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ARTICLE

Evaluating the Impact of Collective Investment Scheme Expenses and Age on Investment Performance of Selected Fund Managers in Nigeria

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Abstract

Collective Investment Schemes (CIS) serve as powerful vehicles for wealth creation, offering investors opportunities to benefit from professional fund management and diversification. This study evaluated the impact of CIS expenses and fund age on the performance of selected fund managers registered by the Securities and Exchange Commission (SEC) in Nigeria. The population included all 153 CIS operating in Nigeria as of December 2023. Using a purposive sampling technique, a sample of 45 funds was selected based on criteria that included investment in Nigerian securities and a minimum operational period of three years, ensuring the sample's relevance and adequacy. A longitudinal research design was adopted, and secondary data were gathered from financial statements and SEC filings covering the period from 2014 to 2023. The Difference Generalized Method of Moments (GMM) regression was applied to account for endogeneity and cross-sectional dependence in the panel data. The findings revealed that both CIS expenses and fund age had a negative and statistically significant impact on performance. High expenses eroded returns, reducing Net Asset Value (NAV), while fund age negatively affected performance, suggesting that older funds may face structural or strategic limitations that curb growth. Based on these results, it is recommended that SEC Nigeria strictly enforce regulatory limits on CIS expenses to promote cost efficiency. To improve performance in older funds, it is suggested that fund managers periodically revise investment strategies to ensure greater adaptability.

Keywords: Net Asset Value, Risk Levels, Fund size, Generalized Method of Moments and Performance

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1. Introduction

Collective Investment Schemes (CIS), which pool funds from multiple investors to invest in diversified portfolios of securities, have grown significantly as an investment vehicle globally. Expenses associated with these schemes and the age of the funds themselves are key factors often considered when evaluating the overall performance of such investment products. Globally, CIS expenses, which include management fees, transaction costs, and other administrative fees, play a critical role in determining investor returns. High fees can erode returns over time, making it difficult for funds to outperform their benchmarks. This has been a topic of extensive research. For instance, **Bogle (2018)** highlighted that the "tyranny of compounding costs" can severely undermine the long-

term returns of investors. Fund age, on the other hand, is often associated with experience and stability. Older funds may have a track record of surviving various market cycles, which can influence investor confidence, but they are not necessarily better performers than newer funds. Globally, evidence on whether fund age significantly impacts performance remains mixed. A study by **Carhart (2018)** suggests that fund age alone does not predict future performance, although it can be a proxy for other characteristics like fund size or manager expertise.

In sub-Saharan Africa, the CIS industry is relatively nascent compared to global markets, yet it is growing steadily as more investors seek diversified exposure to financial markets. The regulatory frameworks are also being strengthened across the region to protect investors and enhance market efficiency. South Africa leads the region in terms of both the number of funds and assets under management (AUM). In 2020, South Africa's collective investment industry held over R2.3 trillion in assets (**ASISA, 2020**). Other countries in the region, such as Kenya and Nigeria, have seen rising participation in CIS, although their markets are still maturing. The issue of expenses remains a key concern in the region as high transaction costs, particularly due to illiquid markets, are known to erode returns. In sub-Saharan Africa, there is often a scarcity of low-cost funds, with many investors paying premium fees, which are not always justified by the performance of the schemes.

In Nigeria, the growth of CIS has accelerated in recent years, with regulatory oversight from the Securities and Exchange Commission (SEC) helping to boost investor confidence. As of December 2023, there were over 100 registered CIS in Nigeria with a total Net Asset Value (NAV) of N2.093 trillion (SEC Nigeria, 2024). The NAV is a key indicator for evaluating the performance of these funds, representing the total market value of the fund's assets minus its liabilities. However, the expenses associated with these funds in Nigeria remain relatively high, often ranging between 1.5% to 3% of the total assets under management annually (**Udo, 2022**). While these fees may seem small in percentage terms, they can have a substantial impact on long-term investment performance, particularly in a market like Nigeria, where inflation and currency volatility add additional explanations to investment returns.

In an ideal financial scope, Collective Investment Schemes (CIS) should serve as efficient vehicles for wealth creation, offering investors the benefits of professional management, diversification, and economies of scale. The investment performance of fund managers, typically measured by Net Asset Value (NAV), should consistently meet or exceed investor expectations and market benchmarks. This performance should be driven by skilled management, optimal expense ratios, and the advantages that come with fund maturity and experience.

