

OPERATING COSTS, FUND SIZE AND FINANCIAL PERFORMANCE OF MONEY MARKET FUNDS IN KENYA

BY

Otieno Ezekiel Juma¹, Dr. Cliff Osoro² & Dr. Maina Justus³
^{1, 2&3} *Catholic University of Eastern Africa*

Abstract

Money market funds play a role in Kenya's financial system by providing managed short-term investment opportunities. Despite operating under a common regulatory framework and investing in similar low-risk instruments, funds continue to report varying investor returns, raising questions about the determinants of financial performance. Operating costs are important because they may reduce investor returns through expense deductions or enhance performance by supporting research, technology, compliance, governance and investor services. This study examined the effect of operating costs on the financial performance of money market funds in Kenya and assessed the moderating effect of fund size. Anchored on Transaction Cost Theory, the study adopted a positivist philosophy and an explanatory longitudinal panel research design. The target population comprised 45 licensed money market funds operating in Kenya between 2020 and 2024. Although a census approach was adopted, data availability resulted in an unbalanced panel of 88 fund-year observations from 19 funds. Secondary data were obtained from audited financial reports and regulatory disclosures using a structured data collection sheet. Data were analysed using pooled panel regression with year fixed effects and fund-clustered robust standard errors after diagnostic tests. The findings showed that operating costs had a positive but statistically insignificant direct effect on financial performance ($\beta = 0.1633$, robust SE = 0.0975, $z = 1.6747$, $p = .0940$). Fund size also had no significant direct effect ($\beta = -0.0361$, $p = .4232$). However, the interaction between operating costs and fund size was positive and statistically significant ($\beta = 0.2805$, $z = 5.0393$, $p < .001$), indicating that fund size significantly moderates the relationship between operating costs and financial performance. Thus, the effect of operating costs becomes increasingly positive as fund size increases, suggesting that scale influences the productivity of operating expenditure. The study recommends that fund managers adopt a Cost-to-Scale Scorecard linking operating costs to fund size, investor value and net yield. Scale-based cost benchmarks should identify inefficient expenditure, while smaller funds should consider shared technology, compliance and administrative platforms to enhance economies of scale. Regular cost-productivity reviews are recommended to ensure operating expenditure contributes to improved investor returns, efficiency and service quality.

Keywords: operating expense ratio, net annual yield, money market funds, fund size, Transaction Cost Theory

Introduction

Financial performance is a critical measure of the effectiveness and attractiveness of money market funds because it determines the returns ultimately realized by investors. Globally, money market funds have become an important component of non-bank financial intermediation, pooling resources from households, firms and institutions and investing them in short-term, relatively low-risk instruments such as Treasury bills, bank deposits, commercial paper, certificates of deposit and repurchase agreements. Through this role, money market funds provide investors with professionally managed access to near-

money assets while reducing search, information, minimum-investment and monitoring costs (Cipriani & La Spada, 2021; Doerr et al., 2023; Financial Stability Board [FSB], 2024). Despite similarities in their investment mandates, regulatory requirements and broad market conditions, money market funds continue to exhibit differences in the returns delivered to investors, making the determinants of financial performance an important issue for investors, fund managers and regulators.

At the global level, financial performance of investment funds is influenced by the ability of fund managers to generate competitive returns while

controlling the costs associated with managing investors' resources. The importance of this relationship is particularly evident in fund industries where investors evaluate performance after deducting management and other operating expenses. Evidence indicates that fund performance assessments change substantially when fees and compounding are taken into account, with the probability of benchmark outperformance declining as the investment horizon lengthens (Bessembinder et al., 2023). In money market funds, this issue may be particularly important because the eligible investment universe consists largely of short-dated and relatively high-quality instruments, which may constrain the dispersion of gross returns. Consequently, differences in net performance may be more sensitive to fund-specific management practices and cost structures.

The importance of financial performance is also evident in emerging and developing economies, where investment funds provide an increasingly important channel for mobilising savings and allocating capital. However, fund performance may vary because of differences in management practices, operating efficiency, market conditions and institutional environments. Evidence from Indonesia, for example, found a positive and significant association between expense ratios and fund performance, suggesting that expenditure may support information acquisition and other value-creating activities rather than simply reduce investor returns (Azis et al., 2024). This finding challenges the assumption that higher operating costs necessarily lead to poorer financial performance and indicates that the relationship between costs and performance may depend on how expenditure is deployed and the operating environment in which a fund functions.

In Kenya, money market funds have become one of the largest and most visible categories of collective investment schemes, supported by relatively low investment requirements, digital access and growing demand for alternatives to conventional bank deposits (Capital Markets Authority [CMA], 2024a, 2024c). Their growing importance makes their financial performance increasingly relevant to investor welfare and the efficiency of the country's financial system. Nevertheless, differences in the returns generated by money market funds remain an important concern because funds operate within the same broad

regulatory framework and are exposed to common macroeconomic and monetary conditions. The 2020–2024 period was characterised by substantial changes in Kenya's monetary environment, including the COVID-19 disruption, inflation-driven monetary tightening and subsequent monetary easing. These developments affected short-term interest rates and the returns available from money market instruments, creating common year-specific conditions that could influence fund performance (Central Bank of Kenya [CBK], 2024).

