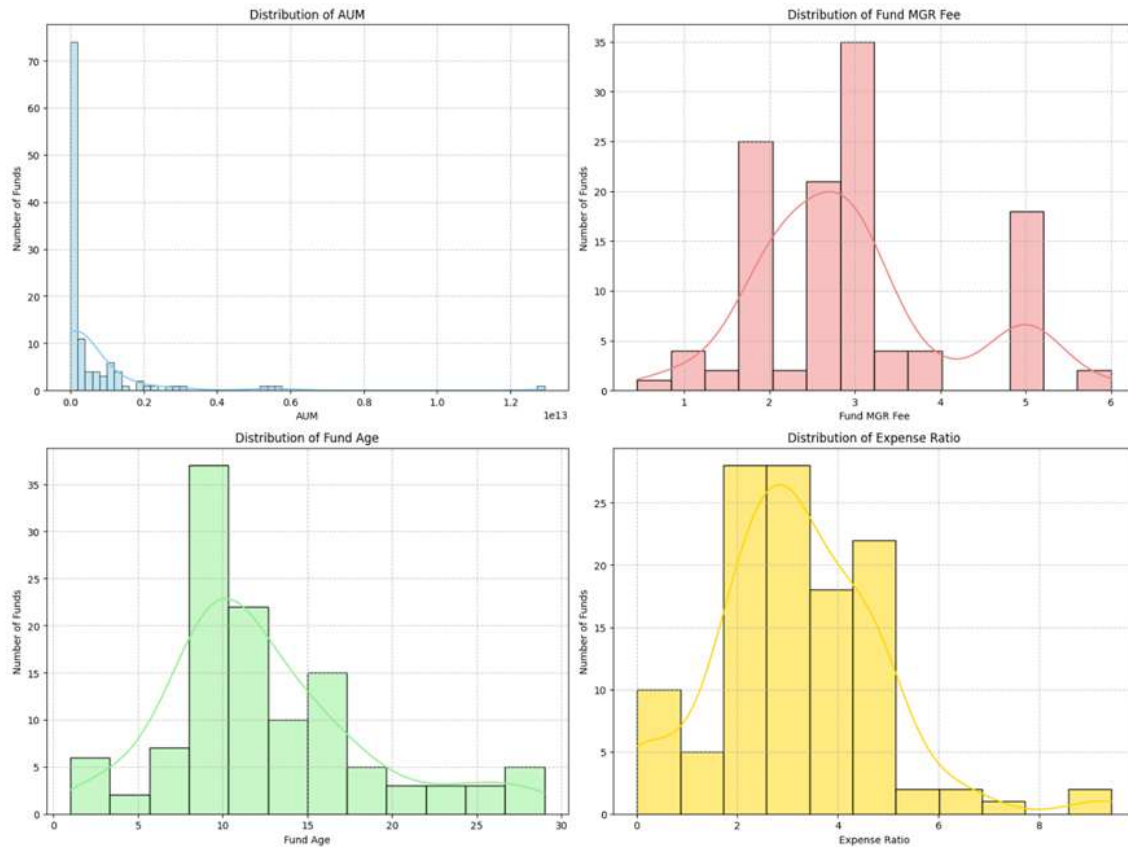


Figure 2 Distribution of Fund Characteristics

Fund characteristics also display substantial heterogeneity: AUM is highly left-skewed, fee structures vary widely, expense ratios extend beyond 5 percent for some funds, and fund age ranges from newly established products to mature funds with over two decades of history. These structural differences motivate the inclusion of characteristic-based subsample analyses.

