

PERFORMANCE OF REITS IN EMERGING PROPERTY MARKETS: THE CASE OF NIGERIAN REITS

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Abstract

Purpose: This study examined the correlations among the structure, conduct and performance of Real Estate Investment Trusts in Nigeria (N-REITs) with a view to providing information that will enhance and guide real estate investment decisions.

Design/Methods followed/Approach: The study population consisted of all the three REIT companies in Nigeria namely: Skye Shelter Fund, Union Home REITs and UACN Property Development Company (UPDC) REITs. Secondary data on dividends and share prices of N-REITs; Total Business Revenues (TBR) and Total Individual Expenditure (TIE) on conduct variables were sourced from periodicals of the respective companies covering the period from 2008 to 2016. The data series for the study were analyzed by means of the Granger Causality tests, Kwiatkowski-Phillips-Schmidt-Shin (KPSS) unit root tests, Philip-Perron (PP) unit root tests and the ordinary least square regression (OLS).

Findings: The study showed a Herfindahl Hirschman Index (HHI) that ranged between 41.81% (recorded in 2010) and 100% recorded in 2008. This suggested a high concentration in the N-REITs industry. Similarly, the study found that the returns on investment in the industry ranged between -0.24% and 22.07%. The Granger Causality Test conducted revealed a bi-directional causal relationship among the structure, conduct and performance of N-REITs.

Practical Implication: The study provided essential information for stakeholders in the real estate sector regarding the influence of structure and conduct on the performance of N-REITs. This information will be valuable for equipping asset managers, insurance companies, pension funds as well as individual real estate investors in making informed investment decisions.

Originality/Value: This study is unique as it is the first to draw a link between the structure, conduct and performance of REITs in an African emerging real estate market which was hitherto not considered in previous studies.

Keywords: Conduct, investment performance, real estate, returns, market structure, property.

1. INTRODUCTION

Real Estate Investment Trusts (REITs) was first introduced in the United State of America in 1960. The purpose for the creation of REITs is to provide opportunities for all categories of investors to enjoy the advantages and benefits of investing in direct real estate without actually financing its entire development/construction (Naido, 2014). Manoj (2016) posited that 'REIT is a trust that pools capital

from various investors and uses same to purchase and manage income producing real estate or real estate related assets'. REITs can be classified into: Equity, Mortgage and Hybrid (Seguin, 2016).

Drew (2016) asserted that REITs have become one of the vital investment vehicles in the economy of many countries. This is shown by the amount of investments in REITs industries across the globe. For example, Aro-Gordon, Bashir, Abdulsalam and Abdullahi (2014), Li and Chow (2015), NAREIT (2018) and NAREIT (2019) revealed that in 2012, REITs market capitalizations for US were \$400 billion; Singapore REITs was \$30.5 billion; and Japan REITs was \$42 billion (Aro-Gordon, et al, 2014). In 2013, the estimated global REITs capitalization was about \$1.1 trillion (Li and Chow, 2015). In 2016 the global REITs market capitalization was estimated at over \$2 trillion and more recently (2018/2019) it was estimated at over \$3 trillion (NAREIT, 2018; NAREIT, 2019). Despite the fact that REITs is said to be one of the viable and profitable investment asset classes in global markets (Jackson, 2008), it has been observed that REITs are underperforming in Nigeria (Akpan and Ogunba, 2015; Dabara, Tinufa, Soladoye, Ebenezer and Omotehinshe (2018). The first Nigerian Real Estate Investment Trusts (N-REITs) was introduced by the Skye Shelter Fund in 2007 with an IPO (Initial Public Offering) of ₦2billion (\$6,535,948). In 2008, Union Home Hybrid REITs was similarly created with an IPO of ₦50billion (\$163,398,623), while the UPDC (UACN Property Development Company) REITs was introduced in 2013 with an IPO of ₦30billion which is estimated at \$98,039,216 (Annual Reports and Accounts of Skye Shelter Fund, 2007; Union Home REITs, 2008 and UPDC REITs, 2013).

Previous studies such as Akpan and Ogunba (2015), Olanrele, Said and Daud (2015) and Dabara, et al. (2018), revealed that all the N-REITs companies provided low and in some cases even negative return values on investment. This has negatively impacted on the N-REITs industry by impeding the growth of the industry and patronage from both domestic and foreign investors. This scenario is quite contrary to what was found in literature on the performance of REITs in other parts of the world (Jackson, 2008; Manoj, 2016). The problem is exacerbated and becomes more perplexing by the fact that the property assets in Nigeria (from which REITs derive their income) are performing well in terms of returns on investment (see Dabara, Ogunba and Araloyin, 2015; Dabara and Oyewole, 2015). This is also a true reflection of the performance of real estate in other African countries. For example the study carried out in South Africa by Ntuli and Akinsomi (2017) revealed that REITs are good return-enhancers as well as having diversification benefits in a mixed asset portfolio. The underperformance of N-REITs has generated questions with respect to the possible causes of the said dismal performance. In order to provide answers to these questions, it is important that an empirical research be carried out which will determine or seek to unravel why the performance of Nigerian REITs industry is contrary to what was found in literature and also provide insight into the causative factors for the dismal performance. This is important as Nigeria is adjudged to be one of the fastest growing economies in Africa. Nigeria is also considered as one of the top ten most improved Doing Business Economies in the world, thereby making it a good playing field for both domestic and foreign investments in the real estate sector (Ankeli, Dabara, Omotehinshe, Adamu, and Adaranijo, 2017). Furthermore, Nigerian REITs industry is still new with only three REIT companies whose major investments focus are mainly in commercial and residential properties. Similarly, the fact that N-REITs falls under developing markets is another motivation for this study. However, there is dearth of data on N-REITs to assist investors, hence, this study will add to the scanty existing research work in yet another important African emerging real estate market (Nigeria). The study adapts the Bain's (1951) Structure, Conduct and Performance (SCP) theory as a major initial underpinning to addressing the research problem in this study. The theory purports that there is a one way causal relationship between the Structure (characteristics of an organization e.g market structure), Conduct