One possible explanation for differences in financial performance is operating cost efficiency. Operating costs comprise expenses such as management, trustee, custody, audit, regulatory, administrative, technology and investor-servicing costs, which are charged against fund assets before returns are distributed to investors. These costs are among the determinants of investor outcomes that fund managers can influence directly and are borne by investors with considerable certainty. Evidence shows that recurring fund charges can materially influence investor wealth and the assessment of fund performance over time (Bessembinder et al., 2023). From this perspective, higher operating costs could reduce net annual yields because a greater proportion of fund income is absorbed by expenses. However, a purely subtractive view of operating costs is incomplete because expenditure may also finance capabilities that enhance financial performance. Investments in research can support better identification of investment opportunities, technology can improve transaction and servicing efficiency, while compliance, governance and risk-management systems can reduce operational losses and strengthen fund management. Evidence indicates that costs are endogenous to managerial choices and portfolio structures rather than merely exogenous deductions, while larger funds may incur lower percentage transaction costs because of economies of scale (Busse et al., 2021). Similarly, positive associations between expense ratios and fund performance have been reported in emerging-market funds, suggesting that expenditure may generate benefits that partly or fully offset its direct cost (Azis et al., 2024). The relationship between operating costs and financial performance is therefore an empirical question rather than an accounting certainty.

The issue is particularly relevant to money market funds because their investment universe is concentrated in short-term and relatively low-risk instruments. When gross investment yields are relatively narrow, operating expenses can constitute a meaningful proportion of the return available to investors. Evidence from the United States demonstrates that money market fund expense ratios can change considerably with prevailing interest-rate conditions and the withdrawal of fee waivers, indicating that observed expenses are influenced by both managerial decisions and market conditions (Li, 2026). This suggests that examining operating costs in isolation may not fully explain differences in financial performance. Importantly, the relationship between operating costs and financial performance may depend on fund size. Some operating expenditures represent relatively fixed investments in technology, compliance, governance, administration and other infrastructure. As the asset base increases, these costs may be distributed across a larger pool of assets, potentially generating economies of scale and reducing the relative cost burden. Conversely, smaller funds may face higher unit costs because their fixed expenditures are spread over a smaller asset base. Fund size may therefore change the strength or direction of the relationship between operating costs and financial performance. This possibility provides a basis for examining fund size as a moderating variable rather than treating it only as an independent determinant of performance.

The 2020–2024 period provides an appropriate setting for examining this relationship because money market funds operated through markedly different monetary conditions. The period covered the COVID-19 disruption, the subsequent inflationary pressures and monetary tightening, as well as the easing cycle that emerged toward the end of 2024. Since money market fund yields are closely related to short-term interest rates, these common annual conditions could influence the performance of all funds simultaneously. Failure to account for such year-specific effects could therefore confound the relationship between operating costs and financial performance. Controlling for year effects is consequently important when assessing whether differences in operating costs are associated with differences in fund performance. Despite the growing importance of money market funds in Kenya,

empirical evidence on the relationship between operating costs and financial performance remains limited and inconclusive. Existing evidence provides competing theoretical and empirical expectations: operating costs may reduce investor returns through direct deductions, but expenditure may also finance capabilities that enhance performance. Furthermore, the extent to which costs influence performance may differ according to the scale of a fund because of economies of scale. This creates an empirical gap concerning whether operating costs have a direct relationship with the financial performance of Kenyan money market funds and whether fund size changes that relationship.

Statement of the Problem

Money market funds are designed to preserve capital, provide liquidity and deliver stable market-linked returns from short-term, relatively low-risk instruments, and they have become Kenya's dominant collective investment scheme and an important channel for domestic savings mobilisation (CMA, 2024a). However, funds operating under the same regulatory framework and broadly similar monetary conditions continue to deliver materially different investor outcomes. Published yields in 2023 and 2024 ranged from approximately 9.8 per cent to 14.7 per cent, a spread of about 4.9 percentage points (CMA, 2024a; Cytonn, 2023, 2024). For products with comparable investment objectives, such dispersion is economically material and creates a practical performance problem because investors cannot readily distinguish whether lower net yields arise from unavoidable market conditions or from fund-specific operating inefficiency.

Operating costs are a plausible source of this performance dispersion because management, trustee, custody, audit, regulatory, technology, administrative and investor-servicing expenses are charged against fund assets before returns reach unit holders. Yet the relationship is not mechanically negative. Expenditure on research, digital systems, compliance, governance and risk management can improve execution, service quality and loss prevention, potentially offsetting part of the cost burden (Busse et al., 2021; Azis et al., 2024). The unresolved managerial and regulatory problem is therefore not simply whether costs are high or low, but whether the costs incurred are productive

relative to the investor returns delivered and the scale over which those costs are spread.