Table 1 Descriptive Fund Statistics

MOM Performance	Quartile	Mean	Min	Max	Std Dev
JCI Index		0,002990352	0,167581809	0,094416684	0,040235215
119 Mutual Funds Combined		0,000074828	0,901587438	4,985736399	0,071195951
Per Fund Characteristic					
AUM	Low	0,000655756	0,213808463	0,392097264	0,050066577
AUM	Medium	0,001629950	4,985736399	0,901587438	0,111793839
AUM	High	0,000400412	0,530442353	0,268167409	0,047360553
Manager Fee	Low	0,000348918	0,213808463	0,392097264	0,048330027
Manager Fee	Medium	0,000311891	0,530442353	0,272523232	0,049268447
Manager Fee	High	0,002276161	4,985736399	0,901587438	0,138537183
Fund Age	Low	0,000107158	0,231991373	0,517649005	0,049120515

Fund Age	Medium	0,000023178	0,530442353	0,392097264	0,051261391
Fund Age	High	0,000387327	4,985736399	0,901587438	0,110441471
Expense Ratio	Low	0,000401653	0,530442353	0,275426844	0,047286866
Expense Ratio	Medium	0,000412054	4,985736399	0,901587438	0,111001276
Expense Ratio	High	0,000515776	0,177031772	0,517649005	0,049923432

CAPM regressions indicate that abnormal performance is rare. Across 119 funds, mean alpha is close to zero and negative on average, even the 25th, 50th, and 75th percentiles of alpha are all negatives.

Table 2 CAPM Regression Result

	Alpha	Beta	R-squared	Durbin-Watson statistic
count	119	119	119	119
mean	-0.0033	0.9456	0.6682	1.8313
std	0.0035	0.3201	0.2450	0.2772
min	-0.0187	-0.1068	0.0000	1.0930
25%	-0.0048	0.9192	0.6324	1.6069
50%	-0.0031	1.0229	0.7805	1.7870
75%	-0.0017	1.1086	0.8169	2.0269
max	0.0067	1.3894	0.8913	2.6234

These findings reinforce the conclusion that most active funds underperform the benchmark after adjusting for market risk, consistent with the evidence reported by Jensen (1968), Fama and French (2010), and Carhart (1997).

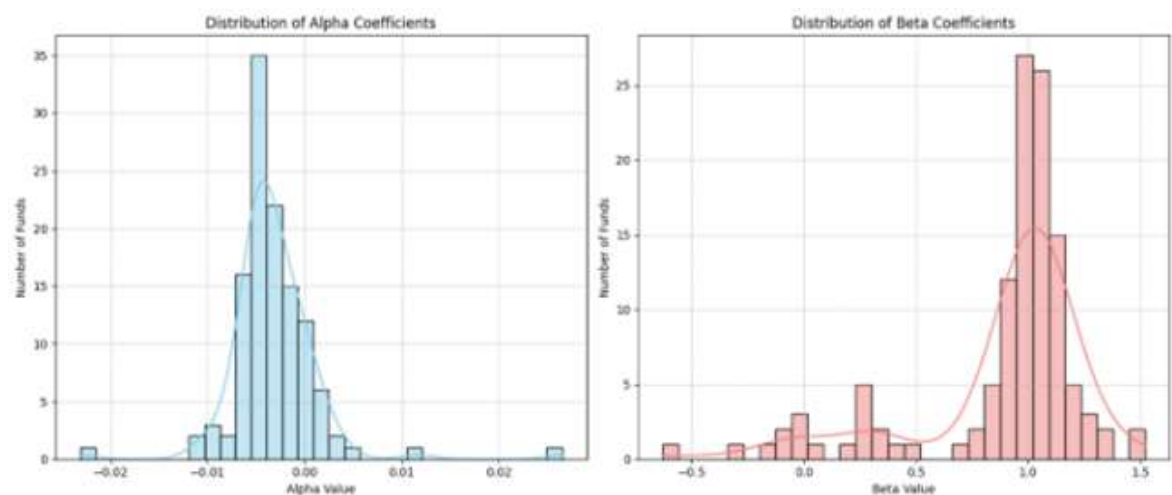


Figure 3 Distribution of Alpha and Beta Coefficients

These results reveal a clear pattern, while market exposure is highly significant and consistently measurable across funds, abnormal performance is far less common and frequently negative. This suggests that active management rarely generates superior risk-adjusted returns and, in many cases, destroys value relative to passive market exposure. For investors, these findings highlight the importance of carefully scrutinizing both the magnitude and the statistical significance of alpha when evaluating fund performance. Given the strong market linkage reflected in beta

estimates, passive investment strategies may offer a cost-effective alternative unless a fund demonstrates a persistent, positive, and statistically significant alpha. Based on these results, the null hypothesis (H_0) is accepted, indicating that there is no statistically significant difference in performance.