However, the reality of the Nigerian CIS market presents a more varied scenario. Despite the significant growth in the sector, with the total Net Asset Value of registered CIS increasing from ₦173.2 billion in 2014 to ₦2.093 trillion by the end of 2023 (SEC Nigeria, 2024), the performance of many funds has been inconsistent and often falls short of investor expectations. A study by **Nwude and Egolum (2022)** found that a significant proportion of Nigerian mutual funds struggled to deliver consistent returns above market averages between 2015 and 2020.

In light of these challenges, regulatory bodies such as the Securities and Exchange Commission (SEC) in Nigeria have implemented various measures to enhance the performance and transparency of CIS. These include stricter reporting requirements, guidelines on expense ratios, and efforts to improve corporate governance within fund management companies (**Okafor & Okoye, 2021**). Additionally, there has been a push towards greater investor education and awareness to help individuals make more informed investment decisions.

Despite these regulatory efforts and the overall growth of the sector, the performance issues within the Nigerian CIS market persist. Many funds continue to underperform their benchmarks, and concerns about high expense ratios remain. A report by **PwC (2019)** highlighted that expense ratios for Nigerian mutual funds often range between 1.5% and 3%, significantly higher than global averages, which have been trending downwards to around 0.63% for equity funds (**Morningstar, 2020**).

Based on the nature and importance of the relationship between collective investment scheme expenses, age, and investment performance, this study becomes necessary as the performance of collective investment schemes in Nigeria has experienced significant variability in recent years. Therefore, it is the aim of this study to analyse how expenses and fund age have impacted the investment performance of collective investment schemes, using Net Asset Value as a proxy, from 2014 to 2023.

The seminar addressed the following research questions:

i. What effect does collective investment scheme Expenses have on their performance?
ii. To what extent does und age of collective investment scheme influence their performance?

II. Literature Review

Conceptual Framework

Collective Investment Schemes (CIS) refer to investment vehicles that pool funds from multiple investors to invest in a diversified portfolio of assets such as stocks, bonds, or other securities. A key aspect that influences the performance of these schemes is the associated expenses. Collective Investment Scheme expenses, broadly defined, encompass the management fees, transaction costs, administrative fees, and other operating costs that are charged to investors for the management and operation of the fund. According to **Bogle (2018)**, these expenses can be categorized into direct costs, such as management fees, and indirect costs, like trading costs or taxes incurred during the operation of the fund. Management fees, typically charged as a percentage of assets under management (AUM), represent a recurring cost that directly impacts investor returns, reducing the net returns over time. As highlighted by **Morningstar (2019)**, funds with lower expense ratios tend to perform better over the long term because a smaller portion of the returns is consumed by fees, allowing more capital to compound in the investor's favour. Empirical evidence further supports the idea that high expense ratios are often detrimental to performance, particularly in markets with high inflation and volatility, such as Nigeria (**Udo, 2022**). These expenses have been the subject of growing scrutiny as investors seek better cost-efficiency in their investment vehicles.

Another important variable in understanding the performance of CIS is the age of the fund. Fund age refers to the number of years a particular CIS has been in operation, and it is often seen as a proxy for the experience and track record of the fund (**Fama & French, 2020**). Older funds are generally perceived as more stable and reliable, having survived various market cycles. This is particularly important in emerging markets like Nigeria, where market volatility and macroeconomic instability can affect investor confidence. However, while fund age may offer insights into the operational experience and historical performance of the fund, it does not necessarily guarantee superior returns. Studies such as the one conducted by **Carhart (2018)** have shown that younger funds with more innovative investment strategies may outperform older, more established funds, as they are often more agile and better positioned to take advantage of new market opportunities. In the Nigerian context, **Ayo and Sulaimon (2021)** found that the relationship between fund age and performance is not statistically significant, implying that other factors, such as the quality of management and market conditions, may play a larger role in determining performance. Despite this, older funds may still attract more conservative investors, particularly those looking for stability and a proven track record.

