OpenMind Journal of Multidisciplinary Innovation & Development
Vol. 2, Issue – 5, (Sep-Oct) 2026
ISSN: 3108-2920 (Online)

Research Article

Effect of Macroeconomic Factors and Firm-Specific Features on the Performance of Real Estate Investment Trusts in Nigeria

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***Related declarations are provided in the final section of this article*

ARTICLE INFORMATION

Received: 25 Sep 2026

Accepted: 20 Oct 2026

Published: 29 Oct 2026

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Abstract

The real estate sector plays a crucial role in economic development through its contributions to investment, employment, and overall growth. However, the performance of Real Estate Investment Trusts (REITs), particularly in developing economies such as Nigeria, remains inconsistent due to macroeconomic instability and firm-level inefficiencies. This study examined the influence of macroeconomic variables and company-specific features on REIT performance in Nigeria, with a focus on GDP rate, Interest rate and Inflation rate from the macroeconomic aspect while Asset size and Liquidity from company-specific features over the period 2015–2024. A quantitative research design was adopted using a census approach of all REITs in Nigeria (N = 3, Skye Shelter REIT, Union Homes REIT and UPDC REIT) with secondary data sourced from annual financial reports, Nigerian Exchange Group publications, and macroeconomic databases such as the Central Bank of Nigeria and National Bureau of Statistics. Data were analyzed using descriptive and regression statistics (Vector Autoregression VAR) in Eviews software. The stationarity of the construct was confirmed using Augmented Dickey Fuller ADF test, the Augmented Dickey-Fuller (ADF) test results show that all variables are stationary at level, as their ADF t-statistics are less than the 5% significance threshold ($p < 0.05$). In addition, the VAR residual normality test indicates that the model is normally distributed, with the probabilities of skewness, kurtosis, and Jarque-Bera statistics all exceeding 0.05 ($p > 0.05$). The results revealed that UPDC REIT, which has the largest

mean asset base (₦31.1 billion), also records the highest mean performance (4.00%), followed by UH REIT and then SFS REIT. The regression analysis revealed macroeconomic variables significantly affected only Union Homes REIT: GDP (β = 3.934848; t = 2.42493) and inflation (β = 1.080685; t = 2.47564) had positive significant effects, while interest rate (β = -1.113549; t = -2.25864) had a negative significant effect. For firm-specific factors, asset size negatively and significantly influenced Skye REIT (β = -1.90E-08; t = -2.33861) and Union Homes REIT (t ≈ -2.49), but was positive and insignificant for UPDC REIT (β = 9.29E-10; t = 1.58450). Liquidity had positive but insignificant effects across all REITs. The study concludes that both macroeconomic variables and firm-specific features jointly influence REIT performance in Nigeria, though the magnitude and direction of their effects vary across firms. The study recommends improved asset management, effective interest rate risk strategies, and better policy support to enhance REIT performance.

Keywords: Investment; Performance; Real estate; REITS

INTRODUCTION

The real estate sector plays a vital role in the economic development of any country, contributing significantly to employment, investment, and overall economic growth (Jones, 2020). The performance of real estate investment trusts at the global level is influenced by various macroeconomic factors, including interest rates, economic growth, regulatory policies, and investor sentiment (Smith & Lee, 2021). REITs provide liquidity to the traditionally illiquid real estate sector while allowing investors to gain exposure to property markets (Brown, 2019).

Globally, REIT performance varies across countries due to differences in economic conditions and institutional frameworks (Knight, 2024). For instance, in the United States, REITs such as Simon Property Group and Prologis have demonstrated strong performance due to growth in retail and industrial properties, although fluctuations in interest rates significantly affect their valuation (Odusanya, 2024). Similarly, in the United Kingdom, uncertainty arising from Brexit has influenced the performance of listed real estate firms such as British Land and Land Securities (Savills, 2023).

In Africa, the real estate sector has experienced increasing growth, particularly in countries such as South Africa, where firms like Growthpoint Properties and Attacq have undertaken large-scale investments (Knight Frank, 2024). In Nigeria, the real estate market is projected to grow significantly, with a projected value of approximately $2.61 trillion by 2025 (Mordor, 2024). However, this growth has not translated into consistent performance of REITs due to macroeconomic instability, including high inflation, fluctuating exchange rates, and high interest rates (Olawale & Adebayo, 2022).

Macroeconomic variables such as GDP growth, inflation, and interest rates have been identified as key determinants of REIT performance (Adegbite, 2021; Eze & Okonkwo, 2023). At the same time, firm-specific factors such as size, liquidity, and management efficiency also play a critical role (Babatunde & Salami, 2021). Despite these insights, there remains a gap in understanding the effect of both the variables on REIT performance in Nigeria.

