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ANALYSIS OF TRENDS IN COMMERCIAL REAL ESTATE RETURNS IN NORTH-CENTRAL NIGERIA

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ABSTRACT

Purpose*: This study analysed the trend in commercial real estate returns in North-central Nigeria with a view to identifying nature of historical returns on office and shop property investment over a period (19992025).*

Design/methodology/approach: *The study analysed 256 and 219 office and shop properties transactions respectively selected using simple random sampling techniques. Descriptive statistics such as holding period of return (HPR), trend analysis and coefficient of variation were employed to analyse the data collected for the study. The study also utilised inferential statistics, analysis of variance (ANOVA).*

Findings: *The result of trend analysis revealed that returns exhibited more rising trend than falling trend in Abuja and Ilorin while Jos and Makurdi experienced more falling in trend that rising over the period of study. Furthermore, the study found that office market trend exhibited less risk and performed better than shop market over the years based on the coefficient of variation results. The result of analysis of variance revealed that returns in office investment was significantly differed from returns on shop investment, and office return had a stable rising trend than shop returns.*

Research limitations/Implications*: The limitation of the study involved the use only North-central commercial real estate office and shop markets in Nigeria. The research implication is that, the study has contributed to knowledge by providing informative insights from commercial real estate market situation which served as guide to real estate investment decisions.*

Practical Implications*: The study provided a guide for commercial real estate investor in making investment decision while choosing among investment options such as office and shop. Also, while choosing among investment locations in North central areas of Nigeria, failure to adhere to this informative guide might lead to loss of investment.*

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***Originality/value**: The study revealed that returns on commercial office property investment had a stable trend and performed better than shop property investment in Abuja and Ilorin than Jos and Makurdi within the stated period.*

Keywords: Commercial real estate, Total returns, trend analysis, ANOVA

1.0 INTRODUCTION

Nigerian real estate sector experienced boom in year 2000 but suffered a rise and fall that caused a serious set-back due to recession in 2008, 2017 and 2018, 2019 and 2020 (NBS, 2020). Also, real estate sector's contribution in Nigeria between 2007 and 2012 to GDP increased from 3.9% to 4.7% but declined in 2017 to 0.77% due to economic recession and falling oil prices, negative contribution of real estate was recorded at -5.92% and which further dropped -1.3% in 2019 and 2020 respectively (NBS, 2020). Nigerian real estate investment sector has contributed about 6.86% equivalents to 9.4 trillion naira to GDP representing about 25.9billion Dollars since 2000 (NBS, 2019). This was considered miserably low because macroeconomic indices and oil prices that drive Nigerian economic sectors have become highly unstable. Returns on real estate investment is not usually static; it does fluctuate depending on the state macroeconomic and oil sector that characterised economic condition of Nigeria. Real estate sector is one the investment sector of Nigerian economy driven by other sectors such macroeconomic and oil sectors (Oyewole & Ajayi, 2013).

Commercial real estate properties' investment is a form of financial investment on real properties that are generally built for business transactions with evidence of periodic income flows and it comprises of all form of malls, hotels, shopping centres, retail stores, banks and office spaces (Dabara and Oyewole, 2015). Commercial real estate properties, apart from being the most attractive real estate investment, it constitutes the bulk of institutional real estate investments (Dabara, Gambo, Asa, Omotehinse & Soladoye, 2020). Real estate is a specialized sector responsible for improving the economy through its contribution to the GDP of the country. Real estate investment is a form of an investment that comprised of residential, industrial recreational and commercial real estate investment and its performance is measured by returns on investment (Dabara and Oyewole, 2015).

The analysis of trend in commercial office properties' investment returns in North central has become necessary to ascertain the level of performance recorded despite the current tribal, political and economic insurgency that have bedevilled the north-central areas of Nigeria. Analysing the trend in historical returns of office and shop properties' investment is required to provide recent information about the state commercial property market situation in the face insurgencies in the region. Therefore, the study aims at analysing the trends in commercial office and shop properties investment returns in North central Nigeria with a view to identifying risk and returns associated with the trend over a period (1999-2025). This is an exploratory study that will provide recent informative insights about the state of commercial real estate market in North central Nigeria between 1999 and 2025. This study will therefore update the findings of

the existing studies by expanding the scope and the result will provide guides for real estate investors in making future investment decisions for diversification options.