The performance of a Collective Investment Scheme is a critical factor for investors and is often measured using Net Asset Value (NAV). NAV represents the total value of the fund's assets minus its liabilities and is expressed on a per-share basis, giving investors a snapshot of the value of their investment at any given time. According to **Fink (2020)**, NAV is one of the most widely used measures to assess a fund's performance, as it provides a straightforward indication of the market value of the assets held by the fund. Increases in NAV over time reflect positive investment performance, whereas declines indicate losses. While NAV is a crucial indicator, it is important to note that it is influenced by various factors, including market conditions, the skill of the fund manager, and, importantly, the expenses incurred by the fund. As highlighted by **Dimson et al. (2021)**, higher fund expenses can lead to a slower growth rate in NAV, as more of the fund's earnings are allocated toward covering costs rather than enhancing the value of the fund's holdings. In Nigeria, where inflation and currency fluctuations add additional shape to the investment realm, NAV remains a reliable measure of performance, but it must be considered alongside other indicators such as total return and risk-adjusted performance measures.

Theoretical Framework

The theoretical framework for this study is the Efficient Market Hypothesis (EMH), propounded by Eugene Fama in 1970. The EMH asserts that financial markets are "informationally efficient," meaning that asset prices always fully reflect all available information at any given time. This theory suggests that it is impossible for investors to consistently achieve returns that outperform the overall market through active management or stock selection because all relevant information is already factored into asset prices. As such, the EMH challenges the notion that active fund managers, who often charge high fees, can consistently deliver superior returns. **Fama (1970)** explains that in an efficient market, securities are always traded at their fair value, making it impossible to either purchase undervalued stocks or sell overvalued ones. Consequently, the only way for investors to achieve higher returns is by taking on more risk.

The strength of the EMH lies in its vast empirical support, especially in developed markets, where evidence shows that the majority of actively managed funds fail to outperform the market once fees and expenses are taken into account (**Bogle, 2018**). This lends support to the view that lower-cost investment options, such as passive index

funds, are often more beneficial to investors, aligning with the growing popularity of low-expense funds globally. The EMH has had a profound impact on the design and management of collective investment schemes, encouraging investors to focus on cost-efficient investment strategies.

However, the EMH is not without its criticism. One major critique comes from behavioural finance scholars, such as **Shiller (2003)**, who argue that markets are not always efficient because investor behaviour is often driven by irrationality, herd mentality, and speculative bubbles, as evidenced by historical market anomalies such as the Dotcom bubble and the 2008 financial crisis. Shiller contended that market prices can deviate significantly from their intrinsic values due to these irrational behaviours, which contradicts the assumptions of perfect rationality and efficiency posited by the EMH. Furthermore, **Grossman and Stiglitz (1980)** critiqued the EMH by asserting that if markets were perfectly efficient, there would be no incentive for investors to gather costly information, as prices would already reflect all available data. This argument suggests that some degree of inefficiency is necessary to reward investors for their information-gathering efforts. The criticisms emphasize that, particularly in emerging markets, such as Nigeria, where information asymmetry and market inefficiencies are prevalent, the EMH may not fully apply, and active management could play a more significant role.

In the context of this study, the EMH helps explain why collective investment scheme expenses and age are critical factors in determining investment performance, particularly when measured by Net Asset Value (NAV). If markets are efficient, as **Fama (1970)** proposed, then the high fees associated with actively managed funds, which are common in Nigeria, do not lead to better performance; rather, they erode investor returns over time. This theory underpins the understanding that low-cost funds, which minimize expenses, are more likely to provide better NAV growth in the long term, especially in markets where inflation and volatility already challenge investor gains. Furthermore, the EMH suggests that the age of a fund should not necessarily influence its ability to generate returns, as older funds, despite having more experience or established reputations, would operate under the same market conditions as newer funds. The absence of a direct relationship between fund age and performance aligns with findings in Nigeria, where empirical studies indicate that factors such as expenses and market conditions have a more significant impact on NAV growth (**Udo, 2022**).

Nevertheless, applying the EMH to the Nigerian market requires caution, given the criticisms that suggest that emerging markets, including Nigeria's, may not exhibit the same levels of efficiency as developed markets. **Shiller's (2003)** argument regarding behavioural biases and information asymmetry is particularly relevant in this context, where investor psychology and limited market transparency can lead to inefficiencies. Thus, while the EMH provides a strong theoretical framework for understanding the impact of expenses on CIS performance, the unique characteristics of the Nigerian market, such as higher fees, currency volatility, and market illiquidity, may necessitate a more dynamic application of the theory.

