

PERFORMANCE OF ALL LISTED AGRICULTURAL AND OTHER REAL ESTATE INVESTMENT INDUSTRY OF THE NIGERIAN STOCK MARKET

***MURAINA, O.A., UMEH, O.L. AND OKONU, A.A.**

Department of Estate Management, University of Lagos, Akoka-Yaba, Lagos, Nigeria

*Corresponding author: oluwaseun.muraina@gmail.com

Abstract

This study aims to evaluate agricultural and other real estate investment industry in the Nigerian stock market. The study is necessary because there are formal and informal interests in diversifying Nigeria's economy through agriculture. In addition, there is no known study on the performance of the agricultural type of real estate investment compared to other types of the investment. The performance of agricultural real estate investment industry and other real estate investment industry in the Nigerian stock market were evaluated and compared over the study period to achieve the study aim. The bulk of data obtained for the study were secondarily sourced. The data were extracted from the records and reports of the Nigerian Stock Exchange (NSE), Securities and Exchange Commission (SEC) and the Central Bank of Nigeria (CBN) Statistics Database over a period ranging from 2008-2017. Standard deviation, the coefficient of variation and Sharpe index were used to measure the performances of the selected assets in terms of their risk-return profiles. Using both coefficient of variation and Sharpe index performance measure, agricultural real estate investment outperformed non-agricultural real estate investment in the Nigerian stock market. The result implies that Agricultural real estate gives higher investment benefits than non-agricultural real estate. The study recommends that investors and portfolio managers should consider agricultural real estate to enjoy its high returns potential.

Key Words: *Agriculture, Performance, Real estate investment, Stock market*

Introduction

Emphasis on investment performance analysis in many parts of the world has made the study of real estate investment, whether in agricultural, residential, or commercial, become imperative. Maximizing returns and minimizing the risks that might be involved in investments is the aim of any rational investor (Ajayi, 1998). Therefore, an investment perceived to be a hedge against

inflation is usually acquired (Odu, 2011); and more so, why investment assets, either physical (real estate) or financial (stocks, bonds, equities), are properly evaluated before investment funds are committed to them (Fatoki *et al.*, 2010).

As noted by (Emele and Umeh, 2013), "investment in real estate draws increasing attention from investors the world over as an ideal investment option with returns appreciating in real terms in adverse

economic situations". The peculiar advantages qualify the asset class to be combined with other assets to achieve optimum portfolio returns. Also, it is a consistent and favourable investment opportunity, so a significant proportion of it is usually included in an investment portfolio (Goetzmann and Ibbotson, 1990). There are several reasons for this assertion, with the most promoted intuitive arguments being the use as a hedge against inflation, provision of tax shelters to some classes of investors, provision of diversification benefits, and the potential for superior returns (Amidu and Aluko, 2006; Udoetuk, 2008; Rotenberg and Bonsey, 2016).

Studies of real estate market investments often focus on residential, commercial, and industrial classifications. This study, however, considered agricultural real estate, which refers to "any tract of real property used to raise, harvest or store crops; feed, breed, or manage livestock; or to produce plants, trees, birds, or animals useful to man, including the preparation of the products gotten thereon for man's use and disposed of by marketing or other means. They include, but are not limited to, real property used for agriculture: grazing, horticulture, forestry, dairying, and mariculture". The question now is what percentage of the real estate market yield does agricultural real estate contributed to? This question becomes more vital when we consider that the viability of the agricultural sector in Nigeria is generating significant revenue for desired economic growth.

Studies have also shown that the Nigerian government is aggressively turning its attention to agriculture (Akpaeti *et al.*, 2014; Omorogiuwa *et al.*, 2014). Obasa and Maduekwe (2013)

acknowledged that "To diversify her oil-based economy, Nigeria is placing much emphasis on financing other sectors most especially the agricultural sector, since agriculture has the potential to stimulate economic growth through the provision of raw materials, food, employment, and increased financial stability." Additionally, there is a greater emphasis on agriculture as a secure investment because of recent global financial issues and growing concern over food security (Foss, 2012). Consequently, this shift has increased investors' interest in the sector.

