

REAL ESTATE FINANCE & INVESTMENT: AN EVALUATION OF FOREIGN DIRECT AND INDIRECT PROPERTY INVESTMENT OPPORTUNITY IN AFRICA

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PURPOSE: Despite increasing trends of cross-continental property investment, foreign direct and indirect investment in Africa is disproportionately low regardless of the huge population and huge real estate demands on the continent. The JLL (2012, 2014) suggested that this is due to lack of information on the direct and indirect real estate investment opportunity (returns, risk and diversification potential) on the continent. The paper accordingly aimed to investigate the risk-return performance of direct and indirect property investments in Nigeria vis-a-vis those of the US, with a view to providing information that would serve as a preliminary guide for Asian, US and other international investment decision making. Nigeria was offered as an example of an African country with huge population and low foreign investment, while the US was offered as an example of a country/region actively involved with cross regional real estate investment that largely excludes Africa.

METHODS FOLLOWED: Direct and indirect commercial property data in the US were obtained from the NCREIF (2015) and: FTSE NAREIT (2015) indices respectively. Data on indirect property in Nigeria was obtained from the Nigerian Stock Exchange while data on direct commercial property in Nigeria was obtained from total enumeration surveys of real estate firms. This direct property data was de-smoothened to ensure compatibility with indirect data.

FINDINGS: Analysis of findings of the study revealed that Nigerian direct and indirect property outperformed US direct and indirect property investments in terms of both total return and risk-adjusted return in addition to demonstrating considerable diversification potential.

Theoretical and Practical Implications. The paper has implications for the stimulation of direct and indirect property investment in Africa which currently lags the rest of the world in this regard.

Originality: The paper is one of the first to empirically and comprehensively investigate investment potentials of African and non-African real estate.

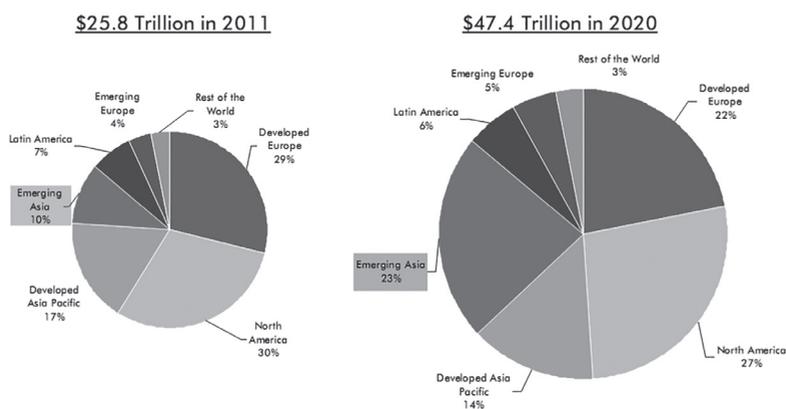
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1.0 Introduction -

Real Estate Investment is getting more global. American, Asian, Pacific and European investment companies including Sovereign wealth funds and Pension funds and other investors are increasingly investing beyond their shores - across the continents of Asia, Europe and America as part of their investment strategy to diversify risk and increase their exposure to alternative asset classes (Newell, 2012).

Regrettably however, Africa has been largely neglected in such inter-regional property investment. Indeed, the share of international investment is very unequal across the regions of the world as can be seen in Figure 1. Investment in Africa is grouped with the “rest of the world” which accounts for just 3 per cent of the total international investment in real estate. The *Businessday* (2014) cites experts as saying that investment in African real estate accounts for only EUR 113 billion which is about 1 per cent of the global property investment value in spite of the African continent accounting for an enormous 15 per cent of the world total population.

Figure 1: Global Investment in Real Estate



Source: CBRE (2011) cited in Newell (2014)

The insignificance of Africa's share of global real estate investment is surprising because the huge population of Africa apparently makes it a very good place to invest in. Africa's population currently stands at over one billion and is expected to reach 2.4 billion in just 40 years (Smallstarter, 2014). The shortage of suitable accommodation on the Continent has been pushing up rent and property prices in several cities and towns across the continent, apparently making it a most promising place for real estate investment. It is suggested that the 10 countries on earth with the highest fertility rates are in Sub-Saharan Africa where “the average woman gives birth to about five children in her lifetime and where in countries like Niger, the birth rate is as high as seven”. (Smallstarter, op cit). Baum & Murray (2010) argue that high population should naturally translate to high demand for property which should in

turn translate to high FDI. They however point to an African country - Nigeria - as paradoxically having low foreign investment in property despite its huge population of 180 million people..