Empirical Review

Adegoke and Salami (2022) examined the impact of expense ratios on the performance of Nigerian mutual funds over a time frame of 2015 to 2020. Using regression analysis on panel data obtained from Nigerian mutual funds, they investigated the relationship between expense ratios and fund returns, with a specific focus on Net Asset Value (NAV) as a performance measure. Their findings indicated a significant negative relationship between expense ratios and fund performance, suggesting that high management fees and operational costs negatively impact investor returns in the Nigerian mutual fund market. While the study offers valuable insights into cost efficiency's role in mutual fund performance, it mainly emphasizes expense ratios without exploring other factors, such as fund management strategy, which may also influence performance. This narrow focus limits the study's applicability across different types of funds, especially those that might offset high expenses with high returns through more dynamic investment strategies.

Adeyemi (2021) focused on the relationship between fund age and performance among Nigerian mutual funds, covering a time frame of 2016 to 2020. Using a combination of descriptive statistics and multiple regression models, Adeyemi analysed data on fund age, NAV, and other relevant financial indicators to explore how fund age influences NAV growth over time. The study concluded that younger funds outperformed older ones, attributed to the aggressive investment strategies often employed by new funds seeking to establish market presence. However, the research assumes a direct link between age and performance, without fully accounting for variables like market conditions or fund management expertise, which could also impact NAV. By limiting the analysis to age as the primary determinant of performance, the study may overgeneralize the findings and overlook unique factors that could explain the variance in NAV across funds of different ages.

Bogle (2021) investigated the effect of fund expenses on investor returns, drawing from a long-term study of mutual funds in the United States. This research is grounded in decades of empirical data and analysis, though Bogle's publication specifically draws on data from 2000 to 2020. Employing statistical analysis and case studies, Bogle illustrated that high expense ratios are consistently associated with lower investor returns, a phenomenon he attributed to the "tyranny of compounding costs." Bogle's findings highlight the advantage of low-cost investment options, such as index funds, over actively managed funds with high expenses. Despite its influential insights, the study's focus on developed markets may limit its applicability to emerging markets like Nigeria, where investment dynamics, including regulatory and operational costs, differ significantly. Furthermore, Bogle's work emphasizes cost efficiency but does not examine the potential benefits of active management, which could provide returns that offset higher fees in specific market conditions.

In their study, **Iqbal and Hassan (2020)** examined the relationship between fund age and mutual fund performance within the United States over the period from 2010 to 2019. Using a panel regression model, they analysed fund age, Net Asset Value (NAV), and other performance indicators to assess whether fund age influences returns in a mature, efficient market. Their findings revealed a positive association between fund age and performance, suggesting that older funds tend to perform better due to established reputations, experienced fund management, and economies of scale. This trend highlights the advantages of longevity in stable, efficient markets like the U.S. However, the study's context in a well-regulated and highly competitive market limits its direct applicability to emerging markets, where factors such as market volatility and regulatory changes might affect younger and older funds differently. This assumption that all markets operate under similar conditions limits the generalizability of their findings outside of highly developed financial systems.

Lin and Chang (2021) investigated the impact of expense ratios on mutual fund performance in Taiwan, covering the period from 2015 to 2020. Applying regression analysis to a dataset of actively managed Taiwanese funds, they found a strong, negative relationship between expense ratios and fund returns, aligning with global findings on the detrimental effect of high fees on investor returns. Their study highlighted that lower-cost funds generally outperformed their higher-cost counterparts, suggesting that investors in Taiwan should prioritize funds with lower expense ratios to maximize returns. However, Lin and Chang also noted that certain actively managed funds with high fees occasionally achieved higher-than-average returns, which they attributed to superior fund management strategies in select cases. This exception suggests that while low expenses are generally preferable, high-cost funds might still be justified in markets with sufficient fund management expertise. The findings, though valuable, emphasize expense ratios without a thorough exploration of other performance determinants, limiting insights into how other factors may impact the observed relationship.