2.0 LITERATURE REVIEW

Related studies have been conducted on real estate investment returns with a view to providing guide to real estate investors, financiers and policymakers, such studies are presented as follows with view to identifying gaps in their studies:

Anim-Odame (2014) analysed the performance of three components of returns on residential real estate investment in Ghana between 1992 and 2007. The study utilised income, capital and total return's models, the result found that total return model on investment at 37.2% annually comprised of income return at 4.6% and capital return made up of larger percentage at 32.4%. The study further revealed that capital returns constituted the most performed model as it contributed the larger return to total return. This study however failed to examine the historical changes in commercial real estate returns and commercial real estate return volatility; also, future pattern of trend in return could not be established. The study only succeeded in analysing the most performed components of returns, however, the historical trend and forecast trend in returns was not examined.

Udoekanem *et al.,* (2014) examined real estate commercial office rental growth in Abuja between 2001 and 2012. The study employed descriptive techniques such weighted rental value, standard deviation and coefficient of variation. The result revealed that rental growth factor and coefficient of variation for real estate office is within 1.983 and 1.1197 equivalent to average growth rate of 8.3% and 11.97% respectively. This study only estimated the rental growth factor and risk content of the office property investment using rental value, however, returns on office and shop properties were not examined, and return on shop property investments was not also considered.

Iroham, Oluwunmi, Simon and Akerele (2014) assessed the trend in rental value of commercial property investment in Akure between 2011 and 2016. The study employed cross-sectional research survey to sampled 22 Estate Surveying firms. The result utilised descriptive and inferential techniques. The result showed that trend in rental values has higher future growth patterns predicted at 90% r-square and the rental values of commercial properties showed no statistically significant difference across the study. The study utilised nominal rent from commercial property investment, however, pattern of returns, return volatility and predicted future return were not the focus of the study. This study improved on Udoekanem *et al.,* (2014) by establishing predictive future growth pattern in rental value, however both studies did not consider the use of return series on commercial property investment.

Dabara and Oyewole (2015) analysed the trends in commercial real estate investment in an emerging property market in Ibadan between 2004 and 2014. The study adopted descriptive statistics such as average income, capital and total returns. The result indicated a positive value in returns at 4.40%, 6.58% and 10.89% respectively for office properties, and 4.62%, 5.19% and 9.82% for shop respectively. The study succeeded in determining the holding period of returns however the study did not analyse the trend

in return volatility of the commercial property investment and future patterns of returns on commercial property investment was not also analysed.

Oyewole and Ajayi (2016) examined the influence of physical attributes on the performance of office property investment in Lagos. The study employed multiple regression model to establish the relationship between total return and identified physical attributes. The result of regression analysis found that influence of age, building size, floor space, building services, fixture and fitting on total return is not statistically significant. The study modelled the effect of non-economic variables on returns, however, the study failed to understand that returns on investment unlike direct rent on property investment is not significantly affected by unsystematic risk such as property attributes, vacancy, fixture and fittings as revealed by the finding of the study, but may be significantly affected by systematic risk such macroeconomic variables and others variables outside the market such oil price.

Wahab, Morenikeji, Adeogun, Durosinmi and Shittu (2017) analysed the performance of residential real estate returns in Abuja between 2001 and 2015. The study utilized descriptive method such as holding period of return. The study utilised rental and capital values to determine total returns and risk-adjusted returns. the study revealed that Gwarinpa market performed better at average returns of 11.05% and 12.5% for 3B/R units and 4B/R unit of residential properties respectively. The study is based only comparative analysis of residential property investment locations however commercial property investment returns was not examined.

Nnamdi, Chukwudi and Chikwado (2018) compared the performance of commercial and residential properties' investment in Onitsha between 2007 and 2016. The study employed holding period of return model to determine the return on investment, and the finding revealed that commercial property investment outperformed residential property investment at 19% and 17% respectively over the period.