Existing evidence does not resolve this problem for contemporary Kenyan money market funds. Namu et al. (2024), using Kenyan unit-trust data ending in 2017, reported a significant negative relationship for equity and money market funds but positive results for other fund categories. Audita et al. (2023) found a positive but insignificant expense-ratio effect in Indonesian exchange-traded funds, whereas Azis et al. (2024) reported a positive and significant relationship in Indonesian Sharia funds. In addition, Kenyan studies have commonly pooled fund categories with different mandates, used absolute annual expenses that are mechanically related to fund size, or treated fund size only as a direct predictor or control. These approaches leave unresolved whether the effect of operating costs on investor yield changes with scale, even though fixed and semi-fixed technology, compliance, audit and administrative costs may be diluted as assets grow (ESMA, 2025; Li, 2026).

Consequently, investors lack clear evidence for judging whether a higher expense ratio represents inefficient cost leakage or value-adding expenditure; fund managers lack a scale-sensitive basis for cost governance; and regulators lack empirical guidance for benchmarking and disclosing costs across funds of different sizes. This study addressed that practical, empirical and methodological gap by determining the effect of the operating expense ratio on net annual yield among licensed Kenyan money market funds and testing whether fund size significantly moderates that relationship using 2020–2024 panel data.

Literature Review

The study was anchored on Transaction Cost Theory, which originates in Coase's (1937) argument that using markets is not costless. Economic exchange involves search, information, negotiation, contracting, monitoring and enforcement costs, and firms arise where coordinating activities within an organisation is more efficient than repeatedly contracting through the market. Williamson (1979, 1985) developed the framework by specifying how bounded rationality, opportunism, uncertainty, asset specificity and transaction frequency determine the efficient governance arrangement for a class of transactions.

The proposition relevant to investment funds is that organisational performance depends partly on the ability to govern recurring transactions efficiently. Applied to a collective investment scheme, this yields a conditional rather than an absolute prediction. Money market funds incur management fees, trustee and custody charges, audit expenses, regulatory levies, administration costs, technology expenses and investor-servicing costs. These are economically justified where they support portfolio management, compliance, control and service delivery, and destructive of investor value where they are excessive or inefficiently incurred. The theory therefore predicts that, other factors held constant, higher avoidable operating expenses weaken financial performance. That prediction concerns a component of the expense ratio rather than its level, which is a distinction the empirical literature has largely passed over.

The theory also explains the existence of the intermediary. An individual purchasing short-term instruments directly would face search costs, minimum investment thresholds, information-processing costs, reinvestment decisions and monitoring burdens. By pooling resources and centralising professional management, a fund spreads these costs across many investors and transactions. The performance question is therefore not whether costs exist, since they are the price of the intermediation service, but whether the fund's organisational arrangement generates benefits exceeding the costs charged to investors.

Three qualifications are necessary. First, the opportunism assumption does not fully capture relationships sustained by trust, fiduciary responsibility and reputation, particularly in a licensed sector where the regulator, the trustee and the auditor each constrain discretion (Cuypers et al., 2021). Second, the theory offers a relatively static account of governance, whereas financial institutions continuously adjust to interest-rate movements, regulatory change and technological innovation; Zhu (2024) notes that technology-enabled coordination restructures transaction costs rather than merely reducing them, which describes the Kenyan sector's digital distribution model closely. Third, the emphasis on cost minimisation risks understating value creation through investment skill, innovation, service quality and organisational capability. This third qualification

is the one the empirical design was constructed to test rather than to assume.

Transaction Cost Theory also generates the conditioning argument directly. Many compliance, governance, technology, audit and administrative expenses contain fixed or semi-fixed components. As assets under management increase, these costs are spread across a larger base, so a given level of expenditure represents a lighter proportional burden and can finance a more substantial capability set. Larger funds may therefore convert operating expenditure into investor value differently from smaller funds. Two competing considerations prevent this from being a foregone conclusion: scale may generate organisational complexity, expanded marketing costs and diseconomies in deploying rapidly growing assets, and managers may retain scale economies through unchanged percentage fees rather than passing savings to investors. The direction of the interaction is therefore an empirical matter.

Existing empirical studies review the relationship between the study variables.

Bessembinder et al. (2023), using long-horizon United States mutual fund data, showed that although average pre-fee returns could exceed market benchmarks, only a minority of individual funds achieved superior long-run outcomes. Their evidence is equity-based and benchmark-relative, so its numerical results do not transfer to money market funds, but the methodological warning does: short-horizon averages understate the cumulative effect of expenses.

Busse et al. (2021) examined transaction costs, portfolio characteristics and performance using actual fund trades, finding that larger funds incurred lower percentage transaction costs and adapted their trading behaviour. Their study establishes that costs are endogenous to managerial choice and supports a scale mechanism. A fund may incur additional analytical, systems or personnel costs to obtain better execution, negotiate deposit rates and assess counterparties; if these capabilities improve gross returns by more than their cost, the observed relationship between the expense ratio and net performance could be weak or positive. Conversely, if larger funds enjoy lower unit costs but retain the savings as management revenue, scale may not improve net yield.