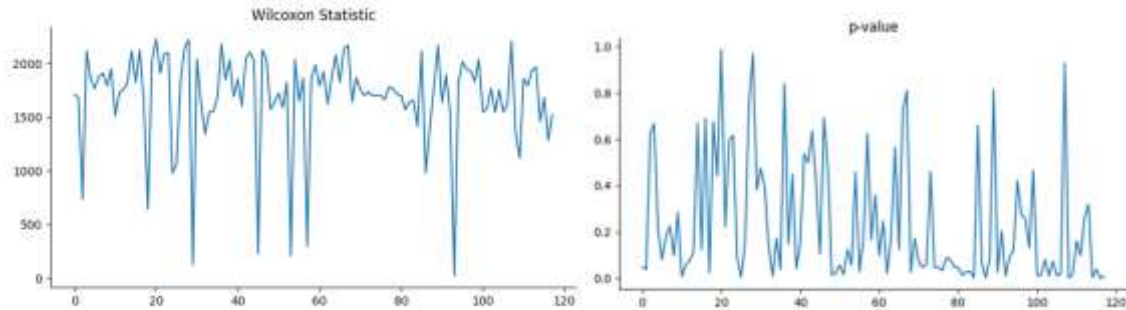


Figure 4 Wilcoxon Statistic and p-Value Trend Across Funds

Although several funds demonstrated large Wilcoxon statistics (Figure 4 left side), these were accompanied by high p-values (right side), suggesting the observed effects may stem from sampling variance or insufficient power, underscoring the relevance of statistical power considerations in financial hypothesis testing. Sequential analysis of p-value trends indicated that only a small number of funds approached statistical significance, which is in accord with existing evidence of limited persistence in alpha generation for active investment strategies (Fama & French, 2010).

When alpha and beta significance levels are examined, approximately one third of funds exhibit statistically significant alphas, although most are negative and economically small. By contrast, nearly ninety percent of beta coefficients are significant, reflecting strong alignment with market risk factors. These patterns support the semi-strong form of the Efficient Market Hypothesis, which posits that abnormal returns are difficult to achieve once public information is incorporated into prices (E. F. Fama, 1970).

Wilcoxon signed-rank tests provide further support for this conclusion (Figure 5). For the majority of funds, p-values exceed the five-percent threshold, indicating that median performance does not differ significantly from the JCI benchmark. Only a small subset of funds demonstrates statistically significant deviations from the benchmark, and even these differences lack persistence.