The study only succeeded in comparing the performance between commercial and residential properties' investments, however historical pattern of return volatility and future predictive pattern of trend in returns were not examined. The study improved on the work of Wahab *et al.,* (2017) by comparing the returns on residential and commercial property investments, however both studies did not analyse the trend in return volatility of the commercial property investment and its future patterns was not also examined.

Osa and Ekenta (2019) appraised the investment performance of residential and commercial properties in Lagos and Portharcourt between 2011 and 2017. The study employed descriptive statistics such as capital return model, standard deviation and coefficient of variation. The result found that the capital appreciation for commercial property investment at 1.233 performed better than residential property investment at 1.0095. This result is consistent with the finding of Nnamdi, Chukwudi and Chikwado (2018) where it was found that commercial property investment outperformed residential property investments but deviated by using capital return model that could not incorporate the element of periodic income on investment. Both studies focused on comparative analysis of returns on real estate investment, however failed to either analyse the return volatility or examined the future patterns of returns.

Okonu, Umeh, Akinwande & Muraina (2019) appraised viability residential real estate investment performance in sub-market areas of Lagos between 2010 and 2017. The study employed descriptive statistics such as income return, risk-adjusted return and inferential statistics such correlation. The result found that there is high level of volatility across the units of portfolio (residential units) analysed. The

study further found that there is strong significant correlation among the portfolio which suggested weak portfolio diversification characteristics. This study utilized income return on residential property investment; however, the study does not take into consideration total return that incorporates capital appreciation on investment. Commercial real estate returns were not the focus of the study, and its future pattern of return could not be established also.

Aniagolu, Obodo and Ewurum (2019) assessed the commercial real estate investment performance in Nnewi between 2006 and 2015. The study compared the performance of shop, offices and warehouse from 2006 to 2010 and from 2011-2015 using Analysis of variance. The result of ANOVA revealed that there is evidence of significant different in rental values of shops, offices and warehouse in Nnewi. This study lacked a fundamental measurement technique of performance, because performance is measured by return not by direct rental values as it was used in the study, also returns on commercial real estate investment was not the focus of the study.

Diala, Nissi and Ezema (2019) compared trends in commercial and residential properties investment in Enugu between 2010 and 2017. The data on rental and capital values were utilized to determine total return using descriptive statistics such as total return model, standard deviation and coefficient of variation. The finding revealed that commercial real estate moved at an average of 10.6% at less risk of 3.46% better than residential property investment at 7.8% at higher risk of 4.36%. This result is consistent with Nnamdi, Chukwudi and Chikwado (2018); Osa and Ekenta (2019) where it was found that commercial property investment outperformed residential property investments. These studies focused on comparative analysis of property investment performance, however, these studies failed to examine the patterns of returns volatility, and the future predictive pattern of returns was not also examined.

Ezeokoli, Bello and Bello (2020) studied the dynamic of commercial real estate investment returns in South-west Nigeria. The study employed descriptive method to analyse the trend using total returns between 2000 and 2018. The result revealed that average return on office and shop properties in Akure performed best at 19.07% and 15.38% respectively than Ikeja and Ibadan over a period. The use of total return on commercial real estate investment as best performance measurement is in line with Dabara and Oyewole (2015); Nnamdi *et al.,* (2018); Osa and Ekenta (2019); Diala *et al.,* (2019) where total return was used as best measure of performance but contrary to the use of income return by Okonu *et al.,* (2019) and the use of capital return by Nnamdi *et al.,* (2018). The study further found the evidence of statistically significance difference in returns between office and shop properties' investment in Ikeja, Ibadan and Akure. However, the study failed to effectively analyse trend in return volatility and predictive pattern of returns was not also examined.