This study therefore examines the influence of both macroeconomic factors and company-specific features on REIT performance in Nigeria, providing empirical evidence to support investment and policy decisions.

LITERATURE REVIEW

1. Real Estate Investment Trusts (REITs)

Real Estate Investment Trust (REIT) is one of the asset class investment options that come into view among investors whose searching for an alternative investment. It was considered as less risky as opposed to equities, bond, direct property investment, trust fund and others related investments materials with potential for earnings enhancement. Real Estate Investment Trusts (REITs) are companies that pool funds from investors to invest in income-generating real estate assets and distribute earnings as dividends (Mohamad & Zolkifli, 2014). They serve as an indirect investment avenue, enabling investors to participate in real estate markets without direct ownership (Potelwa, 2013).

The Nigerian REIT came into existence following the enactment of Investment Securities Act of 2007 and the setting of guidelines by the Securities and Exchange Commission (SEC). SKYE Shelter Fund (SKYE REIT) was the first REIT registered in Nigeria in 2007 followed by the Union Homes Hybrid REIT in 2008 and lately is the 2013 entrant UPDC REIT. The REIT Sector in Nigeria falls within the Construction/real estate subsector of the Nigerian Stock Exchange with three REIT companies (Skye, Union Homes and UPDC REIT); one (1) property company (UACN Property Development Company – UPDC Plc) and five construction companies (ARBICO Plc, Costain West Africa Plc, G. Cappa Plc, Julius Berger Plc, Roads Nigeria Plc) listed in the Nigeria stock exchange (Olanrele *et al*., 2021).

2. Factors affecting performance of REITs

2.1 Macroeconomic variables

Macroeconomic variables play a crucial role in influencing REIT performance.

GDP: GDP is a broad measure of economic performance, representing the total value of goods and services produced within an economy. It serves as an indicator of economic health, with higher GDP levels attracting investment into real estate and increasing property demand, values, and returns (Mwangi, 2013). Additionally, factors such as public debt and external borrowing can negatively affect GDP, thereby influencing real estate performance (Wanyama, Byaruhanga, & Ngala, 2020). Overall, economic growth, as reflected in rising GDP, is positively associated with real estate investment returns (Mwangi, 2013; Wanyama et al., 2020).

Inflation: Inflation refers to the general increase in prices and the reduction in purchasing power. It is typically measured using the consumer price index (CPI) (Bernanke et al., 2018). Inflation impacts real estate by increasing construction costs, which raises property prices, while limited supply of new developments further boosts the value of existing properties (Gaspareeniene et al., 2016). Empirical evidence on its effect on REIT performance is mixed: some studies find a positive relationship (Payne, 2003; Dabara et al., 2019; Olanrele et al., 2018), while others report no significant impact (Lu & So, 2001; Webb, 2007). Inflation may also increase borrowing costs, discouraging investment in real estate as consumers prioritize spending on goods and services (Safia, 2015).

Interest rates: Interest rates represent the cost of borrowing and significantly influence real estate markets. Higher interest rates increase mortgage costs, reduce borrowing capacity, and lower demand for property, leading to declines in property values and REIT performance (Barksenius & Rundell, 2012; Davis, 2008). Conversely, lower interest rates reduce borrowing costs, stimulate demand for real estate, and increase property values and REIT share prices (Nguyen, 2015). Interest rates also affect capital flows and investment decisions, making them a critical determinant of real estate market performance (Makena, 2012).

2.2 Firm-specific features

At the company level, several factors influence REITs performance.

Firm Size

One of the most commonly investigated firm characteristics is firm size. Several studies have found that larger firms tend to perform better in terms of profitability, growth, and market share, but there is also evidence that larger firms may experience diseconomies of scale in some cases (Chung & Pruitt, 1994). For example, large firms often benefit from greater access to financial resources, economies of scale, and stronger brand recognition, which can positively impact their performance (Baumol, 1982). However, some studies, such as those by Hossen et al. (2021), suggest that firm size might have an inverted U-shaped relationship with performance, meaning that beyond a certain size, further expansion may lead to inefficiencies and reduced performance.

Liquidity (Current Ratio)

The current ratio measures a company's ability to meet its short-term liabilities with its short-term assets. A healthy liquidity position ensures smooth operations, avoids delays in settling obligations, and strengthens stakeholder confidence. High liquidity allows a firm to respond quickly to investment opportunities, market changes, or emergencies, contributing to operational efficiency and stability (Eljelly, 2004). However, excessively high liquidity may indicate underutilized assets or poor asset management, potentially leading to lower returns (Deloof, 2003). Holding too much cash or liquid assets may result in opportunity costs, as those funds could be invested in higher-return projects.

