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REAL ESTATE INVESTMENT DIVERSIFICATION PROSPECTS IN UYO, AKWA IBOM STATE, NIGERIA.

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Abstract
Real estate investors strive to balance returns with risk through a diversified portfolio. This study investigates construction of such a portfolio by incorporating both residential and commercial properties with negatively correlated returns. Data sourced from 20 estate firms in Uyo, Akwa Ibom State, spanning from 2008 to 2023, is analysed using Pearson Product Moment Correlation to explore the relationships among different real estate investment returns. The findings highlight diversification opportunities through combinations of 2-bedroom flats with offices, which demonstrates a negative correlation coefficient of -0.149. Similarly, 5-bedroom maisonettes with offices showed a correlation coefficient of 0.29, while the correlation between 5-bedroom maisonettes and shops stood at 0.543. These correlations underscore the feasibility of constructing a well-diversified portfolio. This study concludes that investing across different real estate classes within a locality can enhance diversification and mitigate risk. It recommends that investors consider diversifying across various property classes in Uyo to balance their portfolio.

Introduction

The concept of diversification in real estate investment has garnered significant attention recently, as investors seek ways to mitigate risk while optimising returns. Diversification involves strategically spreading investment opportunities to minimise risks and maximise returns (Olaleye, 2011). The aim is to strike a balance between acceptable risk levels and expected returns. In real estate, diversification manifests in various forms, including geographical spread, property type, lifecycle, management approach, ownership structure, and financial arrangement (Olaleye and Aluko, 2007).

Diversifying across regions and property types offers the advantage of tapping into diverse economic benefits while safeguarding against location-specific risks. The concept of diversification, pioneered by Markowitz in the 1950s, remains a cornerstone in portfolio risk analysis. It highlights the importance of the covariance between

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asset returns in a portfolio, demonstrating that risk reduction opportunities are inversely related to the correlation between asset returns (Eichholtz and Hoesli, 1995).

With real estate investment viewed as a reliable long-term wealth store (Hoesli and MacGregor, 2000), many investors, particularly post-capital market crashes, are increasingly drawn to its performance potential (Oyewole, 2006). This trend presents a significant opportunity for countries like Nigeria, which boasts the largest population in West Africa and faces a substantial housing deficit (Ezema, Opoko, and Oluwatayo, 2017). Over the past decade, institutional investors have significantly influenced Nigeria's real estate investment landscape, mirroring global trends (Olaleye, 2011). Institutional investors are drawn to real estate because of its low-price volatility, potential for high returns relative to risk, inflation-hedging qualities, stable rental income, predictable operating expenses, and low correlation with other assets, facilitating portfolio diversification (Smietana, 2014).

This surge in real estate investment awareness has led investors to allocate a significant portion of their assets to the sector, demanding higher levels of professionalism from industry practitioners (Olaleye and Ajayi, 2004). To cater to investor needs, numerous studies worldwide have explored optimal diversification strategies, often advocating for diversification across regions and property types (Cheng and Roulac, 2007; Mueller, 1993; Eichholtz and Hoesli, 1995; Miles and McCue, 1984; Olaleye and Ajayi, 2004; Akpan and Efekalam, 2021). While many studies focus on different regions, few concentrates on specific areas like residential real estate investments around Uyo, neglecting other real estate classes. Thus, this study examines the diversification potential of residential and commercial real estate investments in Uyo, Akwa Ibom State. To achieve this aim, these objectives were set.

Objectives of the Study

The objectives of this research are to:

i. examine the trend of real estate investment returns in Uyo Akwa Ibom State from 2008 to 2023
ii. Identify real estate investments that can be combined to construct a diversified real estate investment portfolio in Uyo Akwa Ibom State.

Review of the Related Literature

In a series of studies, various researchers investigated the efficacy of diversification strategies within real estate portfolios. Miles and McCue (1982) examined real estate investment trusts (REITs) and discovered that diversification by property type yielded superior risk-adjusted returns compared to geographic diversification. Building on this, Miles and McCue (1984) delved deeper into property-specific data from a large commingled real estate fund, finding that correlations among returns on portfolios of properties categorised by property type were significantly lower than those categorised by region, highlighting the efficiency of property type diversification.

Further studies by Hartzell, Hekman, and Miles (1986) explored diversification by geographic regions within the USA, revealing generally low correlations between returns in different regions. However, they emphasised the necessity for more detailed diversification categories. Mueller (1993) expanded on this by examining efficient frontiers for various diversification schemes, concluding that geographic and/or property-type diversification marginally improved portfolio performance.