Dabara, Gambo, Asa, Omotehinse and Soladoye (2020) examined the trend in commercial real estate returns in Ibadan between 2009 and 2018. The study employed descriptive method of analysis and utilised income, capital and holding period of returns to analyse the trends. The finding revealed that return profile of commercial properties in the areas experienced high volatility. The study further discovered that there was positive income, capital and total returns at 3.16%, 5.16% and 9.1% respectively for office properties and 10.68%, 7.59% and 18.27% respectively for shop properties. The study is similar to that of

AnimOdame (2014) where the analysis of components of returns was carried out. The study succeeded in determining the component of returns, however the study failed to analyse the predictive pattern of returns. The finding of this study is limited to Ibadan commercial property market and the finding could not be generalised for either the entire south-west zone or north-central zone of Nigeria.

None of the aforementioned studies has recently analyse the trend in the performance of commercial real estate especially in North central Nigeria however majority of the focused on analysis the performance of residential property investment (Anim-Odame, 2014; Wahab *et al.*, 2017; Aniagolu *et al.*, 2019; Okonu *et al., (*2019), few studies compared the performance residential and commercial real estate returns southern part of Nigeria (Diala, *et al.,* 2018; Nissi & Ezema, 2019; Osa & Ekenta, 2019). Majority of the studies that focused of analysis of commercial real estate return were conducted in Southern Nigeria (Iroham, *et al.*, 2014; Dabara and Oyewole 2015; Aniagolu *et al.*, 2019; Ezeokoli *et al.*, 2020; Dabara *et al.*, 2020) while available study on commercial office property in Abuja focused sole on office (Udoekanem *et al.*, 2014) without considering shop property investment. Therefore, the gap exist in previous studies is based on the fact that none of the aforementioned studies analysed the trend in commercial real estate return in recent time across the North-central and none compared office and shop property investment performance in North-central Nigeria in recent time (1999-2025).

3.0 METHODOLOGY

The primary data for this study was collected through field survey questionnaire. The survey required the selection of firms of estate surveyors and valuers in the study areas (Abuja, Ilorin, Jos and Makurdi) to give information on rental and capital values of both shop and office properties, In order to ensure normality in data collected the employed natural logarithm and applied it on the data set. The study utilised current Directory of Nigerian of Institution of Estate Surveyors and Valuers (NIESV) to ascertain the number of registered firms in the study areas. The study employed census sampling due to relatively small size of the firms and the number of available commercial properties from the firms were selected using simple random sampling techniques. The total number of firms sampled comprised 330, 10, 31 and 21 firms in Abuja, Jos, Makurdi and Ilorin respectively. The total number of commercial office properties sampled from firms comprised 79, 71, 43 and 45 for Abuja, Jos, Makurdi and Ilorin respectively, and while the number of sampled shop properties comprised 68, 53, 42 and 56 for Abuja, Jos, Makurdi and Ilorin respectively. The total samples amounted to total of 256 and 219 office and shop properties transactions were respectively selected using simple random sampling techniques, The employed both descriptive and inferential method of analysis. The descriptive statistics comprise trend analysis, holding period of return (HPR), standard deviation, coefficient of variation (CoV) while the inferential statistics comprised Analysis of Variance (ANOVA) and Honesty Significant Different (HSD),

4.0 RESULTS AND DISCUSSION

The result of descriptive statistics of total returns on office and shop properties investment is presented in table 1. The result of descriptive statistics showed the average rate of returns on office and shop properties investment and risk-return content of the investment over a period (1999-2025). The result showed the characteristics of commercial real estate returns and the result showed that the average rate of return in Abuja was 15.4% at a deviation of 5.10%, while the investor's risk to return ratio was about 34%. Likewise in the shop property market, average rate of returns was 23.92% at a deviation of 9.67%, while the

investor's risk-return ratio was about 40%. In Jos office market, the average rate of return was 17.21% at a deviation of 7.32%, and the investor's risk-return ratio was about 45%. Also, the average rate of returns was 26.05% at a deviation of 6.94%, and the investor's risk-return ratio was about 30%. In Ilorin office market, the average rate of return was 17.03% at a deviation of 6.50%, while the investor's risk-return ratio was about 38%. The average rate of return on shop property investment was 18.35% at a deviation 9.27%, while the investor's risk-return ratio was 51%. In Makurdi, the average rate of returns was 22.32 at a deviation of 6.79, while the investor's risk-return ratio was 30%, likewise in shop property, the average rate of return was 13.10% at a deviation of 6.63%, while the investor's risk-return ratio was 51%.