A variety of factors have been adduced for this paradox. Such factors can be grouped into market maturity factors (as pointed out in papers such as Dugeri, Omirin & Ogunba, 2014) and information transparency factors (such as was discussed in Ogunba, 2014). With regard to the information transparency factors, a globally recognised index, the JLL (2012, 2014) suggests that a major reason for the relatively sparse foreign investment in Africa is the lack of property information transparency in most of the Continent (with the notable exception of South Africa). The index, which is updated every two years categorizes countries in the world into five groups namely, highly transparent, transparent, semi-transparent, low transparency and opaque. Largely, both the North Africa and Sub Saharan Africa regions are rated opaque in the JLL rankings. The Index suggests that Institutional investors and particularly international institutional investors in Europe, Asia and the US do not have much information on the markets in Africa (with the exception of South Africa). Ogunba (2014) observed that information opacity has seriously affected foreign direct and indirect investments in Africa because risk averse local and foreign investors require performance indices to make appropriate investment decisions on issues such as profit and diversification potential. Unfortunately, such performance indices are scarce in Africa at large. Only South Africa is rated by the JLL (2012) as transparent, followed by Botswana, largely because of the presence of the Investment Property Data bank (IPD) in both countries. This study has evolved in response to the need to challenge American, Asian and European property investors in the direction of more foreign investment on the African Continent through the provision of information on profit, risk and diversification potential of including African Real Estate in their investment portfolios. .

Apart from market maturity factors, it is recognised that the key motivation for Pension funds and other investors to invest outside their domestic property markets are the increased opportunities for either or both of (i) diversification and (ii) enhanced return/risk adjusted return (Baum & Murray, 2010). We must point out that only a scanty number of academic studies have analysed the prospects of achieving diversification or enhanced risk adjusted return by combining African property with Asian/American/European property in international investment portfolios. This paper suggests that this is largely due to information opacity on most of the Continent pointed out by the JLL (op. cit.). The African Real Estate Society in its 2013 and 2014 conferences at Rwanda and South Africa has encouraged Sub Saharan countries to develop property information data bases, and most country Real Estate associations (such as the Nigerian Institution of Estate Surveyors and Valuers and the Ghanaian Institution of Surveyors) have begun to rise up to the challenge. With the increasing availability of data, it is now increasingly likely that studies on diversification and enhanced return/risk adjusted return combining African property with Asian/American/European property in international investment portfolios would be generated. The present study is perhaps one of the earliest papers in this direction. The studies hitherto available appear to have been undertaken in only three countries on the

continent: South Africa, Nigeria and Ghana. In South Africa, Olaleye (2011) examined the performance of different investment asset classes in the South African investment market and showed that real estate had superior returns over other assets. In Ghana, Anim-Odamé (2013) compared Ghanaian residential real estate with US equities, bond and real estate. In Nigeria, studies include those that analysed the performance of direct property portfolio (Olaleye, 2000; Olaleye, 2003), direct real estate investments (Oyewole, 2013, and Dabara, et al. (2014), performance of indirect real estate investments relative to other investment asset classes (Amidu & Aluko, 2006; Amidu et al, 2008) and performance of direct and indirect sectors of real estate investments (Oyewole, 2006; Ekemode, 2014). However, few studies has so far examined the risk/return performance of African direct and indirect property assets vis-a-vis those of western and eastern countries as a guide to foreign investors on risk adjusted return or diversification potential. The aim of the paper is to contribute to filling this gap by investigating the risk-return performance of direct and indirect property investments in Nigeria vis-a-vis those of the US, with a view to providing information that will serve as a guide for American and other international investment decision making. Nigeria is used as a case study of an African country which could potentially be a favourable destination for Asian, European and American FDI. The US was used as a comparison because data on returns were readily available (on the Internet) as at the time of writing this paper.

The paper is structured into seven sections, the first which is introductory. The second section provides a brief overview of Nigeria and the US, their respective economies and their real estate investment potentials. The third section reviews research papers on the risk-return performance of direct and indirect property investments from a global perspective. Section four reviews papers on diversification potential of direct and indirect property investments while the focus in section five is on the research methods adopted in the paper. Section six provides the results of the empirical survey while section seven rounds up the paper with concluding remarks.

2.0 Nigeria and the US – Economy and Real Estate Potential

Nigeria is a federal constitutional republic located in West Africa comprising 36 states and its federal capital territory, Abuja. The country covers a total area of 356, 667 square miles. The national language is English. It has a population generally estimated at about 170 million people, making the country the seventh-most populous country in the world and clearly Africa's most populous country. It is often stated that one out every four black men in the world is a Nigerian. Nigeria is also now Africa's largest economy with a GDP worth 510 billion dollars (the previous leader South Africa has a GDP worth 370 billion dollars). Nigeria's economy has been growing at a rate of about 6 - 7% for the past decade. It is rich in natural resources especially oil and gas which are the major foreign exchange earners in the country (it is the twelfth largest producer of petroleum in the world). Lagos, Nigeria's economic capital, has Africa's largest and most liquid stock market after South Africa's Johannesburg (The Economist, 2014). Nigeria's middle class make up around 23 percent of the popula-

tion and earn around 80,000- 100,000 naira (\$490-\$610) per month, according to report by Investment Bank Renaissance Capital (cited in Brock, 2013).