Hence, the purpose of this study was to evaluate how the country is progressing in terms of its agricultural growth and performance targets compared to those of other forms of real estate assets, especially at this time when agriculture is the focus of Nigeria's economic diversification. The study is important in Nigeria, where only a few known studies have been carried out on the level of performance achieved by activities on agricultural real estate. (Akpaeti *et al.*, 2014). Although studies of a similar nature have been conducted in other countries such as the United States and the United Kingdom (Foss, 2012), they can only be used as guides for similar research in Nigeria as they cannot provide a suitable explanation of Nigeria's peculiar real estate market.

Thus, the first step towards solving the problems that exist with investing in agricultural real estate in Nigeria, especially at such a prime time for agriculture, is for local researchers to understand the need to unravel the peculiarities of the country's situation. The overall objective is not just to undertake a trend analysis as an end but to further promote the culture of using facts as a basis for investment decisions. Moreover, as stressed by Oyewole (2013),

"the impact of the ongoing changes in the global and local economy on the performance of real estate investment is serving to highlight the need for its careful consideration in the investment decision-making process".

Given the opacity of the Nigerian real estate market in terms of providing favourable operating environments for investors, developers, and corporate occupiers, the need for the use of facts becomes clearer. Nigeria, with a transparency score of 3.8 out of 5, ranked 83rd out of a total of 109 countries surveyed in terms of transaction processes, regulatory & legal frameworks, corporate governance, performance measurement and data availability (JLL Global Real Estate Transparency Index, 2016 Edition). This index reveals that a higher real estate transparency, of which agricultural real estate is part, is associated with stronger investor and corporate real estate activity.

Secondly, as clients get more sophisticated and analytical in their decision-making approaches, they increasingly require more accurate and consistent estimates from their portfolio managers (Ayedun, 2008). This fact necessitates the enquiry into the performance of agricultural and other real estate activities in Nigeria. Hence, this study aims to evaluate the performance of agricultural and other real estate investment industry of the Nigerian stock market to guide investors and portfolio managers on investment decision making. The aim is achieved by evaluating the performance of agricultural real estate investments in the Nigeria stock market, evaluating the performance of other real estate asset class in the Nigeria stock market, and comparing the performance of agricultural real estate with other real

estate investment in the Nigeria stock market over the study period.

Review of Literature

Investment Performance Measurement: A General Overview

Performance is the achievement of a task relative to a set objective. Ajayi (1998) defines investment performance, as "the degree of achievement of this aim measured against a set of objectives and targets." It also involves measuring and analysing an asset's behaviour, which can be done in absolute terms or relative to other assets. The list of objectives of performance measurement includes the measurement of the rate of return; assessment of how these rates compare with those of other assets in the portfolio; examination of the timing of asset acquisition; good asset and portfolio selection; consistency in achieving good performance; assessment of the risk profile and examination of the portfolio diversification and sources of the portfolio returns".

Property investing rationale is like other investment media in that the investor strives to maximise returns while minimising risk. However, the standard techniques for measuring and analysing investment performance were restricted to financial assets until the late 1970s. The restriction is because the special investment characteristics of property assets that are so different from those of the predominately existing market make its measurement highly specialised and a bit difficult (Isaac, 1998; Kalu, 2001; Greer and Kolbe, 2003). Hence, their performance measure must be done uniquely. As a result of the difficulty, some analysts have arguments against it being a portfolio asset, which has led to its under-representation in many portfolios

(Ayedun, 2008). Also, it was previously removed from the analysis of the performance of other media because its market prices could hardly be assessed objectively and consistently because of its long-term nature. At that time, property constituted a small part of investment portfolios, but with increased investment in properties, that can no longer be justified. Presently, the approach is to analyse it separately rather than exclude it.

Different authors adopt various measures on the appropriate measures of real estate performance. Hull (1983) suggests that this can be examined based on the following: Income/cost, income/value, value/cost, income growth, rental value growth, rental value/income, time-weighted total return and money-weighted total return. Hull adds that the financial performance of property investment is judged based on growth in rental income and capital value, while traditionally, returns are measured in terms of the internal rate of return. The measurement of return shows the effectiveness of the utilisation of capital and represents the reward for undertaking investment. Returns from the property investment market could be total, capital and income return (Wahab *et al.*, 2017). These can be measured using the exchange prices of property investments. However, property values have been used as a proxy for the exchange price of property investments for performance measurement purposes (Ayedun, 2008). This more recent use of valuation indices is a major difference between the property performance measurements and those of other investment media markets wherein measurements are undertaken by reference to market transactions. Lidonga (2015) also outlined the following besides the rate of return, as the basis on which

performance of real estate investments can be evaluated: payback period, profit margin, and risks. All these are critical measures of assessing the performance of real estate investment. The rate of return is collectively regarded as the most important measure of performance in that it represents the success or otherwise of the investment (Kalu, 2001). The rate of return over a period is a summation of the rental yield (current rate of return) and capital appreciation.