Looking at descriptive performance of trend in commercial real estate returns, it can be deduced that Makurdi and Abuja office markets performed better based on risk-returns associated with office properties investment, while shop property in Jos performed better based on risk-return content of shop property investment and, therefore, such areas should be of interest to any prudent investors.

Table 1 Descriptive Analysis of Trend in Returns in Commercial Property Investment

	Office Market				Shop Market			
Descriptive Statistics	**Abuja (Office)**	**Jos (Office)**	**Ilorin (Office)**	**Makurdi (Office)**	**Abuja (Shop)**	**Jos (Shop)**	**Ilorin (Shop)**	**Makurdi (Shop)**
Mean	15.4	17.21	17.03	22.32	23.92	26.05	18.38	13.10
Standard Deviation	5.10	7.32	6.50	6.79	9.67	6.94	9.27	6.63
Coeff. Var;	0.34	0.45	0.38	0.30	0.40	0.30	0.51	0.51
Sample Variance	297.09	206.33	189.36	600.33	248.64	327.41	81.63	40.64
Minimum	2.84	5.96	7.32	10.37	5.84	12.91	1.66	4.54
Maximum	29.61	33.63	34.06	38.54	38.78	39.75	33.71	33.3
Count	26	26	26	26	26	26	26	26

Source: Computed from Table 15 and Table 16

The return index on office properties investment in North-central over a period is presented in Figure 1. The trend showed dynamic patterns of returns in Abuja, Jos, Ilorin and Makurdi. In the figure, office returns in Makurdi demonstrated a wider gap in returns in between 2004 and 2007 and overlapped all other office markets, after which there was a fluctuated rise and fall till 2025. In Jos, return on office property exhibited low rise and fall and lapped behind all other areas between 2003 and 2012, after which there was a sudden rise in 2014 and 2015, after the continue to fall till 2025. In Ilorin, the returns maintained gentle rise and fall up till 2009 and 2010 when there was sudden rise, after the returns experienced significant fall till 2021 after which there was sudden rise till 2024. In Abuja, returns showed a gentle rise and fall between 2000 and 2025, after which there was sudden rise in 2014, and continuous fall till 2025.

It can be deduced for the analysis of trend above that commercial office property returns exhibited a continuous rise and fall characterised by unusual changes especially in Makurdi and Jos office markets and, such display placed the areas on red alert for prudent investor.