Listed vehicles in Nigeria are governed by the 50 year old Securities and Exchange Commission (SEC). The Nigerian Stock Exchange (NSE) is the largest stock exchange in West Africa. Until recently, the UACN properties was Nigeria's only listed property Company. Recent entrants to the listed property class in Nigeria are the three REITs. REITs came on board when in 2007, the Securities and Exchange Commission (SEC) issued the first set of guidelines for the registration and issuance of requirements for the operation of REITs in Nigeria as detailed in the Investment and Securities Act (ISA). The REITs include the ₦50 billion Union Homes Hybrid REIT launched in September 2008, the Skye Shelter REIT launched in 2007 and the UACN REIT launched in 2013. Several other REITs planned for listing had to be put on hold by their promoters on account of the sharp decline in value of stocks and consequent loss of interest in equities by Nigerian investors.

Evans (2013) suggests that in some ways, Nigeria looks like a real estate investors dream. This is first because Nigeria has been experiencing spiralling urbanization. The movement to the cities, and notably Lagos, the most populous city, will see the city reach a predicted population of 20 million by 2020, which would make it one of the world's largest cities. Second, the country has an emerging middle class eager to shop in modern stores. Third, the country has a shortage of all types of modern space, raising the likelihood the market will favour landlords for years to come. According to Businessday (2014), Nigeria needs around 16 million housing units to accommodate its population of approximately 180 million. Specifically, the country has room to create approximately 1 million housing units per year for the next 20 years to cater for housing needs of its people. However, Evans (op cit) notes that accompanying the country's profit potential are major drawbacks to foreign direct investment. The Journal notes that the country is ranked 96 out of 97 in the Jones Lang LaSalle 2012 global real estate transparency index. In other words, in the view of the Index, the country suffers from a lack of data on market fundamentals, a lack of performance measurement indices, inadequate governance of listed vehicles, inadequate regulatory and legal framework and a lack of ethical standards in the transaction process.

The United States is a federal constitutional republic located in North America comprising 50 states and its federal capital territory, Washington D.C.. The country covers a total area of 9,857,306km². It has a population generally estimated at about 321 million people. The US is the world's largest national economy largest economy with a GDP worth 17.841trillion billion dollars. The main industries in the US are petroleum, steel, motor vehicles, aerospace, telecommunication, chemicals, arms industry, electronics, food processing, consumer goods, lumber and mining..The US offers significant opportunities for foreign investors not the least of which is a strong demand from over 310 people. Foreign investments made in the us total almost \$2.4 trillion while US investments made in foreign countries total over \$3.8 trillion The New York Stock Exchange is the world's largest stock exchange by market capitalization. Listed vehicles in the US Including real estate investment trusts, are governed by the Securities and Exchange Commission (SEC) formed in 1933 (Anonymous, 2015)

3.0 Review of Papers on Risk-Return Performance of Direct and Indirect Property Investments

Studies on risk-return performance of property have been carried out over the world as part of portfolio performance measurement. The review here is certainly not exhaustive, but attempts to provide some synopsis of the property portfolio performance measurement papers that have been generated across the world for the purpose of pointing to the gap which this paper intends to fill.

In Australia, Ryrnne (1996) compared investment returns of direct and indirect property within the context of Markowitz portfolio theory and investigated the linkages between Australian property trusts and commercial property returns over the period 1986 to 1996. Findings indicated that even though property trusts (indirect property investment) provide enhanced liquidity and portfolio diversification benefits, they did not capture a significant portion of direct property returns. However, the performance measurement was country specific and did not offer a comparison of cross-country portfolio investment potential that would be useful for international investors

Hwa (2003) examined the performance of Malaysian residential property sectors between 1989 and 2001. Focus was on risk-return and comparison of risk adjusted performance of residential property with equity investment, and also investigation of the diversification benefits of incorporating residential properties in investment portfolios. The results showed that detached houses provided higher capital appreciation compared to other forms of housing type but the higher returns were associated with higher risks. Overall, the study showed that Malaysian residential properties in selected states and by types performed well and individual investors could enjoy considerable risk reduction by incorporating residential properties in their investment portfolios. However, this study also was country specific and did not offer a comparison of cross-country portfolio investment potential.

Newell, Chau & Wong (2004) examined the investment dynamics of Hong Kong Property company performance. Style analysis was used to determine how much of Hong Kong property company performance could be attributed to direct property performance. Findings indicated that property company performance was more highly correlated with the stock market than with the direct property market from 1984 to 1998. This reflected the significant contribution of Hong Kong property companies to the overall Hong Kong stock market. However, as with the other studies reviewed above, the study was Hong Kong specific and did not offer a comparison of cross-country portfolio investment potential.

Newell & Hsu (2007) assessed the performance and the strategic role of direct retail property and retail listed property trust in a mixed asset portfolio. The study made use of risk adjusted performance analysis and the inter asset correlation to assess the performance and portfolio diversification benefits of the property assets in a mixed asset portfolio. Findings revealed that geographic diversification for retail property provides the most diversification benefits in relation to retail property type and retail

property size. Also, the performance and characteristics of both direct retail property and retail LPT's were different and each of them make substantive contribution as unique property investments when included in an institutional portfolio. However, again, the study was country specific and did not offer a comparison of cross-country portfolio investment potential.