(the actions or behavior of a firm in the market e.g advertisement) and Performance (the outcome or results obtained from a firm e.g returns).

This study which aimed at examining the correlations among the structure, conduct and performance of Real Estate Investment Trusts in Nigeria (N-REITs) is the first study (to the best knowledge of the researchers) that drew a link between the structure of the Nigerian REITs industry, its conduct, as well as its performance. This is because the SCP theory postulates that if there are faults in the structure of an industry this affects the conduct of that industry which in turn affects the performance of the industry. Hence, the study examined the following research questions: what were the structure, conduct and performance of N-REITs within the study period?; what are the correlations among the structure, conduct and performance of N-REITs?. The paper is presented in the following sections. The next section reviewed relevant literature, this was followed by a section on the methodology adopted for the study; next is the presentation and discussion of results and the paper closes with a conclusion.

2. LITERATURE REVIEW

Jackson (2008) asserted that REIT is one of the viable and profitable investment asset classes in global real estate markets. This is evident in the performance of REITs in developed economies such as the US, UK, and Germany among others (NAREIT, 2018). On the other hand, REITs in most developing nations, particularly African nations, are still new and characterized by property market immaturity, non-availability of data for investment decisions and challenges of liberalization and integration into the global market (Bekaert, Harvey and Lundblad, 2003; Dabara, Omotehinshe, Chiwuzie, Asa, & Soladoye, 2018).

It is obvious that maximizing profits is the objective of rational investors. To achieve this, both investors and researchers all over the world are assessing the investment performance of various asset classes. In the real estate sector (specifically REITs), a group of studies have examined the inflation-hedging potentials of REITs. These studies include Aik (2012) and Arnason and Persson (2012). Similarly, studies such as Khoiphram (2013) and Naidoo (2014) have investigated the diversification benefits of REITs with contradictory findings. Another group of studies have evaluated the performance of REITs in terms of their risk/return characteristics. Such studies include Niskanen (2012). More recently studies such as Olanrele, Adegunle and Fateye (2018) investigated the correlations between REITs and Money Market Indicators such as Treasury Bills among others. A group of studies conducted in South Africa by Akinsomi, Kola, Ndlovu and Motloug (2016) investigated the performance of the broad based black economic empowerment (BBEE) of both listed and delisted property firms in South Africa. The study covered the period from 2006 to 2012. The return and risk performance of the property firms were obtained by means of holding period returns formulae, capital asset pricing model, sharpe ratio and alfa among others. Findings from the study revealed that Black Economic Empowerment (BEE) compliant firms outperformed the non-BEE compliant firms with respect to both returns and risk performance. Similarly, Akinsomi, Balcilar, Demirer, and Gupta (2017) revealed that speculation in gold market have impact on REITs returns in South Africa, particularly during the global economic meltdown experienced around 2008 to 2011. In the same vein, Ntuli and Akinsomi (2017) found that South African REITs are good return-enhancers with diversification benefits which could encourage shrewd investors to consider its inclusion in their mixed asset portfolios. Another study conducted in South Africa by Ijasan, Tweneboah and Mensah (2017) showed evidence of anti-persistence in South African REITs returns.

Unlike the aforementioned previous studies, this present study aims at investigating the performance of REITs from the perspective of internal factors using the structure-conduct-performance model. Some

specific studies that considered performance of an industry from the perspective of internal factors (structure and conduct) include the following:

Bain (1951) conducted the earliest study on the structure, conduct and performance (SCP) framework. The study examined the relationship between the market structure of manufacturing industries in the US using variables such as buyers and sellers' concentration, level of product differentiation as well as condition of entry/exit from the market and how it relates to the conduct as well as the profit rate of the companies in the industry accordingly. Data for the study covered the period from 1936 to 1940. The methodology used involved the use of both z test and regression analysis. Findings from the study indicated that firms/industries with higher level of concentration (above 70%) recorded higher profits. However, this study focused solely on market structure while organizational, administrative and legal structures which could equally impact on the performance of the industry were not considered in the study. This present study considered the structure, conduct and performance of the Real Estate Investment Trust industry in a developing economy (Nigeria) in a more holistic approach.