Eichholtz and Hoesli (1995) investigated real estate portfolio diversification in the USA and UK, finding that diversifying across regions with a single property type or across property types within a region was more effective. Similarly, Eichholtz, Koedijk, and De Roon (2002) explored the impact of residential property holdings on optimal investment portfolios in the United States, highlighting significant diversification benefits relative to stocks and bonds.

Adair, McGreal, and Webb (2006) demonstrated the benefits of combining different classes of real estate assets in different locations or acquiring different property types. Hoesli and Lizieri (2007) observed that real estate investment risk dispersion involves diversifying asset classes and types within various sectors and regions.
Olaleye (2007) focused on real estate portfolio diversification by managers and property type in Lagos, suggesting that diversification in both aspects led to improved performance. Umeh (2015) analysed the diversification potential of residential property investments in Ibadan and concluded that the risk-return profile varied across property types and geographic locations.

3.1 Research Methodology

This study employed a correlational-research design to examine the relationship between the returns of the various classes of real estate investments in Uyo, Akwa Ibom State from 2008 to 2023. Copies of the questionnaire were administered to the firms of estate surveyors and valuers to collect data for the computation of the returns on residential real estate investment. Five (5) properties were randomly selected in each category of the properties under the study (2-bedroom flats, 3- bedroom bungalows and 5-bedroom maisonnettes, offices and shops) from the management portfolios of the 20 Estate Surveyors and Valuers firms. Pearson Product Moment Correlation analysis was used to analyse the correlation among the returns of the various properties in the study area. The correlation coefficient was used to ascertain the strength of the relationship among the different classes of assets across the region.