The work of Olaleye & Aluko (2007) analysed managers' diversification within Lagos property market from 1997 to 2001 to ascertain whether diversification by managers and property types would produce better performance. The study was carried out in Ikoyi and Victoria Island areas of Lagos, Nigeria. Annual transaction data for residential properties obtained from three major property investment and development companies in Lagos for the five year period formed the sample. Data on performance level of residential properties in the study area was obtained from the managers of the three companies for each of their respective portfolios. Findings of the study suggest that diversification by managers and property types produce improved performance. Also, efficient portfolios (developed by using constant correlation model) may not, after all be superior to all naively diversified portfolio. However, the study focused on Nigerian investment portfolios without offering a study of portfolio benefits of a cross-boarder portfolio of property assets.

Newell, Chau & Wong (2009) assessed the significance and performance of the China commercial property market compared to six developed and emerging commercial property markets in Asia. Both direct and indirect property performance were considered from 1998 to 2007. The study made use of risk adjusted performance analysis in assessing the key benefits and added value of including China commercial property in a pan-Asian portfolio. The performance of office and retail property, and property companies in China for the period spanning fourth quarter of 1998 to first quarter of 2007 was contrasted with the performance of other Asian markets (including Hong Kong, Singapore, Thailand, Indonesia, Malaysia and Philippines). From the findings, it was seen that China listed property companies under performed all of the other Asian markets except Malaysia. Shanghai retail property exhibited diversification benefits when included in a pan-Asian retail property fund. This study did offer a international investment portfolio performance analysis but it excluded a consideration of African assets in the investment portfolios.

Plaizier (2009) carried out a cross continental study in Australia, Europe, North America and Asia. The study looked at the characteristics of the returns on the direct and indirect global property market for the period of 3rd quarter of 1995 to 1st quarter of 2008. The aim was to find out the difference in returns and the factors that determine returns in the direct and indirect sections of the property market. Findings of the study showed that direct property returns outperformed indirect property returns, it also showed that common region, sector and size factors are important in explaining difference in returns. Direct investing in multiple regions will lead to the largest risk reduction while for the indirect market; property type allocation is the most effective allocation strategy. This study offered a international investment portfolio performance analysis but it excluded a consideration of African property assets in the investment portfolios.

In South Africa, Olaley (2011) examined the performance of asset classes in the South African investment market and the diversification benefits that exist from adding listed property stock into domestic mixed-asset portfolio. The study period was 1999 to 2009. Twenty two naïve portfolios were constructed to determine return enhancement and risk reduction benefits of property listed stock in a mixed asset portfolio. Seventeen had property stock included in the portfolio while five did not. The risk and return levels of the portfolios were obtained using Markowitz's mean variance analysis and they were further compared. The risk, return, Sharpe ratio and diversification potentials of the portfolios were compared. Findings of the study revealed that property listed stock offered superior returns and risk adjusted performance over the other assets. Also, property stock produced enhanced and statistically significant risk adjusted returns but minimal and insignificant risk reduction benefits when added into a mixed-asset portfolio. However, the study focused on South African investment portfolios without offering a study of portfolio benefits of an international portfolio of property assets.

Oyewole (2013) examined the performance of residential and retail commercial property investments in Ilorin, Nigeria between 2001 and 2011. The focus of the study was on average return, risk adjusted return, income growth and capital appreciation. Findings of the study revealed that retail commercial property investment outperformed residential property investments in the Ilorin property market with a mean annual return of 14.2% as against 11.8%; in addition, residential property investments had a higher risk ratio as indicated by a coefficient of variance of 0.74 as against 0.46 for retail commercial property investments. Commercial property investments also performed better in terms of risk-adjusted return with Sharpe index of 1.11 as against 0.55 for residential property investments. Also, in the aspect of income and capital growth, retail commercial property investment still performed higher than residential property. However, the study focused on Nigerian investment portfolios without offering a study of portfolio benefits of an international portfolio of property assets.

Dabara, et al. (2014) carried out a comparative analysis of the risk-return characteristics of office and shop property investments in Osogbo, Nigeria. The methodology adopted involved the use of descriptive statistical tools such as frequencies, weighted means and standard deviations. The returns values used in the study included the income, capital and total returns. Findings from the study revealed that investments in commercial properties in the study area provided a continuous positive rate of returns ranging between 3.12% and 34.35% while the corresponding risk ranged between 1.50% and 10.11%. However, the study was focused solely on direct property investments ignoring the indirect property which is also of great interest to investors. However, the study focused on Nigerian investment portfolios without offering a study of portfolio benefits of an international portfolio of property assets.

4.0 Review of Papers on Diversification Potential of Property Investments in Investment Portfolios

Papers on diversification potential go beyond the examination of risk adjusted returns by evaluating the advantages to portfolio managers of including property or other assets in their existing mixed-asst or property portfolios so as to enhance returns and reduce risk. The methodology employed in such papers usually involves the use of correlation coefficient and covariance analysis.