Delorme, Klein, Kamerschen, and Voeks (2002) examined the correlations between structure, conduct and performance of manufacturing industries in the US in 1982, 1987 and 1992. The methodology employed the simultaneous equation model. In the study, structure (concentration) is measured by Herfindalh Hirsman Index (HHI), conduct was measured by advertising and performance (profit) was measured by returns on sales. The methodology used employed the Kambhampati's (1996) 3 equation model as well as 2 stage least square regression (2SLS). The study found that the conduct of the manufacturing industry in the study area (proxied by advertising) do not influence the profitability in the industry. However, the study did not consider other investment performance indicators such as risk/return and inflation-hedging capability which might be of interest to investors. Tung, Lin, and Wang (2010) examined the performance of tourist hotel industry in Taiwan using the Structure, Conduct and Performance (SCP) paradigm. Data was obtained to cover a period spanning from 1995 to 2006. The methodology involved the use of 3 simultaneous equations as well as regression analysis. Findings from the study revealed that the profitability or performance of the tourist hotel industry in the study area was significantly influenced by the market structure of the industry. The paper focused on only direct investment in real estate (hotel) and did not consider investment in indirect real estate such as REITs which is the focus of this present paper.

In the real estate industry, the SCP methodology was used by Ogunba (2004) to examine the conduct of valuation exercise in Nigeria using the Bain (1951) SCP model which was subsequently modified. The study proxied conduct of valuation exercise using variables relating to 'valuer's use of investment valuation inputs and some unconventional manipulations of data amongst valuers' The methodology adopted in the study used descriptive statistical tools such as mean, percentages, and charts in analyzing the data obtained for the study. Findings from the study revealed that valuation inaccuracy which was observed to exist in the study area arises due to the way the valuation exercises were conducted in the valuation profession. The study showed that the conduct of valuation exercise in the study area was characterized by non-uniformity of valuation inputs used by valuers as well as the observable practice of valuers resorting to unconventional manipulation of data. However, this study focused on a developing nation, a different scenario may be demonstrated by similar professions in a developed nation. Tung, *et al.* (2010) examined the performance of tourist hotel industry in Taiwan using the SCP paradigm. Data was obtained to cover a period spanning from 1995 to 2006. The methodology involved the use of 3 simultaneous equations as well as regression analysis. Findings from the study revealed that the

profitability or performance of the tourist hotel industry in the study area was significantly influenced by the market structure of the industry. The paper focused on only direct investment in real estate (hotel) and did not consider investment in indirect real estate such as REITs. The REITs industry was however investigated by Chan, Erickson, and Wang (2003) where the structure, performance and investment opportunities in real estate investment trusts were the focus of the study with findings consistent with Ogunba (2004).

Lee (2012) evaluated the performance of accounting firms (a service industry) in Taiwan from 1992 to 2003 using the SCP model. The study used stepwise regression model in the analysis of the data obtained for the study. Findings from the study revealed that there was a significant relationship between market structure, conduct and performance of accounting firms in the study area. The methodology used only utilized the stepwise regression model ignoring other vital methods such as the simultaneous equations and least square analysis which could give a better view of the performance of the industry. Nabieu (2013) analyzed the structure, conduct and performance of commercial banks in Ghana over a period from 2007 to 2012 using the SCP hypothesis. Both descriptive (mean, percentages, standard deviations) and inferential (regression) statistical models were used in the study. Findings from the study suggested that market structure and conduct significantly determined the performance of commercial banks in Ghana within the study period. The timeframe used for the study i.e. 6 years seems to be short, an updating of the timeframe to capture longer investment period could be desirable. Kaonga (2015) evaluated the performance of the insurance industry in Zambia from 2005 to 2013 using the SCP model. The author employed the three-Stage-Least-Square (3SLS) model in analyzing data. Findings showed that there was no significant relationship between the structure, conduct and performance of insurance industry in Zambia within the study period. The study did not consider other performance indicators such as return/risk characteristics of the firms which could greatly influence the performance of the industry.

The main problem gap observed from these groups of studies is the dearth of studies on REITs from real estate markets of African countries that looked at the performance of REITs from the perspective of internal factors such as the conduct and structure of the REITs companies. Therefore this present study will extend the frontier of knowledge in this field by considering the correlations among the structure, conduct and performance of Nigerian REITs.

3. METHODOLOGY

The study population consists of all the N-REITs companies in Nigeria namely: Skye Shelter Fund REITs, Union Home REITs and UPDC REITs. Data required for the structure of N-REITs comprised of the Total Business Revenue (TBR) of the N-REIT companies within the study period (2008 to 2016). These data were sourced from the annual reports and accounts of the respective N-REITs companies. Data required for the conduct component of N-REITs comprised of the Total Individual Expenditure (TIE) on conduct variables proxied by factors such as advertisement, maintenance of properties, insurance of properties and administrative expenses. These data were also sourced from the annual reports and accounts of the respective N-REITs companies for the study period. Data required for the performance of N-REITs comprised of dividend and share prices of the respective companies.