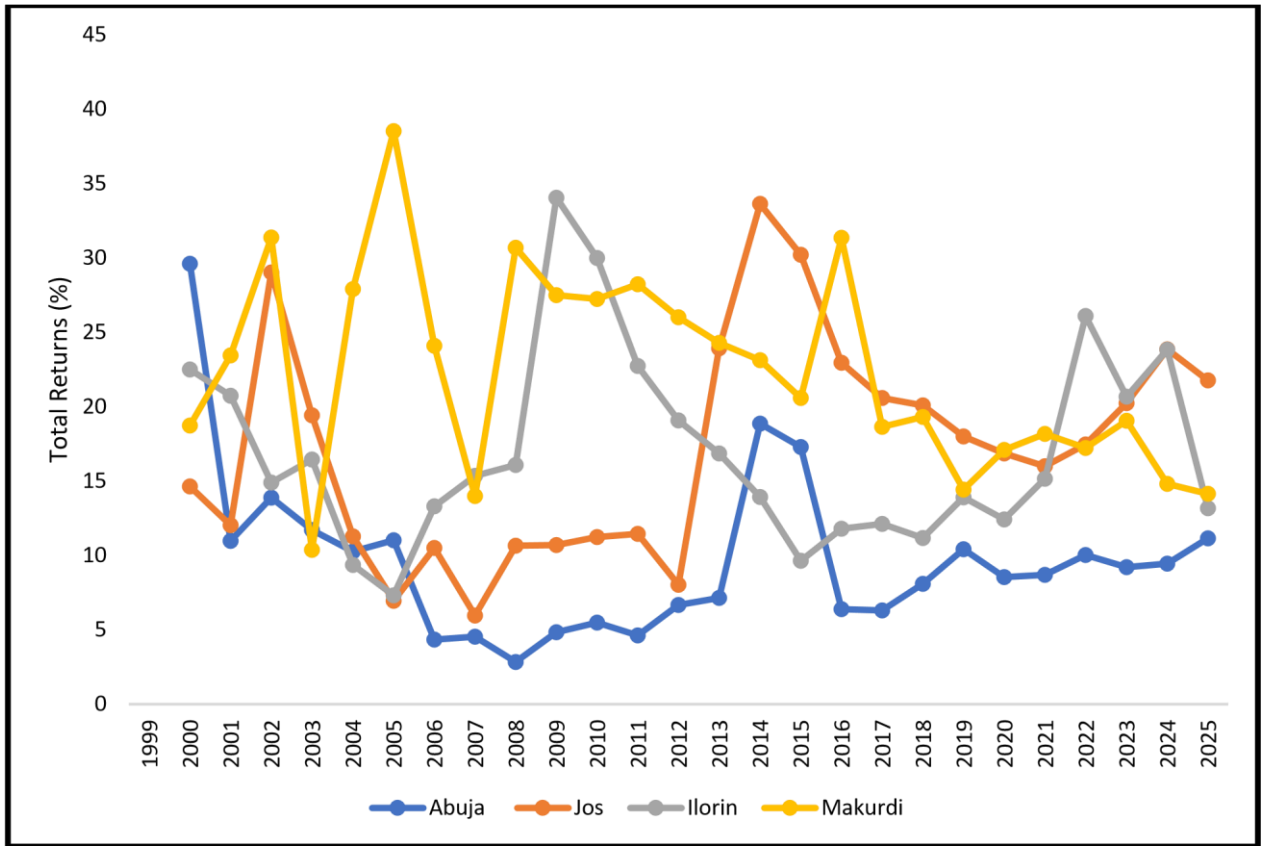


Figure 1: Return Index on Office property Investment
Source: Computed from Table 15

The trend in return on shop properties investment in North-central over a period is presented in Figure 2. The trend in total returns on Shop properties investment over the period is presented in Figure 10. Returns on shop property investment in Abuja maintained a wide gap between 2000 and 2006, and overlapped other areas within the period. In Jos, the returns exhibited sharp rise intermittently between 2006 and 2009,

also between 2014 and 2020 to overlap other areas and fall afterward. while Ilorin and Makurdi maintained gentle rise and fall in shop property investment returns over the period. This result indicated that the returns on shop properties investment maintained both gentle and sharp rise and fall across the study areas. Looking at the trend in shop property returns, it can be deduced that shop property market exhibited high level of instability characterised by extreme volatility in the trends.