One of such studies, Nwankwo and Kalu (2008), was carried out to determine whether real property enhances the performance of a mixed asset portfolio. The methodology involved the use of correlation coefficient and covariance analysis to ascertain diversification potential of shares, bonds and real property investments of NICON Insurance Company, Nigeria. Findings revealed that real property returns were negatively correlated with stocks and bonds. However, the paper did not consider the correlation of Nigerian property with those of assets of European or American assets as would be useful in an international portfolio.

Another study by Lee and Ting (2009) sought to determine the benefits of including Malaysian securitised real estate in a mixed asset portfolio for the period spanning 1991 to 2006. The study made use of descriptive statistics, correlation, mean-variance analysis and downside risk optimisation. Findings revealed that listed property company shares did not offer diversification benefits or portfolio return enhancement when included in a mixed asset portfolio. Here again, the study did not extend to comparing diversification potential of Malaysian property assets in international portfolios.

Olaleye, Ajayi and Mfam (2011) sought to determine portfolio diversification strategies that were given priority in Nigerian investment portfolios and the performances of portfolios derived from such strategies. The study sampled a total of 54 Estate surveyors and 12 property investors in major cities - Lagos, Abuja and Port Harcourt. Twelve different naïve diversification portfolios were constructed and compared with respect to their risk-return ratios so as to come up with superior diversification strategies. It was found that naïve diversification were the preferred strategies in Nigeria. However, the study focused on one country without comparing portfolio strategies in a manner that would be useful for international investors who are interested in cross-country investments..

Another Nigerian study, Olaleye, Aluko and Ajayi (2007), examined the factors that influence the choice of portfolio diversification techniques in Nigeria. Data obtained was analysed using frequency distributions, mean, standard deviation, relative importance indices and the Pearson chi-square test. Findings indicated that naïve diversification evaluation techniques were preferred to MPT techniques in the country. Factors that encouraged the use of naïve techniques included lack of time series data, long term nature of property investments and reluctance of practitioners to embrace complex MPT calculations. However, here again, the paper was country-specific and therefore of limited use to international investors seeking investment in Africa.

In the US, Cheng and Roulac (2007) measured the effectiveness of geographical diversification across different metropolitan areas. The study made use of quarterly NCREIF (direct) property indices in analysing four diversification schemes using simulation approaches, descriptive statistics and covariance. Effectiveness of diversification was measured by the ratio of portfolio risk to the average risk of single assets (the Beta) and by the proportion of portfolio risk that is not eliminated by diversification (k). The results indicated that diversifying across large MSAs alone was less effective than across all MSAs. However, the paper did not consider indirect property and did not consider diversification across US borders.

The overall gap identified in the literature review is that most papers are country specific. They largely focus on risk adjusted performance or diversification potential of property assets in one country. Such papers are useful for property investors in the country of focus, but are of limited usefulness to American, European and Asian investors interested in expanding their portfolios to include assets in African countries. The present study would attempt to begin addressing this gap.

5.0 Research Method

To address the gap identified in the previous section and address the aim of this study, the method involved a US-Nigerian property performance assessment. The process involved determining the returns, total risk and risk-adjusted returns of Nigerian and US direct and indirect commercial property between 2004 and 2013. It also involved examining the diversification potential of including property assets of the two countries in an international portfolio comprising of direct and indirect commercial property.

The starting point was to obtain total (holding period) return data for direct and indirect property in both the US and in Nigeria. Total return data for the US direct commercial property were obtained from secondary (Internet) sources of the National Council of Real Estate Investment Fiduciaries (NCREIF), while data on US indirect property (that is, REITs) were obtained from the Financial Times Stock Exchange (FTSE) NAREIT Real Estate Index. The US direct property data is de-smoothed data. Raw property price data are regarded as 'smoothed' meaning they understate the variability of returns in the property market. This is particularly the case with capital values and capital returns (rental values do not usually have this problem because of the frequency of letting transactions). Smoothing affects capital returns because of infrequent sales transactions which forces valuers to rely on valuations rather than transaction based indices. In other words, direct property valuations need to be de-smoothed because they are frequently moving averages of spot values (Hoesli & Macgregor, 2000)

Unlike in the US, there are no property databases in Nigeria providing holding period (total) returns on direct property. Total returns had to be calculated from raw data on rental and capital values. Such data was collected through questionnaire surveys of Estate Surveying and Valuation firms (See Table 1) The data covered average rental and capital values of office and shop properties (per square metre) in prime locations of three major state capitals in Nigeria between 2004 and 2013.

Table 1: Number of registered and practising Estate Surveying and Valuation firms in the study area

STATE CAPITAL	NUMBER OF ESTATE FIRMS
Port Harcourt	58
Calabar	15
Uyo	46
Total	119

Source: NIESV directory (2014) and state branches of NIESV for Port Harcourt, Calabar and Uyo.

The Nigerian direct property data was de-smoothed (as explained above) to facilitate comparison with the US NCREIF data which is already de-smoothed..