Descriptive and inferential statistical tools such as averages, frequencies, mean scores as well as ordinary least square (OLS) regressions were used in analyzing the data obtained. The structure of the N-REITs industry was analyzed by means of Equations 1, 2 and 3 in a chronological order. That is, the market structure of a company which is proxied by the Herfindahl-Hirschman Index in line with previous studies

such as Tung, *et al.* (2010) and Kaonga (2015) was calculated accordingly by firstly obtaining the market share using Equation 1; secondly, the market share was used to obtain the Concentration Ratio using Equation 2 and finally the market structure of the company was obtained using the Concentration Ratio to calculate the Herfindahl-Hirschman Index by means of Equation 3.

The Market Share is given as:

$$MKS = \frac{TBR(n1)}{TBR(n1+n2+n3)} \quad (1)$$

Where:

MKS = Market share

TBR = Total business revenue for a particular REITs company

n1, n2, n3 = Individual N-REITs companies

The Concentration Ratio is given as:

$$CR_n = MKS_1 + MKS_2 + MKS_3 \quad (2)$$

Where:

CR_n = Concentration ratio of N-REITs companies

MKS₁₋₃ = Market share of individual N-REITs companies

The Herfindahl-Hirschman Index is given as:

$$HHI = \sum_{i=1}^n (MKS_i)^2 \quad (3)$$

Where:

HHI = Herfindahl-Hirschman Index

MKS_i = Market share of the *i*th N-REITs company

n = Total number of N-REITs companies

i = The *i*th N-REITs company (e.g. UPDC REITs)

According to Kwoka (2007), the HHI ranges from 1/N to one, where N is the number of companies in the market or industry. If percentages are used as whole numbers e.g 85 instead of 0.85, the HHI index can range up to 100², or 10,000. The decision rule is that an HHI below 0.01 (or 100) indicates a highly competitive industry. An HHI below 0.15 (or 1,500) indicates unconcentrated industry; an HHI between 0.15 and 0.25 (or 1,500 to 2,500) indicates moderate concentration, while an HHI above 0.25 (above 2,500) indicates high concentration.

The conduct equation used is as follows:

$$Xn = \frac{TIE}{TBR} \quad (4)$$

Where:

Xn = Individual Conduct Indicator (e.g advertisement)

TIE = Total Individual Indicator's expenditure

TBR = Total REITs Company' Business Revenue for individual REITs company

Similarly, the researchers used Equation 5 to measure the holding period return of the N-REIT companies

The holding period returns is expressed as

$$\mathbf{HPR}_t = \frac{NI_t + (CV_t - CV_{t-1})}{CV_{t-1}} \quad (5)$$

HPR_t = Holding Period Return

CV_{t-1} = Capital value of N-REITs at the beginning

CV_t = Capital value of N-REITs at the end

NI_t = Income of N-REITs received during the holding period

Furthermore, the researchers analyzed the correlations among the structure, conduct and performance of N-REITs. To realize this first, unit root test (test of stationarity) of the data sets used in the study was carried out using the Kwiatkowski-Phillips-Schmidt-Schin (KPSS) as well as the Philip-Perron (PP) models for analyzing the stationarity characteristics of the data series. Second, the Granger Causality analysis was conducted to determine the causal relationships among the structure, conduct and performance of N-REITs within the study period. Third, the relationships among the structure, conduct and performance of N-REITs in line with previous studies on the SCP concept such as Tung, et al (2010) and Kaonga (2015) was determined using ordinary least square regression models.

Decision rule for Granger Causality tests

If P-Value > 0.05, do not reject the null hypothesis of no Granger causality (there is no causal relationship).

If P-Value < 0.05, reject the null hypothesis of no Granger causality (there is a causal relationship).

Decision rule for stationarity test

If KPSS Statistics > KPSS critical value, do not reject null hypothesis, i.e., unit root exists (non stationary)

If KPSS Statistics < KPSS critical value, reject null hypothesis, i.e., unit root does not exist (stationary)

If PP Statistics > PP critical value do not reject null hypothesis, i.e., unit root exists (non stationary)

If PP Statistics < PP critical value reject null hypothesis, i.e., unit root does not exist (stationary)

In line with previous studies such as Delorme, *et al.* (2002), Tung *et al.* (2010), Nabieu (2013) and Kaonga (2015), the model specification for the regression model adapted for endogenous variables of Structure (STR), Conduct (CON) and Performance (PER) in this study is given as follows:

$$\mathbf{STR} = f(\mathbf{CON}, \mathbf{PER}) \quad (6)$$

$$\mathbf{CON} = f(\mathbf{STR}, \mathbf{PER}) \quad (7)$$

$$\mathbf{PER} = f(\mathbf{STR}, \mathbf{CON}) \quad (8)$$

$$\mathbf{STR} = a_0 + b_1\mathbf{CON} + b_2\mathbf{PER} + e_1 \quad (9)$$

Where:

STR = Structure of N-REITs; a₀ = The intercept; b₁ = Conduct; b₂ = Performance; e₁ = The error term

$$CON = a_0 + c_1STR + c_2PER + e_2 \quad (10)$$

Where:

CON = Conduct of N-REITs; a_0 = The intercept; c_1 = Structure; c_2 = Performance; e_2 = The error term

$$PER = a_0 + d_1CON + d_2STR + e_3 \quad (11)$$

Where:

PER = Performance of N-REITs; a_0 = The intercept; d_1 = Conduct; d_2 = Structure; e_3 = The error term

4. RESULTS AND DISCUSSIONS

This section presents and analyzes the data collected for the study; Table 1 presents the Total Business Revenue (TBR) for the N-REIT industry.