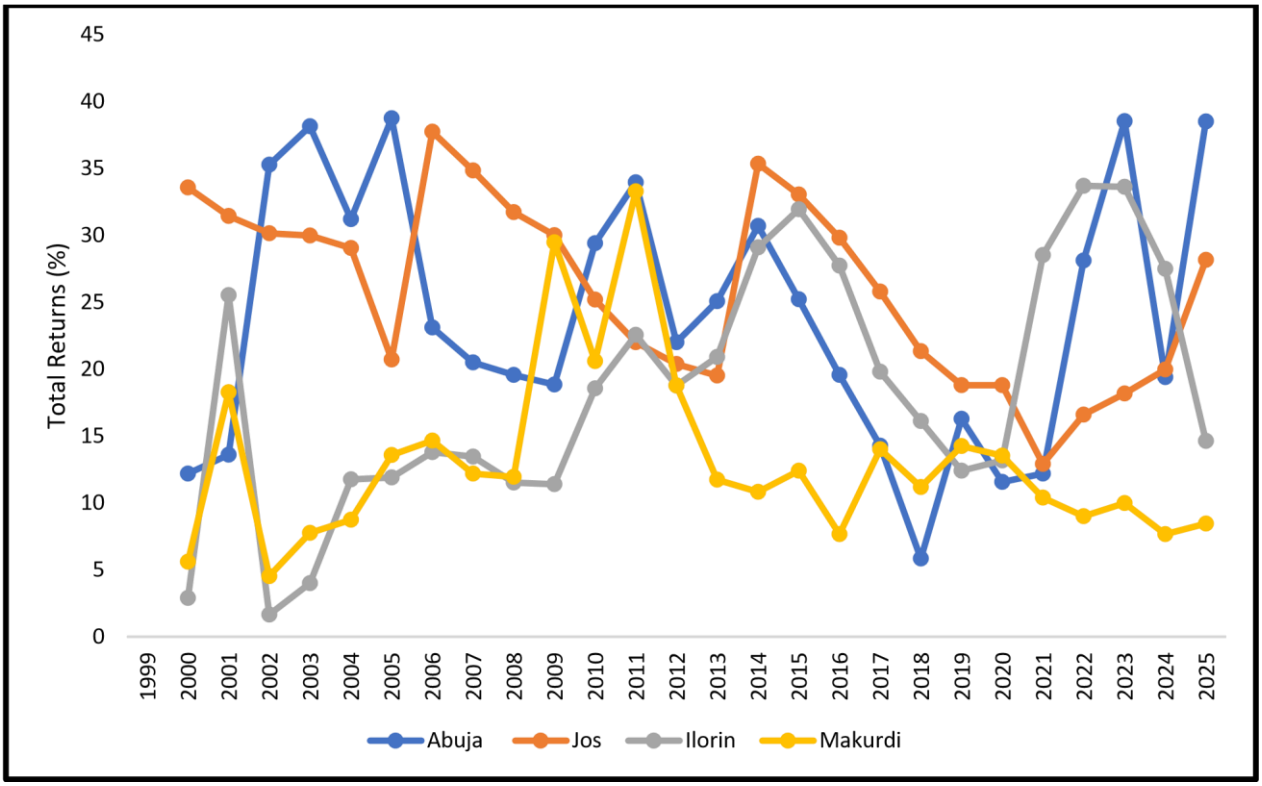


Figure 2: Return Index on Shop property Investment
Source: Computed from Table 16

Figure 3 shows the trend in aggregated returns on office and shop properties investment. the aggregated return is annual average rate of return on office and shop properties investment across the study areas. The trend in aggregated returns revealed that there was boom in office and shop properties investment returns from 2000 and the trend was moving at double digit average rate of returns over the periods. by implication, returns on commercial real estate investment sector across the study areas was on double digit rate which better than rate of return in other investment sector that experienced single digit rate.