Servaes and Sigurdsson (2022) found that funds with performance-based fees charged substantially higher total expenses and recorded annual net risk-adjusted returns about 0.50 percentage points below comparable funds without performance fees, with underperformance concentrated where benchmarks were weak or easily attainable. Performance fees are not the dominant compensation form in Kenya, so the specific finding does not apply, but the general one does: higher total charges are not automatically compensated by superior net performance.

Parida (2024) exploited a regulatory change requiring United States mutual funds to report the dollar amount of fees separately in shareholder reports, and found that average retail fund fees fell by approximately 27 basis points over the following five years relative to the preceding period, with larger reductions among high-fee funds and funds in larger fund families. Investor flows also became more sensitive to expenses. The natural-experiment design provides stronger causal evidence than a cross-sectional regression and demonstrates that competition does not necessarily eliminate excessive costs where investors face information-processing constraints.

Evidence on scale is consistent in direction. Li (2026) noted that accounting, audit, transfer-agency and board-related costs contain relatively fixed components, so that as assets grow these costs represent a smaller percentage of the asset base. ESMA (2025) found a statistically significant negative association between fund size and ongoing costs across European and United States funds, although the magnitude was modest, and confirmed through quintile analysis that larger share classes were generally less expensive. That study nevertheless treated fund costs as the dependent outcome rather than testing whether size changes the marginal effect of expenses on net performance, so the mechanism was established but the interaction was left untested.

Emerging-market evidence is divided. Audita et al. (2023) analyzed twenty Indonesian exchange-traded funds over 2019–2022 and found the expense ratio positive but statistically insignificant for Sharpe-ratio performance, with interest rates failing to moderate the relationship. Azis et al. (2024) reported a positive and significant association for Indonesian Sharia funds, though their model combined several characteristics, focused on funds with distinctive

screening requirements, and measured expenses contemporaneously with performance, leaving reverse causality unresolved. Raju and Kavitha (2021) examined the relationship in Indian mutual funds, while Mohsin et al. (2020), Awotomilusi et al. (2022) and Adelopo et al. (2018) established the general relevance of cost efficiency to financial-institution and corporate performance in emerging and African settings.

The most directly relevant Kenyan evidence remains Namu et al. (2024). Four limitations restrict its bearing on the contemporary sector: the data end in 2017 and predate digital distribution, the pandemic shock and recent monetary tightening; the population comprised unit-trust providers rather than money market funds specifically; Jensen alpha is a benchmark-relative measure poorly matched to a product whose objective is stable short-term income; and annual total expenses are mechanically related to fund size. Nthimba et al. (2021) examined fund size and unit-trust performance, finding that scale may generate benefits without uniformly guaranteeing superior returns, while Wafula et al. (2023) tested fund size as a moderator of a behavioural relationship in Kenyan mutual funds, providing local precedent for treating scale as a conditioning variable. What the literature does not contain is a contemporary estimate of the operating expense ratio's effect on the net annual yield of Kenyan money market funds, with common annual conditions controlled and scale modelled as a condition rather than a control.

Research Methodology

The study was guided by a positivist philosophy and employed an explanatory longitudinal panel research design to examine the relationship between operating costs and financial performance of money market funds in Kenya over 2020–2024. The target population comprised 45 money market funds licensed by the Capital Markets Authority during the study period. A census of the licensed funds was attempted; criterion-based inclusion on data availability yielded 19 funds and an unbalanced panel of 88 fund-year observations. The fund constituted the unit of analysis, while the fund-year represented the unit of observation (CMA, 2024b).

Secondary data were obtained from audited annual financial reports and official CMA disclosures using a structured data collection sheet. Operating costs were measured using the operating expense ratio, financial performance using net annual yield, and fund size using the natural logarithm of assets under management. Data were analysed using descriptive statistics and hierarchical panel regression. The baseline model estimated the direct relationship, while the conditional model introduced the mean-centred operating-costs $\times$ fund-size interaction to test moderation. Diagnostic tests were conducted before estimation, and statistical significance was evaluated at the 5 per cent level.

Results

Descriptive Statistics

Table 1 summarises the distribution of financial performance, operating costs and fund size for the 88 fund-year observations used in the analysis.

Table 1: Descriptive Statistics for the Audited Analytical Panel (N = 88)

Variable	Mean	Std. Deviation	Minimum	Maximum
Net annual yield (%)	9.958	2.763	6.800	15.200
Operating expense ratio (%)	2.085	0.254	1.500	2.500
Fund size, ln(AUM)	8.967	1.039	6.908	11.302

Note. Research data (2026).

Financial performance (dependent variable). Net annual yield averaged 9.958 per cent (SD = 2.763), with a minimum of 6.800 per cent and a maximum of 15.200 per cent. The 8.400-percentage-point range indicates substantial variation in returns across funds and years, consistent with published industry evidence

showing materially different money market fund yields during 2023–2024 (CMA, 2024a; Cytonn, 2023, 2024). This dispersion provides sufficient variation in the dependent variable for explaining fund-level differences in performance.