Table 1 here

Table 1 presented the annual TBR for the N-REIT industry which was calculated as the summation of the annual revenues of the three N-REIT Companies for each of the investment year accordingly. While the total share units subscribed and fully paid for was similarly calculated as the summation of all the share units subscribed and fully paid for by investors from the three N-REIT Companies accordingly. These data were used in calculating the revenue per share unit for the industry over the study period.

From Table 1, the highest TBR per share unit for the N-REIT industry was obtained in the year 2008 (₦28.72 i.e \$0.097). This was the early years of the establishment of REITs industry in Nigeria and there was high demand for the REITs shares. The least TBR per unit share for the industry was obtained in 2016 (₦2.32 i.e \$0.007). This could be attributed to the recent economic recession experienced in the country around that period. There was a gradual decrease in TBR generated from 2009 to 2011 (this were the period of the global economic meltdown). In 2012 there was a slight increase which was sustained in 2013 (at this time there was improvement in the economy). The TBR generated by the N-REITs industry within the study period seem to be very small when compared to REITs industries of other nations such as the UK and Germany which started there REITs industry the same year with Nigeria (that is in 2007). This could be attributable to the level of acceptability of REITs by investors in these countries as well as variation in the stability and strength of the economy of these nations (Olanrele, et al. 2015).

Table 2 here

Table 2 presented the Total Individual Expenditure (TIE) on the conduct variables in the N-REITs industry within the study period. There was a sharp consistent decrease in the amount expended on advertisement from 2009 to 2015. The highest amount expended was in 2009 (9.7%) of the TBR; while the lowest was in 2011 (0.02%). There was some level of fluctuations in the amount expended on maintenance of properties in the N-REITs. The highest amount expended was in 2013 (4.83%) while the least was in 2011 (0.1%). There was a gradual but consistent increase in the amount expended on insurance of properties between 2009 and 2012; however in 2012 there was a gradual decrease to 2015. The highest amount expended was 2.64% in the year 2014 while the least expended within the study period was 0.54% in the year 2015. Administrative expenditure had the highest amount expended when compared to other variables. There was a consistent increase from 2008 to 2010, the figures decreased in 2011 and the decrease kept on to 2014. The highest amount expended on administrative expenditure was 28.6% in the year 2010 while the least was 13.41% in the year 2015. The mean percentage expenditure for

advertisement, maintenance of properties, insurance of properties and administrative expenses were 1.2%, 1.7%, 1.3% and 20.0% respectively. Studies such as Niskanen (2012) and Kaonga (2015) indicated that higher percentages of the companies' TBR were used in conduct activities. This implies that there may be need for the Nigerian REIT Companies to increase the amount expended on operation of conduct indicators. The data on Table 2 was used in analyzing the conduct of N-REITs using Equation 4. The result is presented in Table 4.

Table 3 here

Table 3 presented data on the annual dividend and share prices of the N-REITs companies covering a period from 2007 to 2016. From inception in 2007 to 2016 Skye Shelter Fund's share prices ranged between ₦98.55 (\$0.322) and ₦117.42 (\$0.384) per share unit and dividend ranged between ₦4.04 (\$0.013) and ₦7.15 (\$0.023) per share unit. The share prices of the Union Homes REITs ranged between ₦45.55 (\$0.149) and ₦50.00 (\$0.163) per share unit within the study period. While its dividend ranged between ₦0.75 (\$0.003) and ₦4.01 (\$0.013) per share unit. The UPDC REITs sold shares from ₦9.50 (\$0.031) to ₦10.00 (\$0.033) per share unit from 2013 to 2016 with dividend payout that ranged between ₦0.23 (\$0.001) and ₦0.43 (\$0.001) per share unit within the same investment period. The share prices and dividend of N-REITs is considered low when compared to other global REITs companies (Jackson, 2008; Naido, 2014). The share prices and dividends presented in Table 3 were used to calculate the performance of N-REITs (Holding Period returns) and the result is presented in Table 4.

Table 4 here

Table 4 showed that from inception of the N-REITs companies to 2016 the HHI of the N-REITs industry ranged between 41.81% (recorded in 2010) and 100% recorded in 2008. This indicates a high concentration in the N-REITs industry which indicated an oligopolistic market structure. In comparison, the US has over two hundred REITs companies operating in a perfect competitive market structure; similar REIT industries includes the UK, Australia and Malaysia which have about 22, 52 and 15 REITs companies respectively (NAREIT, 2018). From Table 4 the highest amount expended on conduct indicators was in the year 2010 (32.17%) while the lowest was in 2015 (0.02%). There was some level of fluctuations in the amount expended on the conduct variables over the years. The highest amount expended was in the year 2013 (4.83%) while the least was in the year 2011 (14.75%) this could be attributable to the national economic recession experienced in Nigeria at this time. The performance of N-REITs in terms of holding period returns was observed to have fluctuated between -0.24% and 22.07%. The highest return value recorded was 22.07% obtained in the year 2008. The least return value was recorded in the year 2014 (-0.24%). It is important to note that all the return values within the study period were positive except for the year 2014 (-0.24%). This implies that investment in the N-REITs industry provided positive return values in most of the years within the investment period.