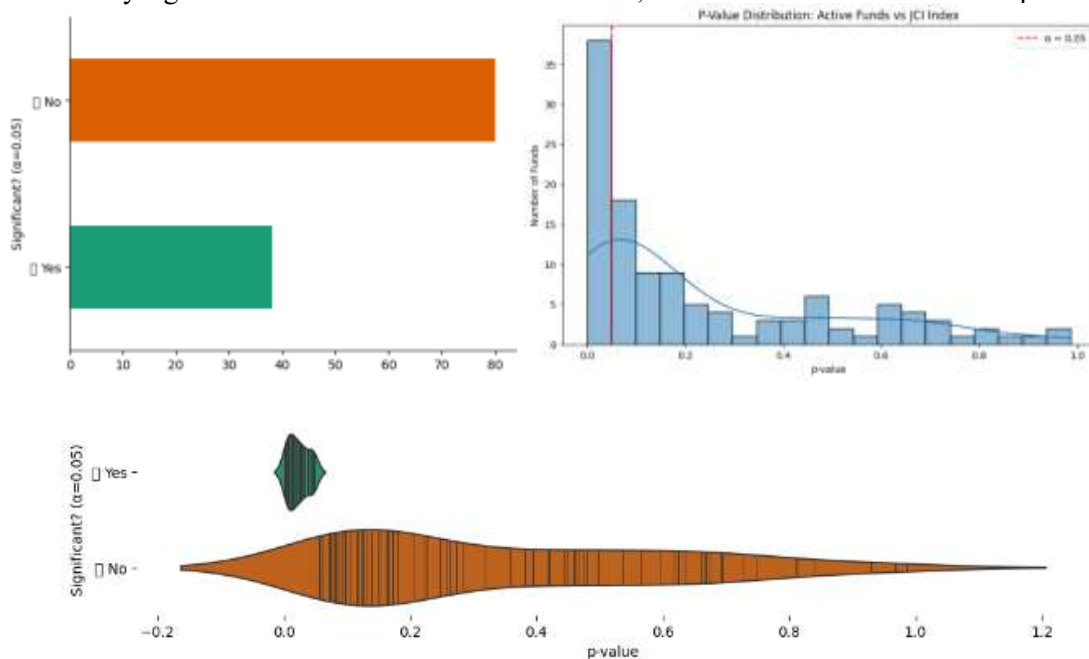


Figure 5 P-Value Test Result and Return Distribution Active Fund vs JCI Index

Violin plots, p-value distributions, and Wilcoxon statistic trends also confirm that most performance differentials reflect random variation rather than systematic outperformance, consistent with the findings of (Carhart, 1997) and (E. F. , Fama & French, 2010).

Risk-adjusted performance metrics provide additional insight. On average, Sharpe ratios are negative, indicating that funds fail to compensate investors for total volatility. Treynor ratios are positive but modest, suggesting limited compensation for systematic risk. Jensen’s alpha remains negative across the sample, and average tracking error is low, reflecting benchmark-hugging behaviour and limited differentiation from the index.

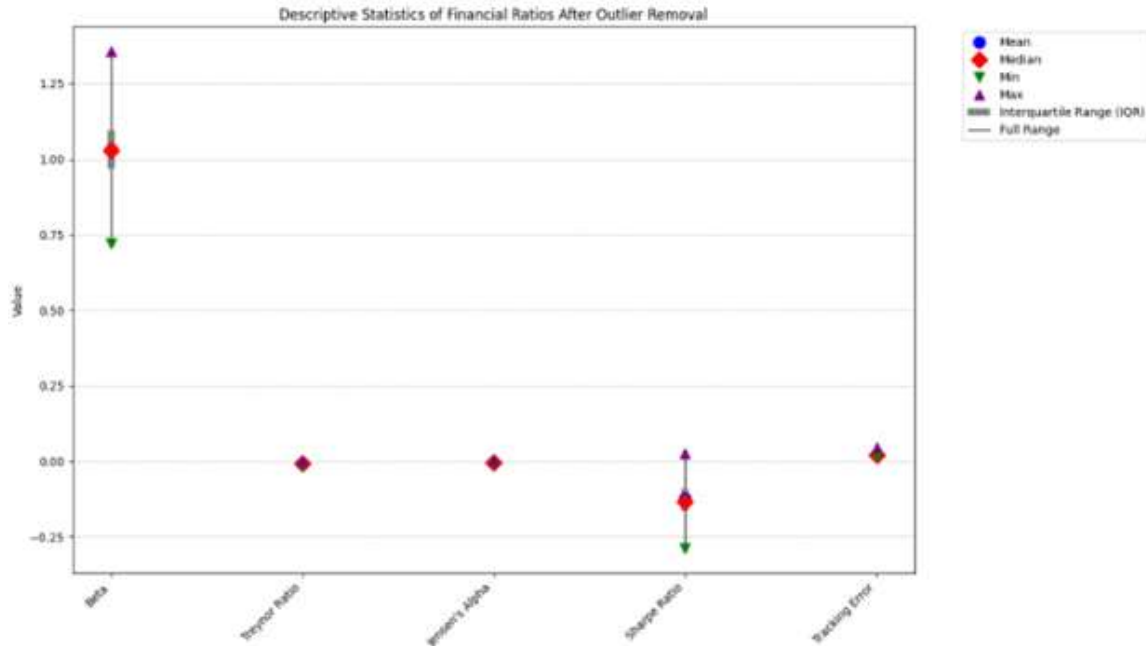


Figure 6 Risk-adjusted Performance Metrics

These outcomes collectively indicate that active management delivers neither meaningful diversification benefits nor superior beta-adjusted returns, supporting theory and evidence that high costs and limited informational advantages impede persistent alpha generation.