METHODOLOGY

The study adopts a Descriptive time series research design using quantitative approach. Secondary data obtained from the annual financial reports of REITs, Nigerian Exchange Group (NGX) market reports and publications, Industry reports from regulatory bodies like the Securities and Exchange Commission (SEC) and Macroeconomic data from sources such as the Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS). The study covers the period from 2015 to 2024 across the three REITs in Nigeria which are: Skye Shelter Fund REIT, Union Homes REIT and the UPDC REIT. The dependent variable which is the performance metric is Return on Assets (ROA), while the independent variables include GDP, interest rate, inflation rate, asset size, and liquidity. Data analysis was conducted using descriptive statistics and Vector Autoregression (VAR) technique.

RESULTS

1. Descriptive Statistics

This section presents the descriptive statistics of the key variables Asset Size, Liquidity, and Performance (ROA) for the Real Estate Investment Trusts (REITs), namely: Skye Shelter Fund (SFS) REIT, Union Homes (UH) REIT, and UACN Property Development Company Plc (UPDC) REIT. The statistics include the mean, maximum, minimum, and standard deviation, which provide insight into the distribution and variability of the data.

Table 1

REITs	Features	Mean	Maximum	Minimum	SD
SFS REIT	Asset	3.03E+09	3.30E+09	2.62E+09	2.31E+08
	Liquidity	2.49	2.62	2.12	0.17
	Performance	2.73	6.72	1.72	1.1O
UH REIT	Asset	9.74E+09	1.01E+10	9.33E+09	2.26E+08
	Liquidity	3.78	3.98	3.71	0.07
	Performance	3.16	7.98	1.92	1.33
UPDC REIT	Asset	3.11E+10	3.43E+10	2.60E+10	2.49E+09
	Liquidity	5.32	6.73	3.14	1.03
	Performance	4.00	8.42	2.75	1.35

From table 1 above SFS REIT has the average asset size of ₦3.03 billion, with a maximum value of ₦3.30 billion and a minimum of ₦2.62 billion. The standard deviation of ₦231 million indicates a moderate level of variability in asset size over the study period. Liquidity has a mean value of 2.49, ranging between 2.12 and 2.62, with a relatively low standard deviation of 0.17.

This suggests that the firm maintained a fairly stable liquidity position throughout the period. Performance, measured by Return on Assets (ROA), shows a mean value of 2.73%, with a maximum of 6.72% and a minimum of 1.72%. The standard deviation of approximately 1.10 indicates moderate fluctuations in performance, suggesting some variability in profitability over time.

UH REIT recorded a higher average asset size of ₦9.74 billion, with values ranging from ₦9.33 billion to ₦10.1 billion. The standard deviation of ₦226 million reflects relatively stable asset growth with minimal dispersion. Liquidity position of UH REIT has a mean of 3.78, ranging between 3.71 and 3.98, and a very low standard deviation of 0.07. This indicates a highly consistent liquidity level, suggesting efficient short-term financial management. In terms of performance, the firm has an average ROA of 3.16%, with a maximum of 7.98% and a minimum of 1.92%. The standard deviation of 1.33 shows moderate variability, implying that although profitability fluctuates, it remains within a reasonable range.

UPDC REIT has the largest asset base among the three firms, with an average of ₦31.1 billion, a maximum of ₦34.3 billion, and a minimum of ₦26.0 billion. The relatively high standard deviation of ₦2.49 billion indicates significant variation in asset size, suggesting expansion or structural changes during the study period. Liquidity for UPDC REIT has a mean value of 5.32, with a wide range from 3.14 to 6.73 and a standard deviation of 1.03. This reflects considerable fluctuations in liquidity, indicating periods of both strong and weak short-term financial positions. Performance (ROA) shows a mean of 4.00%, with a maximum of 8.42% and a minimum of 2.75%. The standard deviation of 1.35 suggests moderate variability in profitability. despite fluctuations, UPDC REIT demonstrates the highest average performance among the three firms.

2. Vector Autoregression (VAR) Analysis

This section presents the interpretation of the estimated results examining the effect of selected macroeconomic variables Gross Domestic Product (GDP), Interest Rate (INT), and Inflation Rate (INF) on the performance of REITs and also the effect of firm-specific features Asset Size (ASST) and Liquidity (LIQ). The results are reported in terms of coefficients, standard errors (in parentheses), and t-statistics (in square brackets).