Table 5 here

Table 5 presented the descriptive statistics of the structure, conduct and performance variables of the N-REITs industry. Hence it showed the mean, minimum and maximum values of the variables. It also showed the standard deviation, skewness and kurtosis for each of the variables. Table 6 presents the Granger Causality test for the structure, conduct and performance of N-REITs.

Table 6 here

Figure 1 here

Table 6 presented the results of Granger Causality tests of the N-REITs industry and Figure 1 showed the causal relationships among the structure, conduct and performance of N-REITs. The results obtained

indicated a bi-directional Granger Causality for the N-REITs industry, this implies that there was a two way positive relationships existing among the structure, conduct and performance of N-REITs. This means that the structure of N-REITs affected both the conduct (with P-value as 0.0244) and performance (with P-value as 0.0073) of the N-REITs industry. Similarly, the conduct of N-REITs also affected both the structure (with P-value as 0.0480) and performance (with P-value as 0.0045) of the N-REITs industry. By the same token, the performance of the N-REITs also affected the structure (with P-value as 0.0372) and conduct (with P-value as 0.0078) of the N-REITs industry. This is congruent with what was found in literature as confirmed by studies such as Muazu et, al. (2013) which posited that the SCP concept has a reverse causal relationship referred to as ‘feedback’. However, this refutes the hypothesis postulated by Bain (1951).

Table 7 here

The computed KPSS and PP test-statistics as seen in Table 7 are integrated of order I(0). It was observed that the KPSS and PP statistics were smaller than the critical values - "tau" at 10%, 5%, and 1% significant levels respectively; therefore we can reject Ho for the SCP variables. This means that the data series are all stationary series at 10%, 5% and 1% significant levels and are integrated of order I(0) at level. In other to analyze the relationships among the structure, conduct and performance of the N-REITs, Equations 9, 10 and 11 were used in line with previous studies such as Zietz, Sirmans and Friday (2003), Tung et al, (2010) and Kaonga (2015). The result is presented in Table 8.

Table 8 here

Table 8 showed the regression analysis of the structure, conduct and performance of N-REITs. When the structure component of the SCP was used as dependent variable, the regression results indicated a strong positive correlation of 0.753 between all the variables, with a coefficient of determination (R^2) of 0.567 which means that the model explains 56.7% proportion of variance in the dependent variable by the independent variables in the N-REITs industry. Looking at the significance values of the individual β 's, it was revealed that all the predictors i.e performance and conduct significantly predicted the structure of N-REITs with $t = 2.312$, $p = 0.045 < 0.05$ and $t = 0.147$, $p = 0.008 < 0.01$ respectively, hence they are statistically significant (note that 0.05 and 0.01 above indicates the significance levels at 5% and 10% respectively).

When Conduct was used as the dependent variable and structure and performance as the independent variables, the regression result indicated a strong positive correlation of 0.817 between all the variables, with a coefficient of determination (R^2) of 0.667. The beta coefficients of the individual β 's, showed that all the predictors significantly predicted the conduct of N-REITs with $t = -1.352$, $p = 0.025 < 0.05$ and $t = 2.312$, $p = 0.045 < 0.05$ respectively, hence they are statistically significant at both 5% level of significance. When performance was used as the dependent variable and structure and conduct as the independent variables, result from the regression analysis indicated a positive correlation of 0.611 between all the variables, with a coefficient of determination (R^2) of 0.373. From the significance values of the individual β 's, it was shown that both structure and conduct significantly predicted the performance of N-REITs with $t = 0.147$, $p = 0.008 < 0.01$ and $t = -1.352$, $p = 0.025 < 0.05$ respectively, hence they are statistically significant at both 5% and 10% level of significance accordingly. From the analysis above, it is evident that there exist a strong positive relationship among the structure, conduct and performance of N-REITs). This finding is congruent with other similar studies in the real estate industry such as Chan, et al. (2003), Ogunba (2004) and Tung, et al. (2010). The implication of this for the REITs industry borders on the need to ensure that the respective REIT companies are properly structured and conduct activities

given priority to enhance performance, as the study revealed that both structure and conduct influences performance and vice-versa. This information can be used by stakeholders in the real estate industry such as pension funds, asset managers, individual investors and insurance companies in making informed investment decisions.