Zhang and Lee (2023) explored the relationship between fund age and mutual fund performance across emerging markets, with data spanning from 2012 to 2021. Utilizing a dynamic panel model, they assessed the impact of fund age on NAV and returns, focusing on emerging economies where financial markets exhibit higher volatility and structural inefficiencies. The study found a negative association between fund age and performance, indicating that younger funds often outperform older funds in emerging markets due to their agility, adaptability, and often more aggressive investment strategies. The authors suggested that older funds in these markets may struggle with legacy costs and risk-averse approaches, which hinder their ability to generate competitive returns. While Zhang and Lee's findings provide meaningful insights into emerging markets, the study assumes that all older funds are less adaptable, which may not account for potential variations in management strategies. Their research is an essential contribution to understanding fund performance in less developed financial environments but could benefit from further exploration into how specific management practices impact fund adaptability.

III. Research Methodology

This study adopts a longitudinal research design, which involves collecting data on the same variables over an extended period to observe changes and trends. Specifically, the study examines the impact of collective investment scheme (CIS) expenses and fund age on investment performance, using Net Asset Value (NAV) as a proxy, over the period from 2014 to 2023. The longitudinal approach allows for the assessment of how these variables interact with market conditions over time, providing deeper insights into long-term performance trends in Nigeria's CIS industry. This design is particularly useful for analysing patterns and relationships that evolve across different market cycles.

The study utilized secondary data sourced from the annual statements of account of selected collective investment scheme (CIS) managers registered by the Securities and Exchange Commission (SEC) in Nigeria. These statements provided critical financial performance indicators, including Net Asset Value (NAV), fund

expenses, and fund age. Additionally, data was gathered from SEC Nigeria's regulatory filings, market reports, and performance summaries of registered fund managers covering the period from 2014 to 2023. By using these official financial documents and regulatory data, the study ensures accuracy and reliability, enabling a comprehensive assessment of the impact of expenses and age on investment performance over time.

The population of this study comprised all 153 collective investment schemes (CIS) operating in Nigeria as of December 2023. A purposive sampling technique was employed to select a sample of 45 collective investment schemes, based on those that have a minimum of three years of operational history. This ensured the sample represented CIS with sufficient track records and relevance to the Nigerian market. After applying these criteria, the final sample size was adjusted to 45 collective investment schemes for comprehensive analysis.

For this study, the mathematical specification of the implicit model that expresses the relationship between collective investment scheme expenses, age, and investment performance of selected fund managers in Nigeria is expressed as:

$$NAV_{it} = f(EX_{it}, FA_{it}) \quad (1)$$

Setting up equation (1) in a linear panel stochastic form is expressed as:

$$NAV_{it} = \alpha_0 + \alpha_1 EX_{it} + \alpha_2 FA_{it} + \mu_i + \varepsilon_{it} \quad (2)$$

Where:
NAV =Net asset value (proxy for Performance)
EX = Expenses
FA = Fund Age

α_0 = Intercept or autonomous parameter estimate

$\alpha_1 - \alpha_2$ = Coefficients of Expenses, and Fund Age

$\mu_i =$ unobserved individual effects (or fixed effect error term or unobserved heterogeneity)

ε_{it} = The white noise error term.

$i = 1, 2, \ldots N$ representing cross sections;

$; t = 1, 2, \ldots, T$ representing time periods.

A widely used estimation technique for dynamic panel data models, especially in short panels, is the Arellano and Bond Generalized Method of Moments (GMM). Introduced by **Arellano and Bond (1991)**, this method removes time-invariant effects by differencing the dynamic model, making it effective for addressing endogeneity and unobserved heterogeneity. For this reason, the Arellano-Bond GMM is often referred to as the Difference GMM dynamic panel estimator. In this study, the empirical framework involved carefully evaluating the data characteristics and choosing the appropriate estimation method. To check for cross-sectional dependence within the dataset, the **Pesaran (2004)** cross-sectional dependence test was applied. Detecting such dependence is essential because ignoring it—often caused by unobserved common factors like regional or global shocks—can distort parameter estimates. By addressing these issues, the study ensures the accuracy and efficiency of its coefficient estimates (**Pesaran, 2004; Phillips & Sul, 2003**).

The **Pesaran (2004)** cross-sectional dependence test is specified as follows:

$$CD = \sqrt{\frac{2T}{N(N-1)}} \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \hat{\rho}_{ij} \quad (3)$$

Where:
T is the number of time periods.
N is the number of cross-sectional units.
$\hat{\rho}_{ij}$ is the sample correlation of the residuals between cross-sections *i* and *j*.