There is no database in Nigeria similar to the NAREIT Real Estate Index of the US which provides holding period returns on indirect property data. The attempt was therefore to calculate holding period returns on Nigerian indirect property from raw data - the annual open and closing prices of shares and the dividends of the UACN (the only Property company listed on the Nigerian stock market) and Nigerian Real Estate Investment Trusts (Union homes, Skye Shelter Fund and UACN REIT) - for the period spanning 2004 to 2013 The raw data was obtained from Internet records of Nigeria Stock Exchange (NSE). The UACN REIT was excluded from analysis because it only commenced operation in 2013 meaning that data existed for only one year.

The raw direct and indirect property data was converted to holding period (total returns) using the equation

$$TR = \frac{(CV_t - CV_{t-1}) + NI_t}{CV_{t-1}} \dots \dots \dots (1)$$

Where

TR = Total return or holding period return

CV_{t-1} = capital value of direct property at the beginning of the period

CV_t = capital value of direct property at the end of the period

NI = income received during the holding period

Standard deviation was used to measure the total risk or volatility of the investments. Total risk was measured using the formula

=

$$SD = \frac{\sqrt{\sum(x - \bar{x})^2}}{N} \dots \dots \dots (2)$$

Where

S = standard deviation

x = asset periodic return

= the mean

N = No. of observations

Subsequently, a risk-adjusted return measure, the Sharpe index, was used to analyse the risk-return performance of the direct and Indirect Property Investments

$$S = \frac{R_p - R_f}{S_p} \dots \dots \dots (3)$$

Where

S= Sharpe index

R_p = return of the investment

R_f= return of a risk free investment

S_p = Standard deviation of the return on investment

Subsequently, the diversification potential of the Nigerian and US direct and indirect assets in a real estate portfolio was analysed using Pearson's coefficient of correlation.

6.0 The Results

The questionnaire survey of commercial property in the Nigerian study area conducted early in 2015 yielded rental and capital values of office properties and shop properties in the three state capitals as presented in Tables 2 and 3.

Table 2: Average Rental Values of Commercial Properties in the Study Area

YEAR	OFFICE PROPERTIES N	SHOP PROPERTIES N	COMBINED AVERAGE N
2004	3749	3390	3570
2005	4241	3859	4050
2006	4941	4478	4710
2007	5459	5143	5301
2008	6338	5764	6051
2009	7055	6400	6728
2010	8190	6913	7552
2011	8693	7752	5482
2012	9576	8376	8976
2013	10744	9409	10077

Source: Field survey, 2015.

Table 3: Average Capital Values of Direct Commercial Properties in the Study Area

YEAR	OFFICE PROPERTIES	SHOP PROPERTIES	TOTAL AVERAGE IN THE STUDY AREA
2003	43802	41126	42464
2004	60628	52805	56717
2005	68264	62323	65294
2006	75300	67467	71384
2007	83996	75065	79531
2008	93555	83176	88366
2009	101328	91344	96336
2010	108060	97519	102790
2011	117259	105451	111355
2012	124404	111382	117893
2013	135538	118884	127211

Source: Field survey, 2015.

Table 2 presents the combined average rental values of commercial properties in the Nigerian study cities. The rental values were highest in 2013 and had the lowest rental values in 2004 respectively. The results indicate that office property had higher rental values than shop properties throughout the study period.

Table 3 shows the total average capital value of office and shop properties in the study area and thereafter the average capital value of commercial properties in the study area. Generally, office properties were seen to attract higher capital values than shop properties.

Table 4 presents the share prices and dividends obtained by indirect property in Nigeria.

Table 4: Share Prices and Dividends of Indirect Property Investments

YEAR	UPDC	SKYE SHELTER REIT	UNION HOMES REIT						
	Beginning	Ending	Dividend	Beginning	Ending	Dividend	Beginning	Ending	Dividend
2004	10.6	8.4	0.2	N/A	N/A	N/A	N/A	N/A	N/A
2005	8.85	8.7	0.25	N/A	N/A	N/A	N/A	N/A	N/A
2006	16.21	25.1	0.35	N/A	N/A	N/A	N/A	N/A	N/A
2007	16.8	23.37	0.49	N/A	N/A	N/A	N/A	N/A	N/A
2008	23.00	26.84	0.75	110.25	111.01	4.65	N/A	N/A	N/A

2009	14.48	19.86	0.5	105.46	100	7.00	50	50	4.01
2010	20.00	16.51	0.55	100	97	3	50	50	0.75
2011	17.20	12.00	0.65	97	100	4.04	50	50	2.27
2012	12.60	11.8	0.7	100	100	5.00	50	50	0.00
2013	15.5	19.00	0.7	100	100	5.25	50	50	2.41

Table 4 presents the open and closing prices and dividends for the indirect property investments from 2004-2013. The share prices for the listed property company - UPDC demonstrate a mixture of upward and downward fluctuations throughout the study period. This could be attributed to the fluctuations and shocks in the capital market in which this investment is being traded. The REITs - Skye Shelter REIT and Union Homes REIT had dividend values from 2008 and 2009 respectively as they commenced trading in 2007 and 2008 respectively. These REITs exhibited near static prices (particularly Union Homes REIT) for the study period. This is probably because REITs In Nigeria are still in their teething stages and are not yet well accepted by the investing market.