5. CONCLUSION

This study examined the structure, conduct and performance of N-REITs. Findings from the study suggested a positive significant and bi-directional causal relationship among the structure, conduct and performance of N-REITs. This is congruent with what was found in literature as confirmed by studies such as Ogunba (2004) and Muazu et, al. (2013). However, this refuted the hypothesis postulated by Bain (1951) which purports that there is a one way causal relationship between the Structure, Conduct and Performance of firms/industries. The implication of this result to the N-REITs industry is that to improve the performance of the industry, the respective companies in the industry must be properly structured. Similarly, conduct indicators such as advertisement among others should be given priority. It has been shown from this study that these internal factors (structure and conduct) can greatly impact on the performance of the industry. This is also congruent with findings of previous studies such as Tung, et al (2010), Nabieu (2013) and Kaonga (2015). The study concluded that the below optimal performance of N-REITs was traced to the deficiencies inherent in the internal factors impacting on the N-REITs industry as it relates to the structure and conduct in the N-REITs industry. This suggests that there is need to improve in the aforementioned areas. This is pertinent because the study revealed that there is a strong positive bi-directional relationship among the structure, conduct and performance of N-REITs. The study is limited by the number of observations used with respect to the available data. This is because REITs is still new in Nigeria when compared to other REITs industries such as the US and hence provided limited data from inception to date. Data covering a longer period of time could present a better picture of the REITs industry in Nigeria.

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TABLES

Table 1: Total Business Revenues (TBR) of the N-REITs industry

Year	N-REITs Annual TBR	Number of Share Units Subscribed	N-REITs TBR Per Unit Share
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2008	594,417,008 (1,942,539)	20,000,000	29.72 (0.097)
2009	1,918,470,009 (6,269,509)	270,019,781	7.11 (0.023)
2010	1,000,829,010 (3,270,683)	270,019,781	3.71 (0.012)
2011	1,145,809,971 (3,744,477)	270,019,781	4.24 (0.014)
2012	1,274,980,353 (4,166,602)	270,019,781	4.72 (0.015)
2013	1,102,936,216 (3,604,366)	270,019,781	4.09 (0.013)
2014	6,852,999,381 (22,395,422)	2,938,289,281	2.33 (0.007)
2015	6,907,443,855 (22,573,345)	2,938,289,281	2.35 (0.008)
2016	6,819,902,942 (22,287,264)	2,938,289,281	2.32 (0.007)
Mean	3,068,643,194 (10,028,245)	1,131,662,972	6.73 (0.022)

Source: Annual reports/statement of accounts and online database of Skye Shelter Fund, Union Homes REITs and UPDC REITs.

Note: The figures in parenthesis are the USD equivalent of the TBR within the study period (\$1 to ₦306 at Central Bank of Nigeria' official exchange rate).

Table 2: Total Individual Expenditure (TIE) on conduct indicators in the N-REITs industry

Year	ADV	MP	IP	ADM	TOTAL
2008	0	0	0	13.94	13.94
2009	9.74	0	0.74	15.14	25.62
2010	0.36	2.33	0.88	28.6	32.17
2011	0.02	0.1	0.81	25.39	26.32
2012	0	2.23	2.26	23.06	27.55
2013	0	4.83	1.45	20.85	27.13
2014	0.59	3.37	2.64	24.62	31.22

2015	0	0.8	0.54	13.41	14.75
2016	0.87	1.64	1.92	14.89	15.07
Mean	1.2	1.7	1.3	20.0	23.8

Source: Analyses of survey data, 2017

Note: ADV = Advertisement, MP = Maintenance of Properties, IP = Insuring of Properties, ADM = Administrative expenses

Table 3: Annual data on dividend and share prices of N-REITs companies from 2007 to 2016

Year	<u>Skye Shelter Fund</u>		<u>Union Homes REITs</u>		<u>UPDC REITs</u>		N-REITs Share prices	N-REITs Dividend
	Share Price	Dividend	Share Price	Dividend	Share Price	Dividend		
2007	100	0	-	-	-	-	100 (0.327)	0 (0)
2008	117.42	4.65	50.00	-	-	-	167.42 (0.547)	4.65 (0.015)
2009	103.21	7.00	50.00	4.01	-	-	153.21 (0.501)	11.01 (0.036)
2010	99.55	6.40	50.85	0.75	-	-	150.4 (0.492)	7.15 (0.023)
2011	98.55	4.04	50.00	2.27	-	-	148.55 (0.485)	6.31 (0.021)
2012	100	5.00	50.00	2.13	-	-	150 (0.49)	7.13 (0.023)
2013	100	5.25	50.00	-	10.00	-	160 (0.523)	15.25 (0.05)
2014	98.56	5.80	48.54	-	9.50	0.31	156.6 (0.512)	6.11 (0.02)
2015	100	7.15	45.55	-	9.78	0.43	155.33 (0.508)	7.58 (0.025)
2016	100	5.3	50.00	-	10.00	0.23	160	0.23

(0.523) (0.001)

Source: Annual report and online data bases of Skye Shelter Fund, Union Homes REITs and UPDC REITs

Note: The figures in parenthesis are the USD equivalent of the TBR within the study period (\$1 to ₦306 at Central Bank of Nigeria' official exchange rate).