Performance across market regimes reveals time-variation but no sustained improvement in active management outcomes. Pre-COVID alpha distributions (Figure 8) are tightly concentrated near zero. During COVID, the distribution widens, reflecting heterogeneous manager responses to volatility, but the modal alpha remains negative. Post-COVID, alpha values converge back toward zero with only a few positive outliers. Similar patterns arise in Sharpe and Treynor ratio distributions (Figure 7). These regime-based results align with the view that crises temporarily increase return dispersion but do not lead to persistent outperformance (Lo, 2014); (E. F. , Fama & French, 2010).

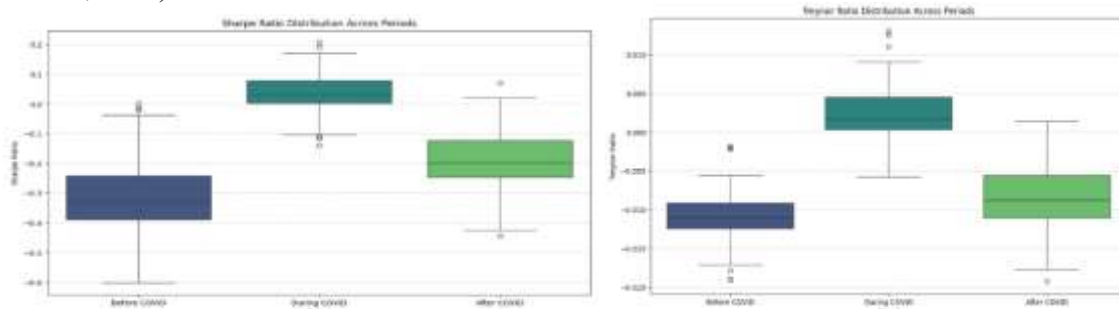


Figure 7 Sharpe and Treynor Ratios Across Market Regimes

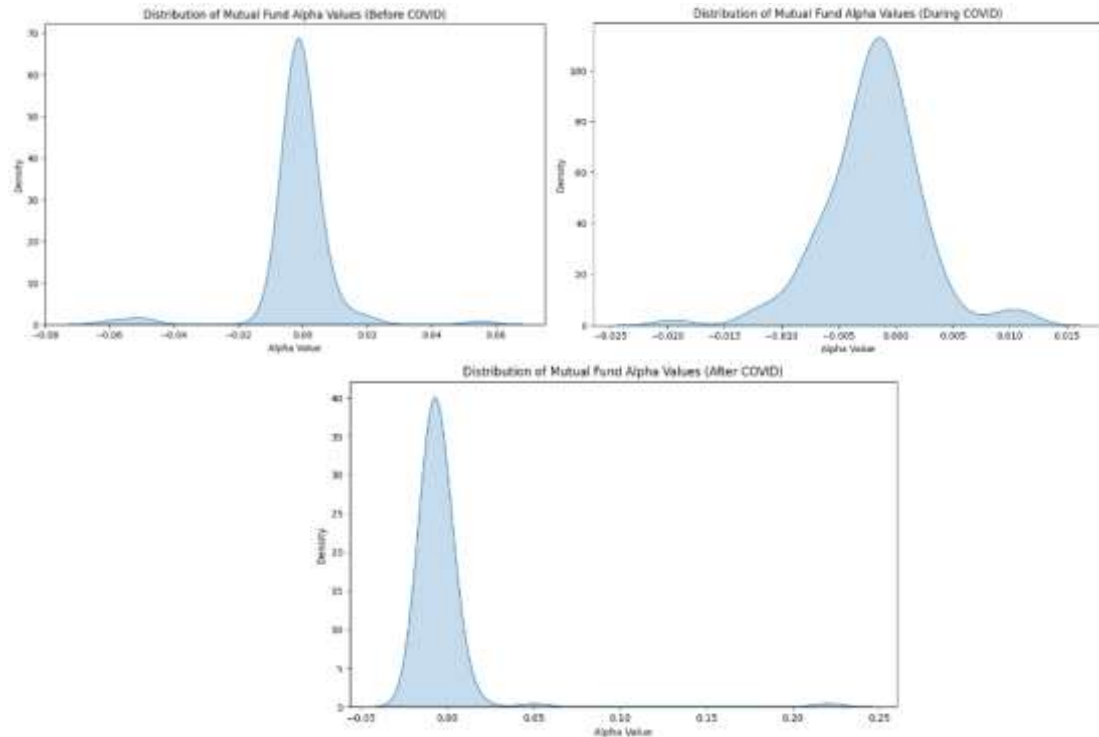


Figure 8 Distribution of Alpha Across Market Regimes