4.1 Data Presentation, Analysis, and Discussion

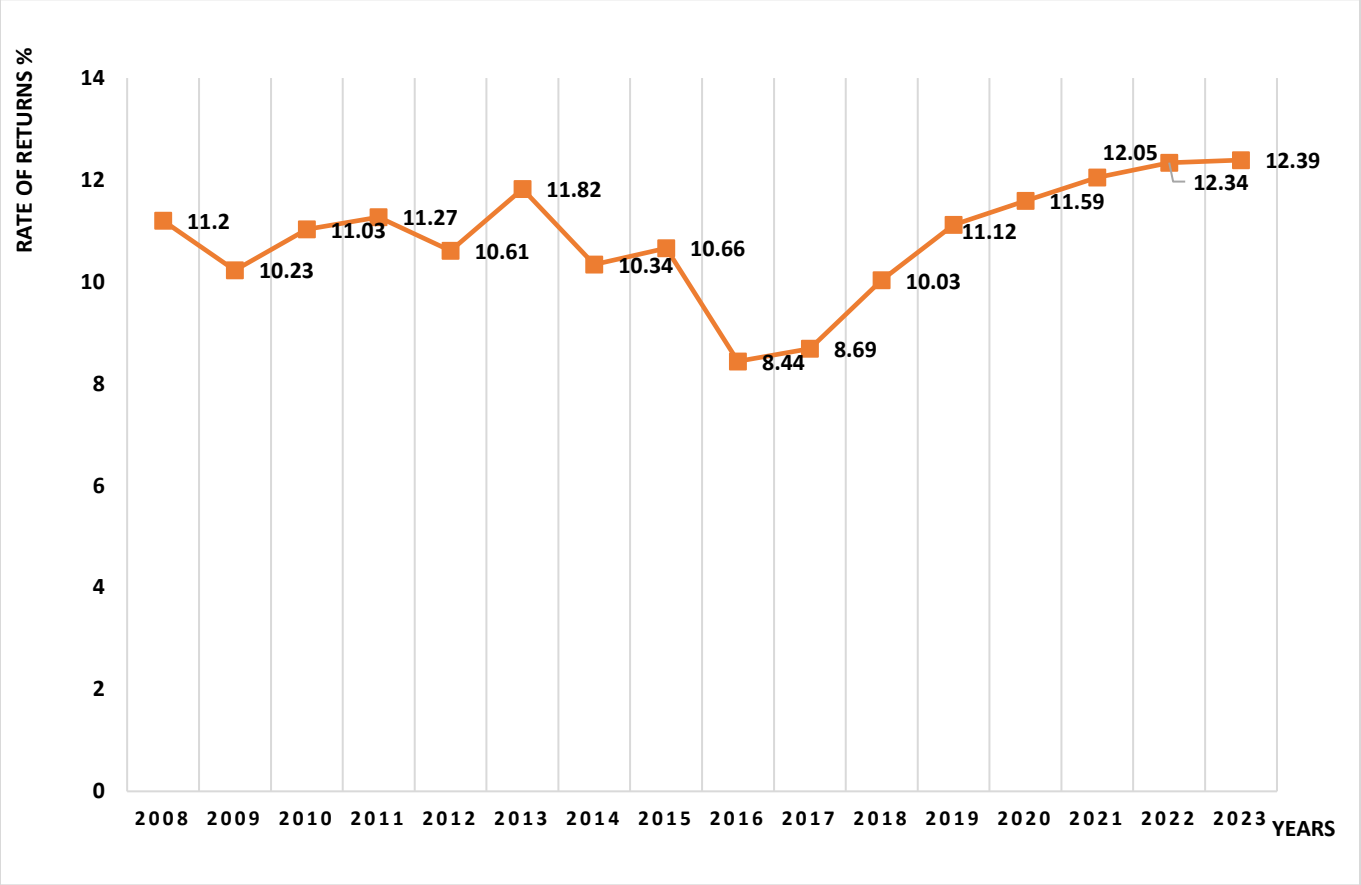

Figure 1: Trend of the rate of returns on 2-bedroom flats in Uyo, Akwa Ibom State