Operating costs (independent variable). The operating expense ratio averaged 2.085 per cent (SD = 0.254), ranging from 1.500 to 2.500 per cent. The coefficient of variation was approximately 12.2 per cent, showing that operating-cost ratios were relatively concentrated around the mean compared with the much wider dispersion in net annual yield. This narrow one-percentage-point range suggests broadly similar cost structures across the sampled funds and also limits the variation available for detecting a uniform direct cost effect.

Fund size (moderating variable). Fund size, measured as $\ln(\text{AUM})$, averaged 8.967 (SD = 1.039) and ranged from 6.908 to 11.302. The 4.394-log-unit spread indicates meaningful scale heterogeneity across the sample. Because a moderation test requires variation in the moderator, this dispersion provides an empirical basis for assessing whether the operating-costs–performance slope changes systematically as fund size increases.

Diagnostic Tests

Before estimating the panel models, diagnostic tests were conducted to assess whether the data and specification were suitable for inference. Variance inflation factors ranged from 1.551 for operating expenses to 4.225 for fund size, with a mean VIF of 3.149. Because the values were below the commonly used threshold of 5, there was no evidence of problematic multicollinearity and all predictors were retained (Hair et al., 2022). The Ramsey RESET test produced $F = 3.965$ ($p = .050$), placing functional form at the conventional decision boundary; the linear specification was therefore retained but interpreted cautiously. The Shapiro–Wilk test indicated a mild departure from normality ($W = 0.968$, $p = .029$), whereas the Jarque–Bera test did not reject normality ($JB = 3.324$, $p = .190$). For regression inference, such mild residual non-normality is not by itself a basis for discarding a linear model when robust inference is used (Wooldridge, 2021).

The Breusch–Pagan test did not reject homoskedasticity ($LM = 9.882$, $p = .360$). In contrast, the Wooldridge test detected within-fund serial correlation (statistic = 0.723, $p < .001$), justifying standard errors clustered at the fund level because panel observations within the same entity may be correlated over time (Baltagi, 2021; Wooldridge, 2021). Panel stationarity assessment was inconclusive because the panel was short ($T = 5$) and unbalanced; year fixed effects were therefore retained to absorb common annual shocks. The Hausman test ($\chi^2 = 29.823$, $p < .001$) statistically favoured fixed effects and the poolability test ($F = 7,672.600$, $p < .001$) rejected pooled homogeneity. Pooled estimation with year controls was nevertheless retained because the focal variables exhibited limited within-fund variation; this modelling choice does not imply that fund heterogeneity is absent and is treated as a specification limitation. Fund-clustered robust standard errors were used throughout to strengthen inference against heteroskedasticity and within-fund dependence (Baltagi, 2021; Wooldridge, 2021).

Panel Hierarchical Regression

Moderation was tested hierarchically by first estimating the baseline model containing operating costs, the control variables and the constitutive fund-size term, and then estimating the conditional model after adding the mean-centred operating-costs $\times$ fund-size interaction. This sequencing follows the logic of hierarchical panel moderation, in which the constituent terms are entered before the product term so that the lower-order coefficients retain meaningful conditional interpretations (Gichaiya et al., 2019; Wooldridge, 2021). Evidence of moderation is determined primarily by the statistical significance and direction of the interaction coefficient; the change in model fit is reported as supplementary information.

Table 2 reports the estimated direct effects from the retained baseline equation.

Table 2: Direct Effects of Fund Characteristics and the Constitutive Fund-Size Term (N = 88)

Predictor	Coefficient	Robust SE	z	p	Decision
Operating expenses (OE)	0.1633	0.0975	1.6747	.0940	Not significant
Asset allocation (AAL)	0.1674	0.0360	4.6550	< .001	Significant
Return volatility (RV)	7.6431	1.1210	6.8181	< .001	Significant
Fund liquidity (FL)	0.0023	0.0022	1.0446	.2962	Not significant
Fund size, ln(AUM)	−0.0361	0.0451	−0.8009	.4232	Not significant

Note. Research data (2026). All estimates include year controls and fund-clustered robust standard errors. Coefficients for asset allocation, return volatility and fund liquidity are reported for completeness of specification only.

In the baseline model, operating expenses had a positive coefficient of 0.1633 (robust SE = 0.0975, $z = 1.6747$, $p = .0940$). Because p exceeded .05, H_{01} was not rejected. The evidence therefore does not support a statistically significant uniform direct effect of the operating expense ratio on net annual yield after controlling for the other modelled fund characteristics and common annual conditions.

The positive sign should not be interpreted as proof that higher operating costs improve returns because the coefficient is statistically indistinguishable from zero at the 5 per cent level. Equally, non-rejection of H_{01} does not establish that costs are irrelevant. The

constitutive fund-size coefficient was also statistically insignificant ($\beta = -0.0361$, $p = .4232$), indicating that scale alone did not predict net annual yield in the baseline specification. These results justify examining the interaction because an average direct effect can conceal a relationship whose slope differs across fund sizes.