The Nigerian Agricultural Market

Nigeria's economy has become overly reliant on oil revenues, which now account for more than half of the federal government's revenue and nearly all the country's export earnings (Omorogiuwa *et al.*, 2014). On the other hand, agriculture employs more than two-thirds of the people and generates a third of GDP (FAO, 2010; Omorogiuwa *et al.*, 2014). Nigeria exported 42% of the world's shelled groundnuts in the 1960s; by 2008, that figure had dropped to zero. The country's share in the world export market dropped from 18% in 1961 to 8% in 2008 and was passed by Cote d'Ivoire, Ghana, and Indonesia. Nigeria would be generating at least \$10 billion per year today if it had maintained its market dominance in palm-oil, cocoa, peanuts, and cotton.

Even with the present Nigerian economic challenges, its agricultural sector remains economically viable for investment at the local and foreign levels. Farming in Nigeria has taken a dramatic turn to better directions in recent years, creating jobs and opportunities for entrepreneurs who dare to go into the farming business, and there is no end to the prospects of creating more wealth through farming in the coming years. Nigeria should be a major net exporter of

food. For that to happen, the country must take a hard look at itself and change its agriculture investment approach.

Performance of Investment in Agricultural Real Estate

In Nigeria, the agricultural sector has been a key driver of recent economic growth, accounting for 70% of GDP of the non-oil sector (Mang, 2009) and providing subsistence for 2/3 of Nigerians who are low-income earners (Usman, 2006). It is one of the most important sectors in Nigeria and some other African countries, providing a livelihood for at least 53% of the economically active labour force (FAO, 2000).

Results from the many studies that have attempted to examine the performance of agricultural investments over the years portray a varying outcome. Akpaeti *et al.* (2014) examined the growth rates in agricultural investments and output in Nigeria from 1970-2009. They found that both recorded an increase of 37.44% and 30.47% in the pre-financial sector reform periods, respectively. The financial reform periods showed a growth rate of 23.00% and 7.04% for agricultural investment and output, respectively. Their study showed a deceleration in agricultural investments and output growths at the financial sector reform periods, implying that financial sector reform might have brought about an overall decrease in agricultural investments over the study period.

However, African Economic Outlook (2011) gave a contrary opinion, submitting that the Nigerian agricultural sector had performed remarkably well, with an estimated growth rate in 2010 exceeding 6.0%, reflecting the good weather conditions that boosted crop production. According to Kolawole (2013), this remarkable performance was

made possible by the government's effort to address protracted issues of inadequate commercial agriculture credit scheme (CACS), which has benefited the agricultural expansion in 2009/2010 through the provision of a ₦200 billion fund at low-interest rates to farmers and other practitioners in the agricultural sector.

In the 2005 Appropriation Bill, the Nigerian economy was projected to grow at 7% over the fiscal year, and much of this growth was expected to come from growth in the agricultural sector (Akpaeti *et al.*, 2014). The expected growth was not achieved because of the level of agricultural investments required to sustain the projected growth, given that agriculture in Nigeria consists of large numbers of small-scale farmers scattered across the country (Nwosu 2004). Hence, it is obvious that government alone cannot provide all the funds required to cause traditional agriculture to break out of the low capital investment and low productivity syndrome. To address this, financial stakeholders have greater roles to play in providing funds for agricultural investment and other relevant supports that would spur the desired growth in the sector (Akpaeti *et al.*, 2014). Global influences have placed agriculture as an attractive and secure investment for global superannuation and pension funds and sovereign wealth funds, and governments concerned about food security (Foss, 2012).