Fund characteristics show nuanced associations with performance. Smaller funds generate higher Treynor ratios, suggesting more effective conversion of systematic risk into beta-adjusted returns, although all size groups exhibit negative Sharpe ratios and negative alphas.

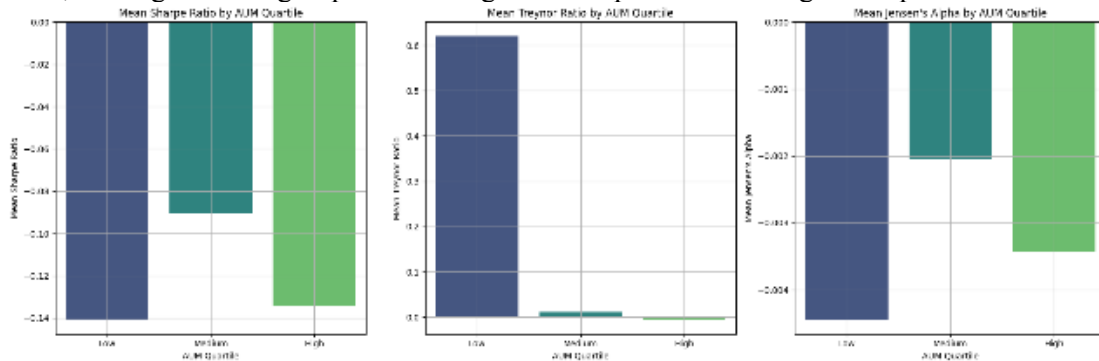


Figure 9 Risk Adjusted Return by AUM Characteristic

Younger funds show slightly stronger beta-adjusted outcomes than older funds, but sustained positive alpha is absent in all age categories.

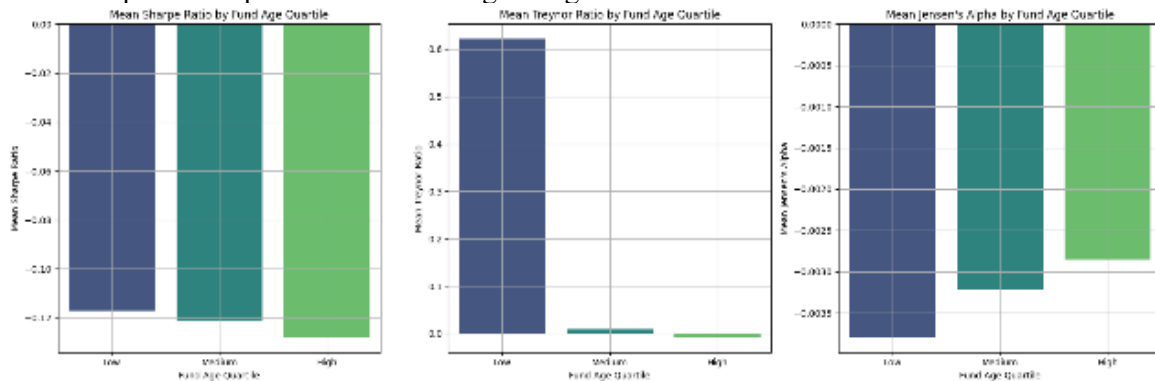


Figure 10 Risk Adjusted Return by Age Characteristic

Higher management fees and higher expense ratios correspond to marginally less negative risk-adjusted metrics, yet none produce positive net-of-fee abnormal returns. These results are consistent with prior literature documenting that higher fees rarely translate into better performance and often reduce investor value (Carhart, 1997).