Table 5a presents total returns on both direct and indirect property investments in Nigeria while Table 5b presents the same results with the difference that the direct property returns have been de-smoothed to make them comparable to the indirect property..

Table 5a: Total Returns on Direct Commercial Properties and Indirect Property Investments in Nigeria

YEAR	OFFICE PROPERTIES (%)	SHOP PROPERTIES (%)	DIRECT COMMERCIAL PROPERTY (%)	INDIRECT PROPERTY
2004	47.90	40.19	44.05	-18.87
2005	19.67	24.75	22.21	1.13
2006	18.52	16.40	17.46	57.00
2007	19.85	19.51	19.68	42.02
2008	18.88	18.53	18.71	12.44
2009	15.34	17.74	16.54	16.70
2010	14.74	14.30	14.52	-4.4
2011	15.82	15.85	15.84	-4.88
2012	14.30	13.77	14.04	1.40
2013	16.80	14.67	15.74	12.39
Mean	20.18	19.57	19.88	11.49`

Field Survey, 2015

Table 5b: Total Returns on Direct Commercial Properties (Desmoothed) and Indirect Property Investments in Nigeria

YEAR	DESMOOTHED TOTAL RETURNS (OFFICE)	DESMOOTHED TOTAL RETURNS (SHOP)	DESMOOTHED TOTAL RETURNS DIRECT COMMERCIAL PROPERTY	TOTAL RETURNS PROPERTY INVESTMENTS
2004	63.47	40.19	51.83	-18.87
2005	-42.16	-11.40	-26.78	1.13
2006	14.31	-17.35	-1.52	57.00
2007	24.18	30.11	27.14	42.02
2008	15.41	17.28	16.34	12.44
2009	6.73	12.07	9.46	16.70
2010	12.50	4.59	8.54	-4.4
2011	18.25	18.96	18.61	-4.88
2012	10.08	5.17	7.63	1.40
2013	22.13	18.20	20.17	12.39
Mean	14.49	11.78	13.14	11.49

Source: Field Survey, 2015.

Tables 5a and 5b show that during the study period, the annual returns of the office property ranged from 14.30% to 63.47% (-42.16% to 63.47% when de-smoothed), shop property returns ranged from -17.35% to 40.19% (-17.35% to 40.19% when de-smoothed), direct commercial property returns ranged from -26.78% to 51.83% (-26.78% to 51.83% when de-smoothed) and the indirect property investments returns ranged from -18.87% to 57%. The mean returns were 20.18% (office property), 19.57% (shop property), 19.88% (direct commercial property) and 11.49% (indirect property). The de-smoothed mean returns were 14.49% (office property), 11.78% (shop property), 13.14% (direct commercial property) and 11.49% (indirect property). This result indicates that direct property investments outperformed indirect property investments on a mean return basis during the period under study.

Tables 6 and 7 present the total returns on US direct and indirect property respectively, from 2004 to 2013. The direct property returns in Table 6 have already been de-smoothed.

Table 6: Total Returns on US Direct Commercial Property from 2004 – 2013

YEAR	OFFICE (%)	RETAIL (%)	DIRECT COMMERCIAL RETURNS
2004	11.51	21.26	16.39
2005	18.2	18.66	18.43
2006	17.92	12.73	15.33
2007	19.11	12.88	16
2008	-7.09	-3.99	-5.54
2009	-20.54	-11.4	-15.97
2010	11.28	12.10	11.69
2011	13.11	13.11	13.11
2012	9.17	11.13	10.15
2013	9.52	12.29	10.91
Mean	8.22	9.88	9.05

Source: NCREIF Property Index (2015)

Table 7: Total Returns on US Indirect Commercial (Office and Retail) Property from 2004 – 2013

YEAR	OFFICE (%)	RETAIL (%)	INDIRECT COMMERCIAL RETURNS
2004	23.28	40.23	31.76
2005	13.11	11.80	12.46
2006	45.22	29.02	37.12
2007	-18.96	-15.77	-17.37
2008	-41.07	-48.36	-44.72
2009	35.55	27.17	31.36
2010	18.41	33.41	25.91
2011	-0.76	12.20	5.72
2012	14.15	26.74	20.45
2013	5.57	1.86	3.72
Mean	9.45	11.83	10.64

Source: FTSE NAREIT Real Estate Index (2015)

Table 6 shows that in the study period, US office property returns moved from 11.51 per cent in 2004 down to -7.09% and -20.54% in 2008 and 2009 and later recovered to 13.11% and 9.52% in 2011 and 2013. Similarly, retail property returns fell from

16.39 per cent in 2004 to -5.54% and -15.97 in 2008 and 2009 but later climbed to 13.11% and 10.91% in 2011 and 2013 respectively. Indirect property returns also showed the same trend, falling from 31.76% in 2004 to -17.37 in 2007 but recovered faster than direct property returns, showing positive returns from 2008. The negative returns observed for indirect property in 2007 and for direct property in 2008 and 2009 are very likely informed by the global economic downturn of that time, which emanated from the US real estate sector.