Table 2 Effects of Macroeconomic Variables on REITs Performance

	SKYE_PER	UPDC_PER	UNION_PER
GDP	-1.152142	2.732574	3.934848
	(2.34487)	(1.72759)	(1.62266)
	[-0.49135]	[1.58173]	[2.42493]

INT	0.911783	-0.745455	-1.113549
	(0.71245)	(0.52490)	(0.49302)
	[1.27979]	[-1.42020]	[-2.25864]
INF	-0.625585	0.693973	1.080685
	(0.63082)	(0.46475)	(0.43653)
	[-0.99171]	[1.49320]	[2.47564]

The results from table 2 above show that GDP has a negative effect on Skye REIT performance with a coefficient of -1.152142 and a t-statistic of -0.49135. This indicates that GDP does not significantly influence the performance of Skye REIT, as the t-value is less than the conventional threshold of 2 in absolute terms. In contrast, GDP exhibits a positive effect on UPDC REIT performance (β = 2.732574, t = 1.58173). However, this effect is statistically insignificant, suggesting that although economic growth tends to improve performance, the impact is not strong enough to be considered reliable within the study period. For Union Homes REIT, GDP shows a positive and statistically significant effect (β = 3.934848, t = 2.42493). This implies that economic growth significantly enhances the performance of Union REIT. The result suggests that as the economy expands, real estate investments under Union REIT benefit from increased demand, higher occupancy rates, and improved rental income.

Interest rate has a positive but insignificant effect on Skye REIT performance (β = 0.911783, t = 1.27979). This suggests that changes in interest rates do not have a strong influence on Skye REIT. For UPDC REIT, interest rate shows a negative and insignificant effect (β = -0.745455, t = -1.42020). This implies that higher interest rates tend to reduce performance. For Union Homes REIT, interest rate has a negative and statistically significant effect (β = -1.113549, t = -2.25864). This indicates that rising interest rates significantly reduce the performance of Union REIT.

The inflation rate has a negative effect on Skye REIT performance (β = -0.625585, t = -0.99171). This suggests that inflation does not significantly affect Skye REIT, although the negative sign implies that rising prices may erode performance. For UPDC REIT, inflation shows a positive but insignificant effect (β = 0.693973, t = 1.49320). This indicates that inflation may slightly enhance performance, possibly through increased property values and rental income, but the effect is not statistically significant. In the case of Union Homes REIT, inflation has a positive and statistically significant effect (β = 1.080685, t = 2.47564). This implies that inflation significantly improves performance.

Table 3 Effects of Company's Specific Features on REITs Performance

	SKYE PERFORMANCE
SKYE ASSET	-1.90E-08
	(8.1E-09)
	[-2.33861]
SKYE LIQUIDITY	1O.21618
	(11.2745)
	[0.90613]
	UPDC PERFORMANCE
UPDC ASSET	9.29E-10
	(5.9E-10)
	[1.58450]
UPDC LIQUIDITY	-0.450521
	(0.56009)
	[-0.80438]
	UNION PERFORMANCE
UNION ASSET	-3.75E-08
	(1.5E-08)
	[-249277]
UNION LIQUIDITY	11.78730
	(8.78958)
	[1.34105]

From table 3 above, for Skye REIT, asset size has a negative and statistically significant effect on performance (β = -1.90E-08; t = -2.33861). The t-statistic exceeds the conventional critical value of 2 in absolute terms, indicating significance at the 5% level. This implies that an increase in asset size leads to a decrease in performance. Liquidity, on the other hand, shows a positive but statistically insignificant effect on performance (β = 10.21618; t = 0.90613). This indicates that although higher liquidity tends to improve performance, the effect is not strong enough to be considered statistically meaningful.

For UPDC REIT, asset size exhibits a positive but statistically insignificant effect on performance (β = 9.29E-10; t = 1.58450). This suggests that an increase in asset size may enhance performance. Liquidity shows a negative and statistically insignificant effect (β = -0.450521; t = -0.80438), indicating that higher liquidity may reduce performance.

For Union Homes REIT, asset size has a negative effect on performance (β = -3.75E-08). The reported t-statistic (approximately -2.49) indicates that the effect is statistically significant at the 5% level. Liquidity, however, has a positive but statistically insignificant effect on performance (β = 11.78730; t = 1.34105). This indicates that liquidity may contribute positively to performance.