Methodology

Data showing the capital returns of the agricultural and other real estate investments were extracted from the annual records and reports of the Nigerian Stock Exchange (NSE), Securities and Exchange Commission (SEC) and Central

Bank of Nigeria (CBN) statistics database over a period of ten years (from 2008 to Q3 2017). The data helps to measure the returns that the various investments provide for investors. While reviewing the literature, earlier approaches employed by authors who have carried out similar studies in the UK, the US, Australia, and other developed and emerging economies were considered and adopted.

Descriptive statistical tools were used to analyse the data obtained from the comprehensive survey and was carried out using a computerised statistical package, MS-Excel. Frequency tables, mean-

return, standard deviation, coefficient of variation, and Sharpe index were used to measure the performances of the selected assets in terms of their risk-return profiles. Methods employed in the data analysis have been adopted by previous studies such as (Oyewole, 2006; Udobi *et al.*, 2013; Wahab *et al.*, 2017).

Results and Discussion

Coefficient of variation and Sharpe performance index methods were employed to examine the performance of the considered agricultural investments in terms of risk-adjusted return.

Table 1: Risk-Return Analysis of Agricultural real estate

Agricultural - Capital Returns (%)				
Year	Crop Production	Fishing/Hunting /Trapping	Livestock/Animal Specialties	Agricultural Total
2008	19.02	38.76	-39.94	10.39
2009	-38.85	0.00	-73.85	-41.37
2010	-12.05	0.00	14.04	-10.95
2011	30.83	100.00	10.77	30.95
2012	84.58	0.00	100.00	83.23
2013	112.59	0.00	397.69	123.30
2014	-38.97	0.00	-46.98	-39.51
2015	26.56	0.00	-41.67	20.64
2016	26.21	0.00	-36.84	23.48
2017	62.99	0.00	58.93	62.51
r (%)	27.29	13.88	34.21	26.27
δ	49.70	32.62	138.48	52.25
Coefficient of Variation	1.82	2.35	4.05	1.99
Sharpe Index	0.34	0.11	0.17	0.30

Source: Adapted from records and reports of the Nigerian Stock Exchange (NSE) Statistics Database, (2007-2018)

Table 1 shows the average rate of return, risk, coefficient of variation, and Sharpe index on each selected agricultural asset class. Under this category, livestock/animal specialties which outperformed other types of agricultural assets, in terms of the average rate of

return of 34.21%, underperformed based on the risk-return ratio (coefficient of variation) of 4.05. Crop production, which performed well, and next to the livestock/animal specialties having an average rate of return of 27.29%, outperformed the other agricultural assets

based on the coefficient of variation having a risk-return ratio of 1.82. The results also indicate that holding the three agricultural assets in a portfolio minimises risk as the total assets in the agricultural portfolio gave a risk-return ratio of 1.99, which is a 50.86% reduction compared

with that of the livestock/animal specialties. However, the livestock/animal specialties show the most-risky investment/asset variance of 138.48% and the least performing after fishing/hunting/trapping asset by the Sharpe index of 0.17.

Table 2: Risk-Return Analysis of Non-Agricultural real estate

Year	Construction/Real Estate - Capital Returns (%)						
	Buildg. Const.	Building Structure/Com /Others	Infrastruct ure/Heavy Const.	Real Estate Devt	(REITs)	Pty Mgt	Const./Real Estate Total
2008	172.26	277.56	162.72	14.85		-4.82	114.75
2009	-8.22	-62.41	-53.57	86.92	-9.92	-3.80	-15.42
2010	0.00	46.67	93.66	1.55	622.05	88.16	38.59
2011	0.00	-45.31	-36.57	-11.07	0.42	-9.09	-19.65
2012	-12.51	10.24	9.68	-0.55	0.00	42.31	0.80
2013	-1.39	-32.82	108.03	19.97	184.01	-13.51	61.25
2014	0.19	-17.20	-7.70	-72.54	-2.90	-13.28	-24.50
2015	-96.18	-9.97	-30.69	-35.89	0.00	-8.11	-31.23
2016	-4.96	-100.00	-8.12	-56.98	0.00	-25.49	-11.79
2017	0.00		-23.90	55.80	0.00	-28.95	-10.08
r (%)	4.92	7.42	21.35	0.21	88.18	2.34	10.27
δ	65.77	109.69	73.26	48.55	209.44	35.81	46.90
Coeff. of Variation	13.37	14.79	3.43	236.09	2.38	15.29	4.57
Sharpe Index	-0.08	-0.03	0.15	-0.21	0.37	-0.22	0.00