Table 4: Data on the structure, conduct and performance of N-REITs industry

Year	N-REIT Structure	N-REIT Conduct	N-REIT Performance
2008	100	13.94	22.07
2009	63.8	25.62	0.94
2010	41.81	32.17	2.93
2011	69.35	26.32	2.93
2012	68.83	27.55	5.4
2013	64.12	27.13	2.63
2014	70.69	31.22	-0.24
2015	67.97	14.75	2.86
2016	68.94	16.98	2.93

Source: Analysis of survey data, 2017

Table 5: Descriptive statistics of the structure, conduct and performance variables of N-REITs industry

STATISTICS	N-REIT STRUCTURE	N-REIT CONDUCT	N-REIT PERFORMANCE
Mean	68.39	23.96	4.7
Std. Deviation	14.80	6.94	6.7
Skewness	-1.3	-1	0.7

Kurtosis	0.3	-1	1.7
Minimum	41.81	13.94	-0.24
Maximum	100	32.17	22.07

Source: Analysis of survey data, 2017

Table 6: Granger causality tests for structure, conduct and performance components of N-REITs industry

Null Hypothesis:	F-Statistic	P-Value
N_REIT_PERF does not Granger Cause N_REIT_COND	0.65565	0.0078
N_REIT_COND does not Granger Cause N_REIT_PERF	0.01585	0.0045
N_REIT_STRU does not Granger Cause N_REIT_COND	4.24982	0.0244
N_REIT_COND does not Granger Cause N_REIT_STRU	7.63015	0.0480
N_REIT_STRU does not Granger Cause N_REIT_PERF	0.23871	0.0073
N_REIT_PERF does not Granger Cause N_REIT_STRU	1.79972	0.0372

Source: Analysis of survey data, 2017

Table 7: KPSS and PP unit root test on data for the structure, conduct and performance of N-REITs

SCP Variables	KPSS Statistics	1% Critical Value	5% Critical Value	10% Critical Value	PP Statistics	1% Critical Value	5% Critical Value	10% Critical Value
N-REIT STRUCTURE	0.225299*	0.739	0.463	0.347	-4.2413*	-4.18265	-3.32097	-2.80138
N-REIT CONDUCT	0.202396*	0.739	0.463	0.347	-3.8771*	-5.60462	-3.69485	-2.98281
N-REIT PERFORMANCE	0.346833*	0.739	0.463	0.347	-12.523*	-4.58265	-3.32097	-2.80138

Source: Analysis of survey data, 2017

Note: * = stationary at level

Table 8: Regression analysis of the structure, conduct and performance of N-REITs industry

Dependent Variable	Independent Variables	R	R ²	Beta	T	P-Value	Level of Significance
N-REITs Structure	N-REITs Conduct	0.753	0.567	2.67	2.312	0.045	0.05
	N-REITs Performance			0.355	0.147	0.008	0.01
N-REITs Conduct	N-REITs Structure	0.817	0.667	0.176	2.312	0.045	0.05
	N-REITs Performance			-0.736	1.352	0.025	0.05
N-REITs Performance	N-REITs Structure	0.611	0.373	0.01	0.147	0.008	0.01
	N-REITs Conduct			-0.317	-1.352	0.025	0.05

Source: Analysis of survey data, 2017

FIGURE

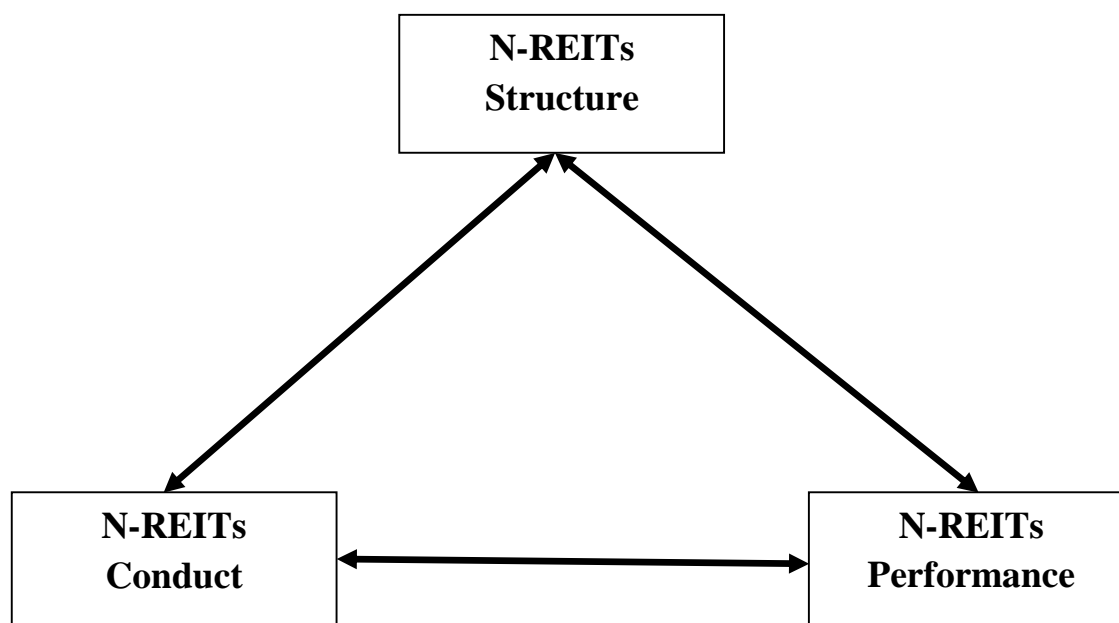


Figure 1: Bi-directional causality relationships among the structure, conduct and performance of N-REITs.