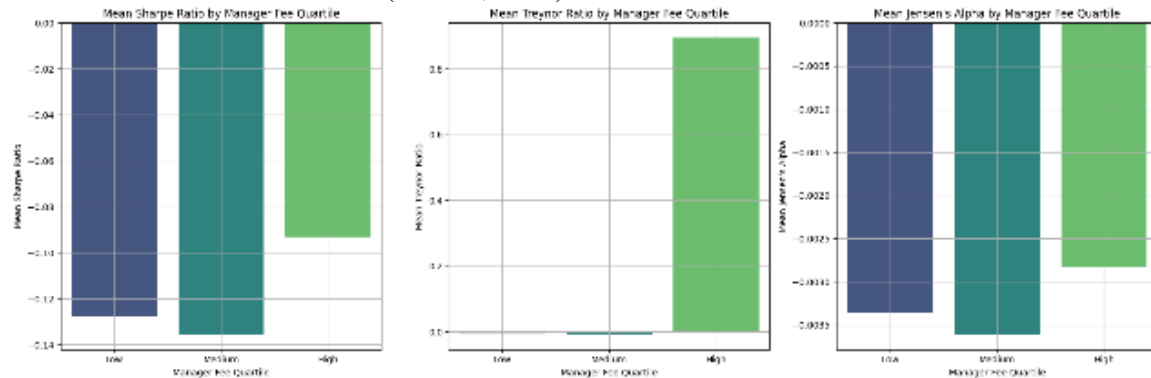


Figure 11 Risk Adjusted Return by Manager Fee Characteristic

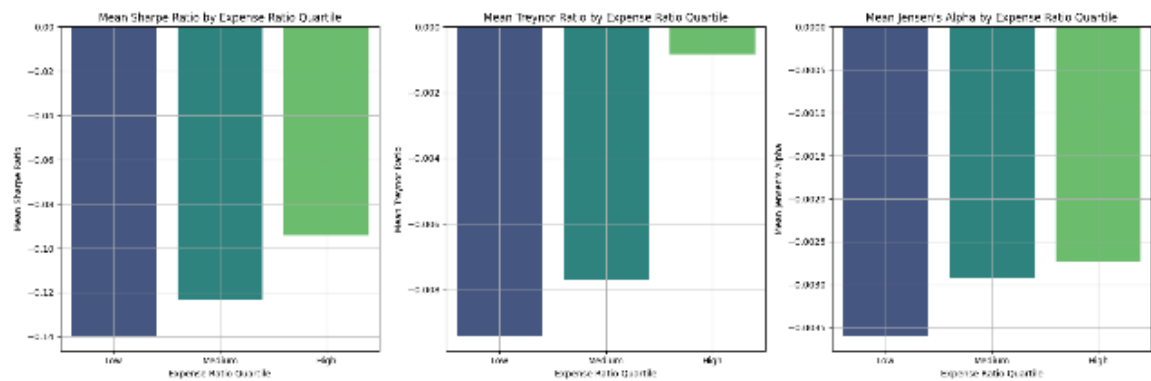


Figure 12 Risk Adjusted Return by Expense Ratio Characteristic

Overall, the empirical findings indicate that Indonesian active equity mutual funds do not outperform the Jakarta Composite Index on a net-of-fee, risk-adjusted basis. Fund behaviour is dominated by systematic market exposure, and persistent alpha generation is largely absent across funds, market cycles, and fund characteristics. The results support the Efficient Market Hypothesis in the Indonesian context and reinforce global evidence that active management provides limited value relative to passive benchmarks.