Source: Adapted from records and reports of the Nigerian Stock Exchange (NSE) Statistics Database, (2007-2018)

Table 2 shows the average rate of return, risk, coefficient of variation, and the Sharpe index on each selected asset. The results show that mean returns of the selected assets range from 0.21% to 88.18%, with REITs outperforming the other assets in terms of average return and Real Estate Developments having the least average return. REITs, however, account for the highest level of risk having a variance of 209.44%, with Building Structure/Completion/Others ranking 2nd having a variance of 109.69% and property management having the lowest level of risk with a variance of 35.81%.

Despite the high level of risk associated with an investment in REITs, it outperformed the other assets in this category, going by the coefficient of variation of 2.38 and Sharpe index of 0.37 when compared with Building Construction, 13.37/-0.08; Building Structure/Completion/Others, 14.79/-0.03; Infrastructure/Heavy Construction, 3.43/0.15; Real Estate Development, 236.09/-0.21; and Property Management, 15.29/-0.22. The result implies that REITs is a better investment than the other non-agricultural assets.

Table 3: Comparison of the performance of Agricultural Real Estate with the Non-Agricultural Real Estate using the Coefficient of Variation model

Asset Type	Average Returns (%)	Risk (δ)	Risk-Return (Coefficient of Variation)	Rank
Crop Production	27.29	49.70	1.82	1 st
Agricultural Total	26.27	52.25	1.99	2 nd
Fishing/Hunting/Trapping (REITs)	13.88	32.62	2.35	3 rd
Infrastructure/Heavy Cons.	88.18	209.44	2.38	4 th
Livestock/Animal Specialties	21.35	73.26	3.43	5 th
Construction/Real Estate Total	34.21	138.48	4.05	6 th
Building Construction	10.27	46.90	4.57	7 th
Building Structure/Completion/Other	4.92	65.77	13.37	8 th
Property Management	7.42	109.69	14.79	9 th
Real Estate Development	2.34	35.81	15.29	10 th
	0.21	48.55	236.09	11 th

Source: Adapted from records and reports of the Nigerian Stock Exchange (NSE) Statistics Database, (2007-2018)

Table 3 shows the ranking of the various assets using the performance measurement indicators. Based on both risk-return ratios (coefficient of variation), crop production and agricultural total were ranked as 1st and 2nd most performed assets, respectively, followed by fishing/hunting/trapping and REITs. However, the least performing assets were building structure/completion/other, property management, and real estate development, ranking 9th, 10th, and 11th, respectively.

The result of this study aligns with the result of Erickson *et al.* (2004) but in disparity with the result of the research in (Kenney, 2010; Eves and Nartea, 2010). Erickson *et al.*, (2004) compared the returns from agricultural to non-financial corporate sector assets investment and

found that returns from non-farm assets dominates returns from farm assets in the US within the of 1960 to 2001. Conversely, Kenney's (2010) study found that agricultural real estate outperforms other commercial real estate investments on total return basis over the period of 1991 to 2009 in the US. Eves and Nartea., (2010) assessed the role of New Zealand's agricultural real estate in a globally diversified portfolio and reported that New Zealand agricultural real estate outperformed other financial assets in terms of risk-return tradeoff in all the countries under review. However, comparing the risk-return trade off of New Zealand Agriculture investment to her bond and treasury bills, bond and treasury bills performed better.

Table 4: Comparison of the performance of Agricultural Real Estate with the Non-Agricultural Real Estate using the Sharpe index

Asset Type	Average Returns (%)	Risk (δ)	Sharpe Index	Rank
Real Estate Investment Trusts (REITs)	88.18	209.44	0.37	1 st
Crop Production	27.29	49.70	0.34	2 nd
Agricultural Total	26.27	52.25	0.30	3 rd
Livestock/Animal Specialties	34.21	138.48	0.17	4 th
Infrastructure/Heavy Cons.	21.35	73.26	0.15	5 th
Fishing/Hunting/Trapping	13.88	32.62	0.11	6 th
Construction/Real Estate Total	10.27	46.90	0.00	7 th
Building. Structure/Completion/Other	7.42	109.69	-0.03	8 th
Building Construction	4.92	65.77	-0.08	9 th
Real Estate Development	0.21	48.55	-0.21	10 th
Property Management	2.34	35.81	-0.22	11 th