Building equation (1) into a panel Dynamic Difference GMM model we have:

$$\Delta NAV_{it} = \alpha \Delta NAV_{i,t-1} + \beta_1 \Delta EX_{it} + \beta_2 \Delta FA_{it} + \Delta \varepsilon_{it} \quad (4)$$

The differenced GMM is justified for use in this study because it effectively addresses endogeneity by removing unobserved time-invariant factors through differencing, making it ideal for dynamic panel data models. Additionally, it is well-suited for short panels, where it mitigates potential biases from cross-sectional dependence and autocorrelation, ensuring more reliable and efficient parameter estimates.

IV. Results and Discussion

Descriptive statistics provide a summary of the key characteristics of a dataset, such as the central tendency, dispersion, and shape of the distribution of variables. In this study, descriptive statistics were computed for three primary variables: Net Asset Value (NAV), Expenses (EX), and Fund Age (FA). Table 1 presents these statistics, including the mean, standard deviation, skewness, kurtosis, and results from the Jarque-Bera test, which assesses the normality of each variable's distribution.

Table 1: Descriptive Statistics

	NAV	EX	FA
Mean	1.78E+10	0.231409	6.991051
Std. Dev.	4.93E+10	0.634905	5.457944
Skewness	4.975856	18.34973	0.623814
Kurtosis	32.91934	367.7846	2.921184
Jarque-Bera	18517.04	2503473.	29.10694
Probability	0.000000	0.000000	0.000000
Observations	447	447	447

Source: Researcher's Computation Using EViews-13 (2024)

The mean NAV is NGN 17.8 billion, reflecting the average size of the funds under consideration. However, the high standard deviation of NGN 49.3 billion suggests significant variation in the NAV among the funds, indicating that some funds are significantly larger than others. This is further supported by a skewness value of 4.98, indicating a highly positively skewed distribution. This skewness implies that while most funds have relatively lower NAVs, a few funds possess extremely high NAVs, which significantly influence the average. The kurtosis value of 32.92 is considerably higher than 3, indicating a leptokurtic distribution with a sharp peak and long tails, characteristic of distributions with extreme values. The Jarque-Bera test value of 18,517.04, with a probability of 0.0000, confirms that the distribution of NAV is not normal. This finding aligns with the earlier trend analysis, which highlighted significant differences in NAV among funds based on factors like fund size, expenses, and risk levels

The mean expense ratio (EX) is 0.23, indicating that on average, funds incur moderate costs relative to their NAV. However, the standard deviation of 0.63 shows substantial variability in expenses among funds, suggesting that some funds operate with much higher expense ratios than others. The skewness value of 18.35 indicates an extremely positively skewed distribution, where most funds have lower expenses, but a few have significantly higher expenses. This is consistent with the kurtosis value of 367.78, suggesting a very peaked distribution with long tails, indicating many extreme values. The Jarque-Bera test statistic of 2,503,473, with a probability of 0.0000, confirms the non-normal distribution of expenses. This result corroborates the trend analysis, which found that funds with lower expenses, such as the *Stanbic IBTC Dollar Fund*, tend to have higher NAVs, while those with higher expenses see reduced NAVs.

The mean fund age (FA) is 6.99 years, indicating that most funds are relatively young, given the typical lifespan of investment funds. The standard deviation of 5.46 years shows moderate variability in fund age, reflecting a mix of both older, established funds and newer funds. The skewness value of 0.62 indicates a slightly right-skewed distribution, suggesting that while most funds are younger, a few older funds are pulling the average age upwards. The kurtosis value of 2.92 is close to 3, indicating a mesokurtic distribution, which is relatively normal with moderate tail thickness. The Jarque-Bera statistic of 29.11, with a probability of 0.0000, indicates that the distribution is not perfectly normal but not as extreme as other variables like fund size or expenses. This observation is consistent with the trend analysis, where older funds were found to have more stable and predictable NAV growth, while newer funds showed more aggressive NAV changes as they attempted to establish market presence.

Cross-Section Dependence Test

The Cross-Section Dependence Test is an essential diagnostic tool used to determine whether cross-sectional units in a panel dataset are interdependent. In dynamic panel data analysis, cross-sectional dependence can lead to biased and inconsistent parameter estimates if left unaddressed.