Conditional Relationship with Fund Size

Table 3 reports the model in which the interaction between operating expenses and fund size is introduced.

Table 3: The Conditional Effect of Operating Costs on Financial Performance

Term	β	z	p
Operating expenses (OE), conditional main effect	0.1874	2.151	.031
Fund size, ln(AUM), conditional main effect	−0.4084	−2.781	.005
OE $\times$ ln(AUM)	0.2805	5.039	< .001
R ² (baseline model = .890; interaction model = .890)	—	—	$\Delta R^2 < .001$
Adjusted R ² (baseline = .877; interaction model = .871)	—	—	—
F (baseline = 70.12; interaction model = 46.06)	—	—	< .001

Note. Research data (2026). $N = 88$. Both models include year controls and fund-clustered robust standard errors. Constitutive terms were mean-centred before the interaction product was generated, so the conditional main effect is evaluated at the sample mean of centred fund size.

After the interaction term was introduced, the operating-costs $\times$ fund-size coefficient was positive and strongly significant ($\beta = 0.2805$, $z = 5.039$, $p < .001$). Fund size therefore significantly moderated the relationship between operating costs and financial performance. Specifically, for each one-unit increase in centredln(AUM), the estimated slope linking the operating expense ratio to net annual yield increased by 0.2805. The positive interaction means that the cost–performance relationship becomes more positive as fund size increases.

At the sample mean of fund size, the conditional operating-cost coefficient was 0.1874 ($p = .031$), while the conditional fund-size coefficient was −0.4084 ($p = .005$) when centred operating costs were at their mean. These are conditional coefficients and should not be compared directly with the unconditional baseline coefficients or used to revise the H_{01} decision. Model R² remained .890 to three decimal places after the interaction was added ($\Delta R^2 < .001$), indicating that moderation altered the slope pattern more than the aggregate proportion of variance explained. This interpretation is consistent with hierarchical

moderation analysis, where the interaction term provides the direct statistical test of whether the focal relationship changes across levels of the moderator (Gichaiya et al., 2019).

Discussion

The baseline result shows that operating costs did not have a statistically significant uniform direct effect on net annual yield at the 5 per cent level. This finding can be understood as the net outcome of two opposing mechanisms predicted by Transaction Cost Theory. Expenses mechanically reduce the income available to unit holders, but expenditure on research, technology, compliance, governance and investor servicing can also create capabilities that improve execution, reduce operational losses and support gross portfolio income. Evidence that costs are partly endogenous to managerial choices and may support value creation has also been reported by Busse et al. (2021) and Azis et al. (2024).

The narrow distribution of operating expense ratios provides a second explanation for the insignificant baseline coefficient. The ratio ranged only from 1.500 to 2.500 per cent (SD = 0.254), giving relatively little regressor variation from which to identify a uniform effect. In addition, the aggregate operating expense ratio combines potentially productive and avoidable expenditures in one measure. If some components improve performance while others reduce it, their opposing effects can attenuate the average coefficient even when individual cost categories matter economically.

The direct-effect result differs from Namu et al. (2024), who reported a significant negative relationship for Kenyan money market funds. The difference is plausible because their data ended in 2017, their sample pooled different unit-trust categories, their performance measure was Jensen alpha, and their cost measure was annual total expenses rather than an expense ratio. By contrast, the present study focuses specifically on money market funds, measures investor performance through net annual yield and separates scale from the cost measure. The positive but insignificant baseline coefficient is closer to Audita et al. (2023), while the possibility that productive expenditure may offset its direct cost is consistent with Azis et al. (2024).

The more important finding is the significant positive interaction between operating costs and fund size. The result indicates that scale changes how operating expenditure translates into investor yield rather than simply producing a direct return advantage, since the baseline fund-size coefficient was insignificant. This interpretation is consistent with evidence that several fund expenses contain fixed or semi-fixed components that decline proportionally as assets increase (ESMA, 2025; Li, 2026). The present evidence extends that scale argument by showing that fund size is a boundary condition on the cost–performance relationship itself.

The findings therefore qualify rather than reject Transaction Cost Theory. Cost minimisation alone is too narrow a managerial objective because some operating expenditure supports the very intermediation, control and service capabilities that create investor value. The statistically significant moderation effect suggests that the productivity of a given expense burden depends on the asset base over which it is spread. Nevertheless, the findings are associative rather than causal and are bounded by the 19-fund, 88-observation panel and the five-year 2020–2024 monetary cycle. They should therefore be interpreted as evidence of a scale-dependent relationship within the observed Kenyan money market fund setting, not as proof that increasing expenditure will cause higher returns.

Conclusion

This study concludes that operating costs do not exert a statistically significant uniform direct effect on the financial performance of Kenyan money market funds at the 5 per cent level. The central result is instead conditional: fund size significantly moderates the operating-costs–performance relationship. The positive interaction coefficient shows that the association between the operating expense ratio and net annual yield becomes more positive as the asset base increases, while fund size on its own does not provide a significant direct return advantage.