Source: Adapted from records and reports of the Nigerian Stock Exchange (NSE) Statistics Database, (2007-2018)

Based on the Sharpe performance index, REITs and crop production were ranked 1st and 2nd as the most performed assets, respectively, with agricultural total and livestock/animal specialties ranking 3rd and 4th, respectively. Under this index, the least performing is building construction, real estate development, and property management, ranking 9th, 10th, and 11th, respectively. However, the performance measurement results using both models show that agricultural total (taking the agricultural assets as a whole) performed better than the construction/real estate total, with total agricultural ranking 2nd/3rd and construction/real estate total ranking 7th/7th.

Conclusion and Recommendations

The study evaluated the performance of agricultural real estate investment industry compared to other real estate investment industry in the Nigeria stock market between 2008 and 2017. This is to guide investors on the right investment decision making. The research shows that agriculture performed better than other

real estate types during the considered period. The results identified agricultural real estate as a more attractive investment option in terms of mean annual return, risk-adjusted return, and income growth. Conclusion from this study is that major investment benefits can be derived from agricultural real estate, although the risk attached to it cannot be ignored. It, however, comes with greater returns than those of the other real estate assets.

Based on the study's findings, it is recommended that Portfolio managers and investors, while building their portfolio, should consider agricultural real estate to enjoy its high returns benefit. However, the ideal weight due to agricultural real estate to make a well-diversified portfolio should be carefully worked out.

Agricultural real estate industry indeed outperformed all other forms of real estate investments. However, the performance in the sector can be improved upon as investment opportunities that the sector presents to local and foreign investors are enormous. Hence, policies and a sound regulatory framework should be pursued to enhance a strong, healthy,

and dynamic economic system. As suggested by Foss (2012), "such policies should be tailored towards the provision of sound infrastructure and macroeconomic stability that would create incentives for agricultural investment and growth of business opportunities on a sustainable basis and also foster the expansion of this sector".

References

- African Economic Outlook, (2011). Nigeria 2011. Retrieved from www.africaneconomicoutlook.org.
- Ajayi, C.A. (1998). Property Investment Valuation and Analysis. De-Ayo Publication
- Akpaeti, A.J., Bassey, N.E., Okoro, U.S. and Nkeme, K.K. (2014). Trends and Drivers of Agricultural Investments and Growth in Nigeria: The Pre and Financial Sector Reforms Experience. *Asian Journal of Economic Modelling*, 2(3): 115-127.
- Amidu, A.R. and Aluko, B.T. (2006). Performance Analysis of Listed Construction and Real Estate Companies in Nigeria. *Journal of Real Estate Portfolio Management*, 177-185.
- Ayedun, C.A. (2008). Reliability and Consistency of Investment Valuations: A Study of Lagos. Unpublished PhD. Thesis Submitted to the Department of Estate Management, College of Science & Technology, Covenant University, Ota. Ogun State
- Emele, C.R. and Umeh, O.L. (2013). "A fresh look at the performance and diversification benefits of real estate equities in Nigeria: A case study of real estate equity and some selected common stocks", *International Journal of Development and Sustainability*, 2(2): 1300-1311.
- Erickson, K.W., Moss B.C. and Mishra A.K. (2004). Rates of Return in the Farm and Nonfarm Sectors: How Do They Compare? *Journal of Agricultural and Applied Economics*, 36(3): 789-795.
- Eve's, C., Nartea, G. (2010) Role of farm real estate in a globally diversified asset portfolio. *Journal of Property Investment and Finance*, 28(3), 198-220
- Fatoki, O., Okubena, O. and Herbst, G. (2010). An investigation into the impact of investment appraisal techniques on the profitability of small manufacturing firms in the Nelson Mandela Bay Metropolitan Area, South Africa. *African Journal of Business Management* 4(7), 1274-1280.
- Food and Agricultural Organisation, (2000). Global issues for sustainable agriculture. A Report for the World Commission on Environment and Development
- Food and Agricultural Organisation, (2010). Competitive Commercial Agriculture for Africa. A Report for the World Commission on Environment and Development
- Foss, M. (2012). Corporate Investment in Agriculture, Moama, Australia: Nuffield Australia Farming Scholars.
- Goetzmann, W. and Ibbotson, G. (1990). The Performance of Real Estate as an Asset Class. *Journal of Applied Corporate Finance*, 3(1): 65-76.
- Greer, G. and Kolbe, P. (2003). Investment analysis for Real Estate Decision. Chicago (Illinois): Dearborn Real Estate Education.