DISCUSSION

The findings show that UPDC REIT, with the largest asset base, also records the highest performance, followed by UH REIT and SFS REIT, indicating a positive relationship between firm size and performance. This supports prior studies that larger REITs benefit from economies of scale, improved access to capital, and diversification opportunities (Ong et al., 2011; Eichholtz et al., 2012). However, it contrasts with findings that excessive firm size may lead to inefficiencies and reduced performance (Capozza & Seguin, 1999). Similarly, the results indicate a positive relationship between liquidity and performance, as UPDC REIT has both the highest liquidity and returns, while SFS REIT records the lowest in both. This aligns with studies suggesting that higher liquidity enhances a firm's ability to meet obligations and invest in profitable opportunities (Bassey et al., 2016; Olarewaju & Msomi, 2021), although some research argues that excessive liquidity can lead to inefficiency (Deloof, 2003).

The findings also reveal a risk–return trade-off, where UPDC REIT exhibits higher variability yet achieves superior returns, consistent with financial theory (Clayton & MacKinnon, 2003). In contrast, UH REIT demonstrates lower variability and more stable but moderate performance, supporting the view that stable financial structures yield predictable returns (Anderson et al., 2009).

The findings further indicate that macroeconomic variables have mixed effects on REIT performance across firms. GDP positively and significantly influences only Union Homes REIT, supporting the argument that economic growth enhances real estate performance through increased demand and rental income (Eichholtz et al., 2012; Ong et al., 2011). However, its insignificant or negative effects on other REITs suggest the presence of structural limitations and firm-specific inefficiencies that weaken this relationship. Interest rate has a significant negative effect on Union Homes REIT, confirming that higher borrowing costs reduce performance, consistent with prior studies (Clayton & MacKinnon, 2003; Anderson et al., 2009). Its insignificant impact on other firms suggests variations in financing structures and risk management strategies. Inflation shows a significant positive effect only for Union Homes REIT, supporting the view that real estate can serve as a hedge against inflation (Bassey et al., 2016; Olarewaju & Msomi, 2021), although this effect is not uniform across all firms.

Regarding firm-specific variables, asset size negatively and significantly affects Skye and Union REITs, indicating possible diseconomies of scale and inefficiencies in large firms, which aligns

with Capozza and Seguin (1999). However, this contradicts studies that emphasize the benefits of scale in REIT performance (Eichholtz et al., 2012; Ong et al., 2011). Liquidity is found to be insignificant across all firms, suggesting that it is not a major determinant of REIT performance, although prior studies have reported mixed evidence (Bassey et al., 2016; Olarewaju & Msomi, 2021; Deloof, 2003).

CONCLUSION

This study concludes that the performance of Real Estate Investment Trusts in Nigeria is influenced by both macroeconomic factors and company-specific features. GDP and inflation generally have a positive impact on performance, while interest rates negatively affect profitability. Firm-specific factors such as asset size and liquidity also play significant roles, although their effects vary across firms.

RECOMMENDATIONS

Based on the findings, the study recommends that policymakers should implement measures to stabilize macroeconomic conditions, particularly by managing interest rates to reduce borrowing costs. REIT managers should focus on improving asset utilization and operational efficiency to avoid diseconomies of scale. Additionally, firms should adopt effective liquidity management strategies to balance financial stability and profitability. Investors are also encouraged to consider both macroeconomic indicators and firm-specific characteristics when making investment decisions.

LIMITATIONS AND AREAS FOR FUTURE RESEARCH

The study is limited by its focus on only three REITs in Nigeria, which may restrict the generalizability of the findings. The reliance on secondary data also limits the scope of analysis, as it depends on the accuracy and availability of published financial information. Furthermore, the study period may not fully capture long-term structural changes in the REIT market.

Future research should consider expanding the sample size to include more firms and extending the study period to capture broader trends. Comparative studies across different countries or regions would also provide deeper insights into the determinants of REIT performance. Additionally, future studies may incorporate other variables such as exchange rate, leverage, and corporate governance, as well as employ advanced econometric techniques such as panel regression and Vector Error Correction Models (VECM) for more robust analysis.

Article Publication Details
This article is published in the **OpenMind Journal of Multidisciplinary Innovation & Development**, ISSN: 3108-2920 (Online). In Volume 2 (2026), Issue 5 (Sep - Oct) - 2026
The journal is published and managed by **OMR PUBLICATION** .

Acknowledgements

We sincerely thank the editors and the reviewers for their valuable suggestions on this paper.

Authors' contributions

All author(s) read and approved the final manuscript.

Funding

The author(s) declare that no funding was received for this work.

Data availability

No datasets were generated or analyzed during the current study.

Declarations

Ethics approval and consent to participate

The author(s) declare that not applicable.

Consent for publication

The author(s) declare that not applicable.

Competing interests

The author(s) declare no competing interests.

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PUBLISHER'S NOTE

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