Table 8 compares the risk-return characteristics of Nigerian and US direct and indirect property.

Table 8: Risk-Return Characteristics of Direct and Indirect Property Investments in the US and Nigeria

PROPERTY	TOTAL RETURNS %	TOTAL RISK %	RETURN-RISK RATIO	COEFFICIENT OF VARIATION	SHARPE RATIO
Nigeria					
Direct	19.88	8.85	2.25	0.45	1.180
Direct de-smoothed)	13.14	20.16	0.65	1.53	0.184
Indirect	11.49	22.81	0.50	1.99	0.088
US					
Direct	9.05	11.04	0.82	1.22	-0.992
Indirect	10.64	25.45	0.42	2.39	-0.368

The return profile in Table 8 shows that smoothed and de-smoothed direct property returns in Nigeria (19.88% and 13.14%) out performed direct and indirect property returns in the US (9.05 and 10.64%). Nigerian indirect property also out-performed US direct and indirect property. The total risk of Nigerian direct property is also lower than the risk of direct and indirect property investments in the US though when the data is de-smoothened, the total risk of Nigerian direct property becomes higher than that of direct US property (but lower than US indirect property). The total risk of Nigerian indirect property is higher than US direct property investments but lower than US indirect property investments. In terms of risk adjusted return, the Sharpe ratios of Nigerian direct property (0.184) and Nigerian indirect property (0.088) are higher than those of both direct and indirect property in the US (- 0.992 and -0.3689 respectively).

The study also examined the diversification potential of Nigerian and US direct and indirect property investments in a mixed asset portfolio by means of correlation analysis. The results in this regard are presented in the correlation matrix on Table 9.

Table 9: Correlation between direct and indirect property returns in Nigeria and the US

	DIRECT (NIGERIA)	INDIRECT (NIGERIA)	DIRECT (US)	INDIRECT (US)
Direct (Nigeria)	1			
Indirect (Nigeria)	-0.235	1		
Direct (US)	-0.011	-0.037	1	
Indirect (US)	-0.106	-0.100	0.178	1

The correlation analysis in Table 9 shows that there is considerable diversification potential (negative correlations) where direct or indirect US assets are combined with direct or indirect Nigerian assets.

7.0 Concluding Remarks

The paper started with the observation that despite increasing trends of cross-continental property investment, foreign direct and indirect investment in Africa is disproportionately low from a global perspective, regardless of the huge population and huge real estate demands on the continent. The paper traced this problem first to information transparency problems and second to market maturity challenges. The paper focused on the transparency aspect of the problem and argued that international investors are not coming to Africa because they do not have information on the potentials of combining African Real Estate with their existing portfolios in America, Europe and Asia. The attempt therefore, was to investigate and compare the risk-return characteristics of direct and indirect property investments in Nigeria and the US for the period 2004 to 2013 with a view to providing information that would serve as a preliminary guide for Asian, American and other international investment decision making.

Findings of the study made known that Nigerian direct property outperformed US direct and indirect property investments in terms of total return, total risk and risk-adjusted return. Nigerian indirect property also out-performed US direct and indirect property on these platforms. Moreover, in terms of the diversification potential, Nigerian direct and indirect property showed great diversification potential when combined with direct and indirect property investments in the US. These results can be taken as a form of advocacy for more investment in Africa. Prospective US investors with a policy inclination for enhanced return should consider investing in indirect and particularly direct commercial property in Nigeria because of the enhanced returns. For US investors whose primary policy inclination is to avoid excessive risk (investors that are highly risk averse), they might consider whether they wish to invest in Nigerian property with total risk levels higher than 20 per cent (these risk levels are still lower than risk levels of US indirect property). US Investors whose policy inclination captures both return and risk would be advised to invest in Nigerian direct and indirect property given its higher Sharpe ratios. Moreover, investors whose policy inclination is diversification potential rather than profit or risk reduction, can

also be advised to combine US direct and indirect investment with Nigerian indirect investment.

Such advocacy must however be presented with a note of caution. The study has concentrated on risk-adjusted return and diversification potential. It has not included an examination of market maturity risk issues such as political risk, inflation risk and other issues. International investors would be advised to enter into partnership with reliable African Investors so as to minimize the incidence of such risks.

Considerable opportunities for further research exist for incorporating other African (Ghanaian, Tanzanian, Kenyan, Namibian, South African etc) direct and indirect property into Asian, American and European real estate portfolios. Such research would be considerably helped by the development of property databases in African countries. As was pointed out earlier in this paper, it appears that South Africa and Botswana are the only African countries that are well developed in this area. As was earlier stated, due to the interactive sessions of the 2013 and 2014 conferences of the African Real Estate Society, many Sub-Saharan African countries have accepted the challenge of developing such data. African databases being developed might follow the lines of the de-smoothed NCREIF (2015) index and FTSE NAREIT (2015) index in US which could be easily employed in international portfolio performance studies (as the present study) because of their free and easy availability online.

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