- Hull, P. (1983). Property Performance Measurement, in C. Danlow (ed) Valuation and Investment Appraisal, Estate Gazette London
- Isaac, D (1996). Property Investment, and Appraisal, Bon Publications Owerri Nigeria JLL Global Real Estate Transparency Index, 2016 Edition
- Kenney, S.A. (2010). U.S. Farmland and other Real Assets. Hancock Agricultural Investment Group.
- Kalu, I. U. (2001). Property Valuation and Appraisal. Owerri: Bon Publications
- Kolawole, B.O., 2013. Institutional reforms, interest rate policy and the financing of the agricultural sector in Nigeria. *European Scientific Journal*, 9(12): 259-272.
- Lidonga, G. (2015). LinkedIn. [Online] Available at: <https://www.linkedin.com/pulse/real-estate-performance-measurement-tools-mwanzoni-ltd/> [Accessed 23 November 2017].
- Mang, H.G. (2009). Politics and economics of FADAMA irrigation and product sales in the mining areas of the Jos Plateau in Nigeria. Draft Paper for WOW Working Group on the Politics of Land, Authority, and National Resources
- Nwosu, A.C. (2004). Private sector initiatives in agricultural development in Nigeria. In:
- Nnanna, O.J., Okafor, C.M. and Odoko, F.O. (eds). The central bank of Nigeria. Proceedings of the Thirteenth Annual Conference of the Regional Research Unit, Theme: Enhancing Private sector-led Growth in Nigeria Held at Motel Benin Plaza, Benin City, Edo State.8-12th November 2004.
- Obasa, S.A.J. and Maduekwe, I.M. (2013). Agricultural financing and economic growth in Nigeria. *European Scientific Journal*, 9(1): 168 – 204.
- Odu, T. (2011). An Analysis of Relative Inflation Hedging Capacities of Prime Commercial Properties in Lagos. *Global Journal of Human Social Science*, 11(10): 43-52.
- Omeh, D. (2017). Top 10 Lucrative Farming in Nigeria. Retrieved from <https://www.wealthresult.com/agriculture/top-10-farming-in-nigeria>
- Omorogiuwa, O., Zivkovic, J. and Ademoh, F. (2014). The Role of Agriculture in the Economic Development of Nigeria. *European Scientific Journal*, 10(4): 133-147.
- Oyewole, M.O. (2006). A Comparative Analysis of Performance of direct and indirect property investment in Lagos. *Journal of Environmental Science*, University of Lagos.
- Oyewole, M.O. (2013). A Comparative Analysis of Residential and Retail Commercial Property Investments Performance in Ilorin, Nigeria. *Journal of Economics and Sustainable Development*, 4(3): 199-208.
- Rotenberg, A. and Bonsey, S. (2016). Real Assets and Impact Investing: A primer for Families. The Impart.org
- Udobi, A.N., Ugonabo, L.U. and Kalu, I.U. (2013). An Analysis of Performance of Real Estate Investment in Onitsha Metropolis and Investment in Bank Shares. *Civil and Environmental Research*, 3(8): 11-18.
- Udoetuk, N. (2008). Comparative Evaluation of the Performance of Residential Properties in Selected Areas of Lagos State. *The Yaba Journal of Environmental Studies*, 2(1): 7-24.

Usman, N.E. (2006). Agriculture: Vital to Nigerian economic development. Paper Presented at the Forum of Economic Stakeholders on Growing the Nigerian Economy. This Day Newspaper, the 25th of July.

Wahab, M.B., Morenikeji, G.B. Adeogun, A.S. Durosinmi, A.W. and Shittu, O.W. (2017). Risk-return Performance of Residential Property Investment in Abuja, Nigeria. *ATBU Journal of Environmental Technology*, 10(1): 95-108.