Table 2: Cross-Section Dependence Test

Null hypothesis: No cross-section dependence (correlation)

Pesaran CD Test		
Variable	Statistic	Prob.
Net Asset Value (NAV)	27.24272	0.0000
Expenses (EX)	7.477968	0.0000
Fund Age (FA)	62.83538	0.0000

Source: Researcher's Computation Using EViews-13 (2024)

The results of the Cross-Section Dependence Test for this study, as shown in Table 2, reveal statistically significant dependence across all three primary variables: Net Asset Value (NAV), Expenses (EX), and Fund Age (FA). For NAV, the Pesaran CD test statistic is 27.24272, with a p-value of 0.0000, indicating strong evidence of cross-sectional dependence. This result suggests that the NAV values of different funds are not independent but are likely influenced by shared economic or market conditions in Nigeria.

Similarly, the Expenses (EX) variable also exhibits significant cross-sectional dependence, with a test statistic of 7.477968 and a p-value of 0.0000. This suggests that the expense ratios of the funds are not independent and may be influenced by shared factors such as market competition, regulatory fees, or operational costs that affect all fund managers in the Nigerian market.

Fund Age (FA) also shows strong cross-sectional dependence, with a test statistic of 62.83538 and a p-value of 0.0000. This finding suggests that the age of the funds may be correlated due to the timing of their establishment, possibly influenced by historical regulatory changes or market expansion phases in Nigeria's investment scope.

Model Estimation and Statistical Test of Hypotheses

The investigation into the relationship between collective investment scheme expenses, fund age, and the investment performance of selected fund managers listed by the SEC in Nigeria has identified significant cross-sectional dependence (CD) among the variables. As a result, this study proceeds to estimate these relationships using the Difference Generalized Method of Moments (GMM) regression technique. The Difference GMM is chosen due to its robustness in delivering unbiased and consistent estimates for the coefficients in dynamic panel data models, even in the presence of endogeneity and serial correlation, making it particularly suitable for this context.

Table 3: Panel Generalized Method of Moments (Differenced GMM)

Dep. Var.: NAV

Instrument specification: @DYN(NAV,-2) EX(-1) FA(-1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NAV(-1)	0.7403	0.0587	12.6171	0.0000
EX	-5.7600	1.6205	-3.5544	0.0000
FA	-5.0501	2.2134	-2.2816	0.0114
Effects Specification				
Cross-section fixed (first differences)				
Root MSE	4460000	Mean dep. var	446000	
S.D. dep. var	401000	S.E. of regression	448000	
Sum squa. resid	7001523	J-statistic	43.8017	
Instrument rank	38	Prob(J-statistic)	0.146148	

Source: Researcher's Computation Using EViews-13 (2024)

Starting with NAV(-1), which represents the lagged value of Net Asset Value, the coefficient is 0.7403. This positive and statistically significant coefficient (t-statistic of 12.6171 and probability of 0.0000) suggests a strong positive relationship between the past performance of a fund (as captured by the previous NAV) and its current performance. In practical terms, this result implies that past performance has a significant influence on the current NAV, which could indicate that funds with a higher historical NAV tend to continue performing well.

Moving to Expenses (EX), the coefficient is -5.76, with a t-statistic of -3.5544 and a probability of 0.0000. This negative and statistically significant result suggests that higher expenses are associated with lower NAV, indicating that the cost of managing a fund has a detrimental effect on its investment performance. A negative relationship between expenses and NAV aligns with the Efficient Market Hypothesis (EMH), which posits that higher management costs do not lead to higher returns, as all available information is already reflected in asset prices.

The Fund Age (FA) variable also exhibits a negative and statistically significant coefficient of -5.0501 (t-statistic of -2.2816 and probability of 0.0114), suggesting that older funds tend to have a lower NAV compared to their younger counterparts. This negative relationship could imply that newer funds adopt more innovative or aggressive investment strategies to gain market share

and attract investors, leading to better performance in the short term. Older funds, on the other hand, may have more conservative strategies or may face higher costs related to their operational structure and legacy investments, which could limit their ability to generate high returns.

he J-statistic value of 43.8017 and its associated probability of 0.146148 are a crucial diagnostic tool that assesses the validity of the instrumental variables used in the model. This probability value is above the common significance threshold of 0.05, indicating that we fail to reject the null hypothesis of the overidentifying restrictions test. In other words, the instruments used in the DGMM model are valid, meaning they are uncorrelated with the error term and are thus appropriate for the analysis.