The implication is that cost efficiency should be evaluated in relation to scale and the productivity of expenditure rather than by the expense ratio alone. Larger funds may be better positioned to spread fixed and semi-fixed technology, compliance, governance and administrative costs across a broader asset base,

whereas smaller funds face a heavier unit-cost burden. Within the limits of the observed panel, the evidence therefore supports a shift from simple cost minimization toward scale-sensitive cost governance that asks whether each major expenditure category produces commensurate investor value.

Recommendations

Fund managers should institutionalize a Cost-to-Scale Scorecard that links each major operating-cost category to assets under management, net annual yield and a measurable service or control outcome. Technology expenditure, for example, should be evaluated against transaction turnaround time, service reliability and unit servicing cost, while compliance and risk-management expenditure should be assessed against control exceptions and loss prevention. Quarterly scorecards would help distinguish productive expenditure from cost leakage and establish scale-based warning bands as funds grow.

Smaller money market funds should pursue a Shared Services and Scale Partnership model for activities that do not create a competitive investment advantage. Common cloud infrastructure, pooled compliance tools, shared cybersecurity capabilities, standardised investor-reporting systems and jointly negotiated custody or administrative services could reduce the fixed-cost burden while preserving independent portfolio management. Such arrangements should remain subject to clear governance, confidentiality and regulatory safeguards.

The Capital Markets Authority should introduce a standardised MMF Cost-and-Yield Disclosure Template that presents the operating expense ratio, net annual yield, assets under management and major cost components on a comparable basis. In addition to industry-wide averages, the regulator could publish size-band benchmarks so that a small fund is not judged against the same unit-cost structure as a very large fund. A scale-adjusted disclosure dashboard would improve fee transparency and help trustees, managers and investors identify unusually high costs that are not matched by investor outcomes.

Fund trustees and investment committees should conduct periodic cost-productivity reviews rather than approve budgets solely on historical expenditure trends. Reviews should ask whether increases in research, technology, governance, compliance or

investor servicing are associated with improvements in net yield, liquidity management, risk control or service quality. Investors, in turn, should assess the expense ratio together with net yield and fund size instead of treating the lowest disclosed cost as automatically superior.

Future research should disaggregate the operating expense ratio into management, trustee, custody, audit, regulatory, technology and investor-servicing components; extend the panel beyond 2020–2024; and use quarterly or monthly observations where comparable data are available. Further studies should also estimate marginal effects at different fund-size levels and test the operational channels through which scale changes cost productivity, so that the statistically significant interaction identified here can be translated into more precise managerial and regulatory thresholds.

References

- Adelopo, I., Lloydking, R., & Tauringana, V. (2018). Determinants of bank profitability before, during, and after the financial crisis. *International Journal of Managerial Finance*, 14(4), 378–398. <https://doi.org/10.1108/IJMF-07-2017-0148>
- Audita, A. Y., Iskandar, R., & Azis, M. (2023). The effect of expense ratio, fund size and fund age on performance of ETF mutual funds with interest rate as a moderating variable. *Fair Value: Jurnal Ilmiah Akuntansi dan Keuangan*, 6(1), 55–66.
- Awotomilusi, N. S., Isaiah, O. O., Esther, I. O., & Yomi, A. T. (2022). Cost structure and financial performance of quoted industrial goods manufacturing companies in Nigeria. *International Journal of Management, Accounting and Economics*, 9(11), 749–763. <https://doi.org/10.5281/zenodo.7444168>
- Azis, M., Darmalaksana, D., Suryaningsi, S., & Jaafar, M. S. (2024). Mutual fund investment performance: Indonesia Sharia Stock Index as characteristics moderating model. *Jurnal Ekonomi & Keuangan Islam*, 10(2), 263–276. <https://doi.org/10.20885/JEKI.vol10.iss2.art9>
- Baltagi, B. H. (2021). *Econometric analysis of panel data* (6th ed.). Springer.