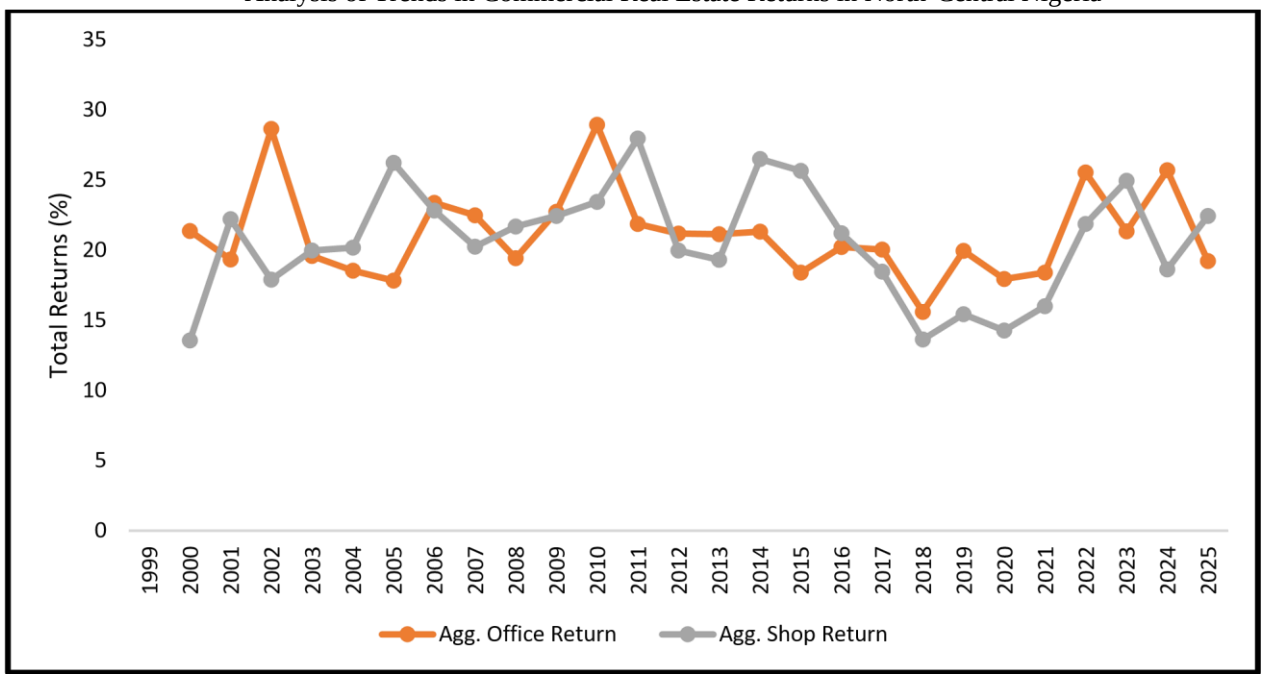


Figure 3: Aggregated Return Index on Office and Shop Properties Investment in North Central

The result of analysis of variance is presented in Table 2. The significance of variance (ANOVA) in returns between office and shop property was tested using F-test (F-test is significant at 5%). The result revealed that F-test at 4.860859 was found to be statistically significant at 5% since p-values of statistics s less than 0.05 level of significance. This further implies that the variance between office returns, and shop returns is statistically significant, by implication, returns in office investment is significantly differed from returns on shop investment. Therefore, this significant difference might be attributed to difference in demand, change in general economic and business circles.

Table 2: Analysis of Variance (ANOVA) in Aggregated Return Index on Office and Shop Source of Variation

Variation	SS	Df	MS	F	P-value	F crit
Between Groups	255827	1	255827	4.860859	0.03192	4.026631
Within Groups	2736760	52	52629.99			
Total	2992586	53				

Source: Field Survey Computation.

5.0 SUMMARY FINDING AND CONCLUSION

The trend in commercial real estate returns across the study areas has exhibited rise and fall characteristics over the years. The pattern of trend relatively exhibited more of raising than falling in one area than others, this finding was consistent with Dabara and Oyewole (2015); and, Umeh and Adilieme (2020) where similar patterns of trends in commercial real estate returns were observed. While Abuja and Ilorin commercial real estate markets have a better unique pattern of trend (more of rising than falling) than Jos and Makurdi markets. However, Jos and Makurdi markets have suffered more falling than rising in commercial real estate returns over the years. These findings revealed that the office market trend was found to exhibit less risky and performed better than shop market over the years, this finding was consistent with Ezeokoli *et al.,* (2020) where office market outperformed shop market, but the finding was however contrary to the finding of Dabara *et al.,* (2020), and Effiong and Iweh (2022) where the shop market performed better than office market in the southern part of Nigeria.

Conclusively, the office and shop returns witnessed more of rising than falling in some parts (Abuja and Ilorin) while more of falling than rising in returns had also been experienced in the other areas (Jos and Makurdi). The reasons advanced for this different performance in real estate markets might attributed low demand due to low business and economic cycles which had tremendously affected the balanced growth of commercial real estate markets across the region. The evidence of high-risk content of commercial real estate investment confirmed the relative existence of extreme volatility in some areas (Jos and Makurdi) than the others (Abuja and Ilorin). Returns in office investment is significantly differed from returns on shop investment, and office return had a better trend than shop returns. Therefore, this significant difference might be attributed to difference in demand, change in general economic and business circles. The study recommends that real estate investors adhere to explorative guide provided by this study in making investment decision in choosing investment option between office and shop, also in choosing investment location in North central areas of which failure to adhere might lead to loss of investment.

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