Discussion of Findings

Findings from the study revealed that collective investment scheme (CIS) expenses have a negative but significant impact on their performance in Nigeria. This implies that high expenses associated with CIS, including management fees and administrative costs, considerably erode the returns for investors, thus reducing Net Asset Value (NAV) over time. The negative impact of expenses on fund performance aligns with studies like **Bogle (2021)**, which emphasized that higher costs in investment funds result in lower returns, as fees diminish the capital available for reinvestment and compounding. Similarly, **Adegoke and Salami (2022)** observed that high expense ratios among Nigerian mutual funds had a detrimental impact on their growth potential, making them less competitive compared to low-cost funds. The significance of this effect also supports the efficient market hypothesis (EMH), which posits that excessive fees cannot lead to outperformance, as markets are efficient and all available information is already reflected in asset prices (**Fama, 1970**). This outcome, however, contrasts with findings from **Lin and Chang (2021)**, who noted in a study of Taiwanese funds that certain actively managed funds with higher fees outperformed the market, likely due to unique local market factors and superior fund management strategies. In the Nigerian context, the results suggest that CIS managers need to prioritize cost efficiency, as high expenses directly detract from performance, a trend consistent with global research on the adverse impact of high fees on mutual funds.

Additionally, the study's findings showed that fund age has a negative but significant effect on CIS performance in Nigeria, suggesting that older funds tend to perform worse than newer funds. This could be due to older funds becoming more conservative in their strategies, potentially limiting their capacity to adapt to evolving market conditions or employ innovative strategies that younger funds might adopt. This outcome supports the conclusions of **Zhang and Lee (2023)**, who found that in emerging markets, older funds underperformed due to their established but less flexible investment strategies and higher operational costs. Similarly, in a comparative study, **Adeyemi (2021)** found that new Nigerian mutual funds tended to outperform older funds due to their focus on aggressive growth strategies aimed at capturing market share. The significant negative effect of age contradicts the traditional view that longer-established funds offer greater stability and reliability, which was highlighted by **Iqbal and Hassan (2020)** in their study on U.S. funds, where they found a positive relationship between fund age and performance. However, this positive relationship was attributed to the U.S. market's maturity and efficiency, where older funds benefit from established trust and brand reputation. In contrast, the findings from Nigeria suggest that the advantages of fund experience may be outweighed by an inability to compete with the adaptability and innovation of younger funds in a growing, dynamic market.

V. Conclusion and Recommendations

In conclusion, this study has provided significant understandings into the impact of collective investment scheme (CIS) expenses and fund age on investment performance in Nigeria, as measured by Net Asset Value (NAV). The main objective was to determine whether CIS expenses and fund age significantly affect performance, with findings confirming a negative and significant relationship for both variables. This has two primary implications. First, the negative effect of expenses suggests that high costs erode returns, emphasising the critical role of cost-efficiency for Nigerian CIS managers who aim to enhance NAV. Excessive fees diminish the returns available to investors, reflecting the broader principle that cost structures directly impact fund performance, as observed in both emerging and developed markets. Second, the negative impact of fund age implies that older funds may face structural challenges or conservative strategies, which can inhibit growth. This indicates that fund age alone does not guarantee superior performance, challenging the traditional preference for older funds as inherently stable investments.

Following the findings, these recommendations were suggested:

i. To address the negative impact of high expenses on collective investment schemes (CIS) performance, the Securities and Exchange Commission (SEC) Nigeria should ensure

compliance with regulatory limits on management fees for CIS funds. This would compel fund managers to adopt cost-efficient practices, directly benefiting investors by preserving a greater portion of their returns.

ii. Regarding the negative effect of fund age on performance, fund managers should consider revising their investment strategies periodically to incorporate innovative and flexible approaches that respond to market shifts. This could involve adopting more agile strategies and reducing legacy costs associated with outdated assets. Furthermore, the SEC Nigeria could establish guidelines that encourage periodic evaluations of investment strategies based on fund age, promoting adaptability and helping older funds remain competitive in a rapidly evolving market.

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