- Bessembinder, H., Cooper, M. J., & Zhang, F. (2023). Mutual fund performance at long horizons. *Journal of Financial Economics*, 147(1), 132–158.
<https://doi.org/10.1016/j.jfineco.2022.10.006>
- Busse, J. A., Chordia, T., Jiang, L., & Tang, Y. (2021). Transaction costs, portfolio characteristics, and mutual fund performance. *Management Science*, 67(2), 1227–1248.
<https://doi.org/10.1287/mnsc.2019.3524>
- Capital Markets Authority. (2024a). *Collective investment schemes quarterly report for the period ended December 31, 2024*. Capital Markets Authority.
- Capital Markets Authority. (2024b). *List of licensees: Money market funds*. Capital Markets Authority.
- Capital Markets Authority. (2024c). *Collective investment schemes quarterly report for the period ended September 30, 2024*. Capital Markets Authority.
- Central Bank of Kenya. (2024). *55th monetary policy statement, December 2024*. Central Bank of Kenya.
- Cipriani, M., & La Spada, G. (2021). Investors' appetite for money-like assets: The MMF industry after the 2014 regulatory reform. *Journal of Financial Economics*, 140(1), 250–269.
<https://doi.org/10.1016/j.jfineco.2020.11.005>
- Coase, R. H. (1937). The nature of the firm. *Economica*, 4(16), 386–405.
<https://doi.org/10.1111/j.1468-0335.1937.tb00002.x>
- Cuypers, I. R. P., Hennart, J. F., Silverman, B. S., & Ertug, G. (2021). Transaction cost theory: Past progress, current challenges, and suggestions for the future. *Academy of Management Annals*, 15(1), 111–150.
<https://doi.org/10.5465/annals.2019.0051>
- Cytonn. (2023). *Q3'2023 unit trust funds performance*. Cytonn Investments.
- Cytonn. (2024). *Q4'2024 unit trust funds performance note*. Cytonn Investments.
- Doerr, S., Eren, E., & Malamud, S. (2023). *Money market funds and the pricing of near-money assets* (BIS Working Papers No. 1096). Bank for International Settlements.
- European Securities and Markets Authority. (2025). *The scale factor: Impact of size on EU fund cost structures* (ESMA50-524821-3575). ESMA.
- European Securities and Markets Authority. (2026). *Costs and performance of EU retail investment products 2025* (ESMA50-1949966494-4065). ESMA.
- Financial Stability Board. (2024). *Thematic review on money market fund reforms*. Financial Stability Board.
- Gichaiya, M. W., Muchina, S., & Macharia, S. (2019). Cost of capital, firm size and financial distress. *Research Journal of Finance and Accounting*, 10(18), 34–47.
<https://doi.org/10.7176/RJFA/10-18-05>
- Hair, J. F., Page, M., & Brunsveld, N. (2022). *Essentials of business research methods* (5th ed.). Routledge.
- Khorana, A., Servaes, H., & Tufano, P. (2009). Mutual fund fees around the world. *The Review of Financial Studies*, 22(3), 1279–1310.
<https://doi.org/10.1093/rfs/hhn042>
- Kothari, C. R., & Garg, G. (2019). *Research methodology: Methods and techniques* (4th ed.). New Age International.
- Li, L. (2026). Trends in the expenses and fees of funds, 2025. *ICI Research Perspective*, 32(1), 1–19. Investment Company Institute.
- Mohsin, H. J., Ahmed, S. A., & Streimikiene, D. (2020). Evaluating the financial performance by considering the effect of external factors on organization cash flow. *Contemporary Economics*, 14(3), 406–414.
<https://doi.org/10.5709/ce.1897-9254.413>
- Namu, N. A., Jagongo, A., & Mwangi, L. W. (2024). Effects of operating expenses on performance of unit trusts in Kenya. *ISRG Journal of Economics, Business & Management*, 2(5), 75–84.
<https://doi.org/10.5281/zenodo.13771191>
- Nthimba, A. N., Jagongo, A., & Wamugo, L. (2021). Fund size and performance of unit trust funds in Kenya. *Journal of Finance and Accounting*, 9(1), 8–15.
<https://doi.org/10.11648/j.jfa.20210901.12>
- Parida, S. (2024). The impact of salient fees: Evidence from the mutual fund market. *International*

- Review of Financial Analysis*, 92, 103058.
<https://doi.org/10.1016/j.irfa.2023.103058>
- Raju, J. K., & Kavitha, H. (2021). Impact of expense ratio on mutual fund performance. *International Journal of Creative Research Thoughts*, 9(12), 792–800.
- Servaes, H., & Sigurdsson, K. (2022). The costs and benefits of performance fees in mutual funds. *Journal of Financial Intermediation*, 50, 100959.
<https://doi.org/10.1016/j.jfi.2022.100959>
- Taherdoost, H. (2021). Data collection methods and tools for research: A step-by-step guide to choose data collection technique for academic and business research projects. *International Journal of Academic Research in Management*, 10(1), 10–38.
- Wafula, D. S., Tibbs, C. Y., & Ondiek, B. A. (2023). The moderating role of fund size on the relationship between overconfidence and portfolio financial performance of mutual funds in Kenya. *African Journal of Empirical Research*, 4(1), 286–297.
<https://doi.org/10.51867/ajernet.4.2.2>
- Williamson, O. E. (1979). Transaction-cost economics: The governance of contractual relations. *The Journal of Law and Economics*, 22(2), 233–261. <https://doi.org/10.1086/466942>
- Williamson, O. E. (1985). *The economic institutions of capitalism: Firms, markets, relational contracting*. Free Press.
- Wooldridge, J. M. (2021). *Introductory econometrics: A modern approach* (7th ed.). Cengage.
- Zhu, Z. (2024). The application of transaction cost theory in supply chain management. *Open Journal of Applied Sciences*, 14(11), 3216–3225.
<https://doi.org/10.4236/ojapps.2024.1411212>