DISCUSSION

The findings of the research result provide consistent evidence that, on average, active funds fail to generate persistent alpha after costs. Median performance measures cluster around zero or negative values, Jensen's alpha is predominantly negative and statistically insignificant, and Wilcoxon signed-rank tests indicate no systematic difference between active fund performance and the benchmark. These results support the acceptance of the null hypothesis and align with the semi-strong form of the Efficient Market Hypothesis (Fama, 1970), which predicts that abnormal returns are difficult to sustain in competitive markets.

The CAPM diagnostics reinforce this conclusion. Market beta explains a substantial portion of fund returns, while residual alpha shows weak persistence, indicating that performance is driven primarily by market movements rather than manager-specific skill. Although residual non-normality is present for many funds, robustness checks using HAC standard errors support the validity of the inference. Together, these findings suggest that short-term outperformance is largely episodic and not a reliable indicator of future results.

The regime-based analysis further highlights the limited value of active management across different market conditions. While dispersion in performance increases during periods of heightened volatility, such as the COVID-19 shock, typical funds do not generate sustained positive alpha. Risk-adjusted metrics briefly improve during crisis periods but revert to negative or near-zero levels in normal and recovery phases. This pattern is consistent with adaptive market behavior, where managers adjust strategies during shocks but face rapid erosion of any informational advantage as markets stabilize.

Analysis of fund characteristics shows that structural attributes such as size, age, and fees explain only marginal variation around a common pattern of underperformance. Smaller and younger funds occasionally exhibit slightly better beta-adjusted outcomes, and higher-cost funds appear more active, yet none of these groups consistently overcome fees to deliver positive abnormal returns. These findings are consistent with prior evidence that scale effects, costs, and capacity constraints limit the effectiveness of active management (Carhart, 1997; Fama & French, 2010).

In comparative perspective, the Indonesian mutual fund market exhibits performance patterns broadly similar to those documented in both developed and emerging markets. Although emerging markets are often assumed to offer greater inefficiencies, the results indicate that structural costs, closet indexing, and competitive pressures largely offset these potential advantages. This reinforces global evidence that active management struggles to justify higher fees once net performance is considered.

From an investor perspective, the findings imply that returns earned from Indonesian equity mutual funds largely reflect systematic market exposure rather than managerial skill. Passive strategies linked to the JCI therefore appear to offer a more cost-efficient means of accessing equity market returns. For regulators and policymakers, the results underscore the importance of transparent disclosure of fees, benchmarks, and risk-adjusted performance metrics to support informed investment decisions and market discipline.

The study contributes to the literature by providing long-horizon, regime-sensitive evidence from an emerging market context. It confirms that, despite episodic deviations, active equity mutual funds in Indonesia do not deliver persistent value relative to passive benchmarks after fees, strengthening the case for cost-efficient, benchmark-oriented investment strategies in the Indonesian capital market.

CONCLUSION

This study examined whether actively managed Indonesian equity mutual funds generate superior net-of-fee, risk-adjusted performance relative to the Jakarta Composite Index (JCI) over the period 2018–2025. Using multiple performance measures, CAPM-based analysis, non-parametric tests, and market-regime evaluation, the results consistently indicate that active funds do not outperform the benchmark. Fund returns are largely explained by market exposure, while evidence of persistent managerial skill is weak or absent.

Across market regimes, including the COVID-19 shock, any improvements in risk-adjusted performance are temporary and do not translate into sustained alpha. Differences in fund characteristics such as size, age, fees, and expenses explain only minor variation around a broader pattern of underperformance. These findings are consistent with global evidence and support the semi-strong form of the Efficient Market Hypothesis, suggesting that Indonesia's equity market efficiently incorporates publicly available information.

The results have clear implications for practice. For institutional and retail investors, cost-efficient passive strategies appear more suitable for long-term equity exposure than higher-fee active funds. For regulators, the findings underscore the importance of enhanced transparency in fee disclosure, benchmark alignment, and standardized reporting of risk-adjusted performance, as well as continued development of index-based investment products.

Future research could extend this analysis by incorporating multi-factor asset pricing models, expanding benchmark coverage, and exploring behavioural or institutional constraints affecting fund managers. Comparative studies across ASEAN markets may also provide further insight into the evolution of market efficiency in emerging economies.

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