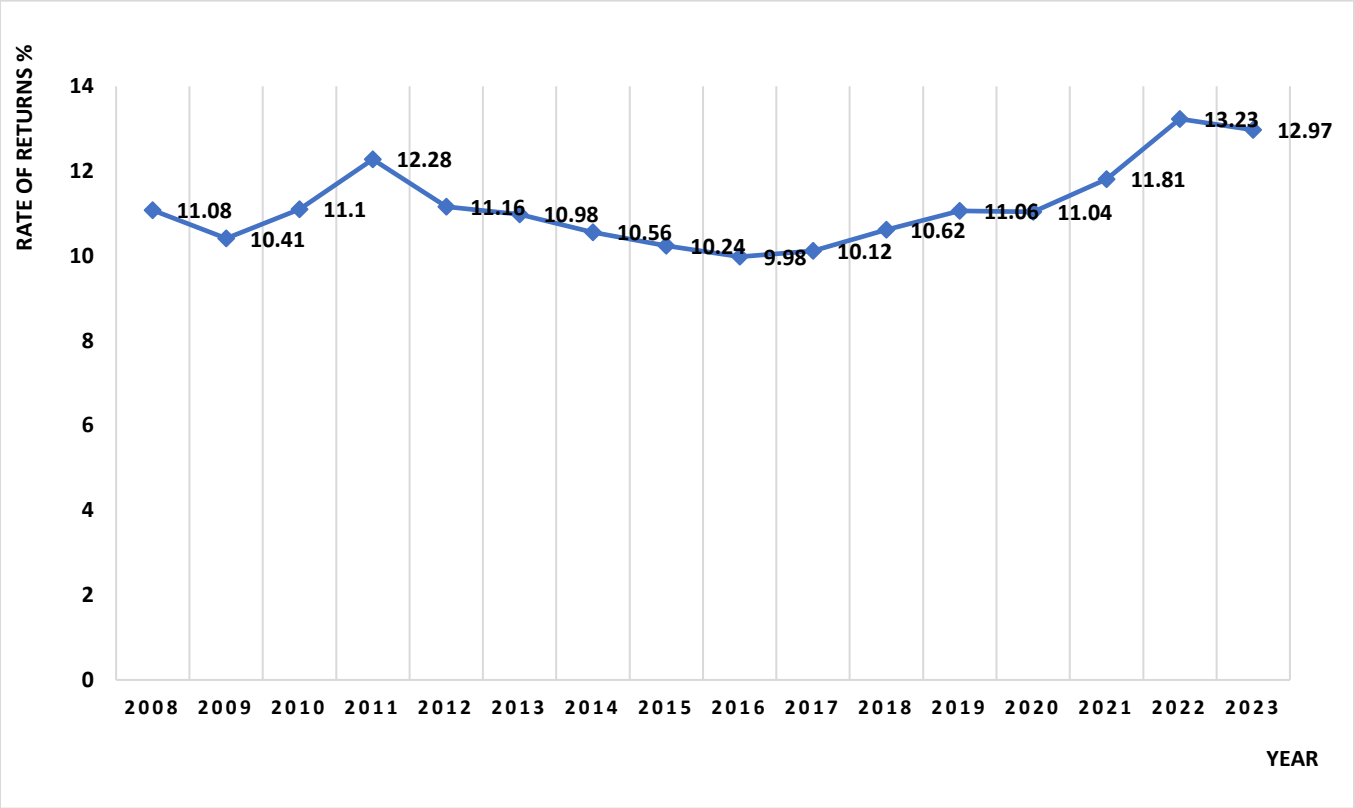

Figure 2: Trend of the rate of returns on 3-bedroom bungalows in Uyo, Akwa Ibom State

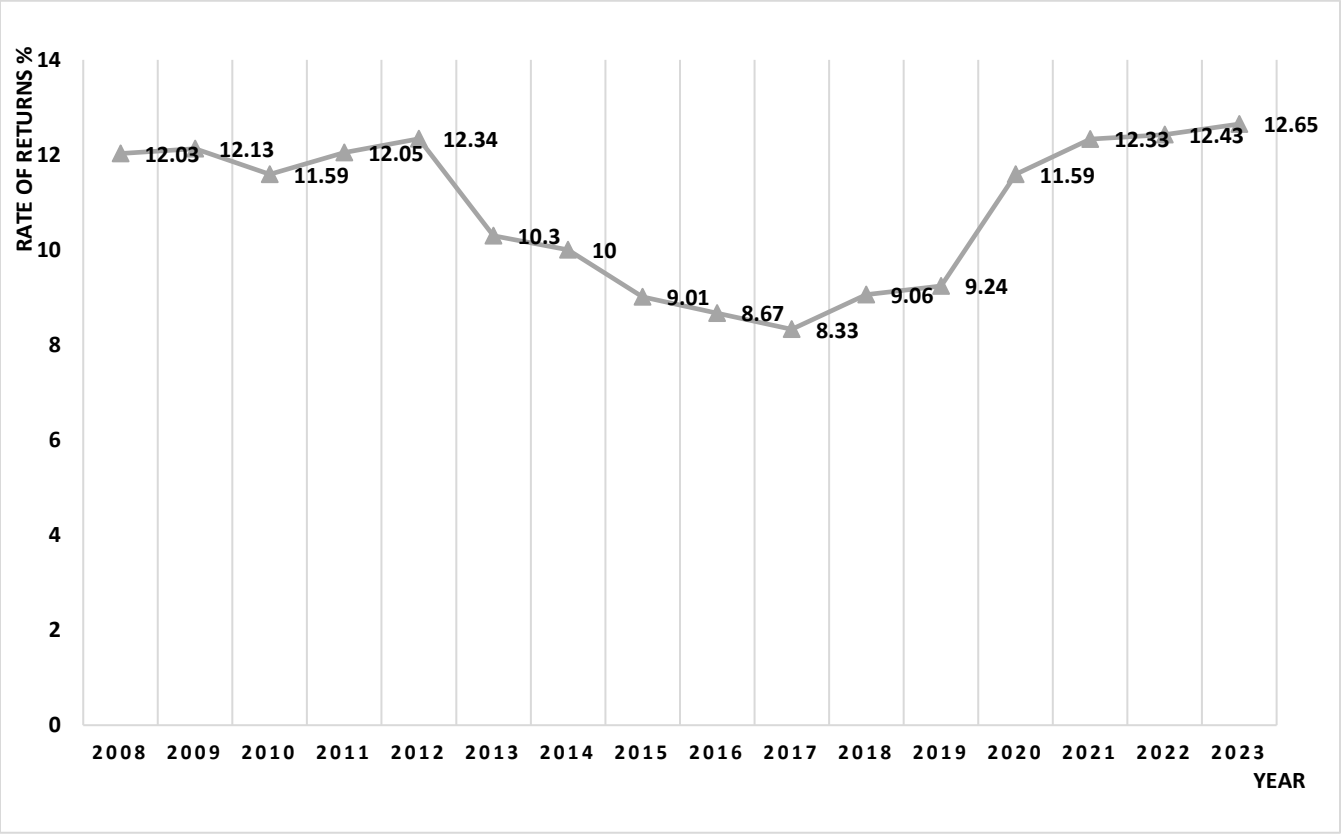

Figure 3: Trend of the rate of returns on 5-bedroom maisonnettes in Uyo, Akwa Ibom State

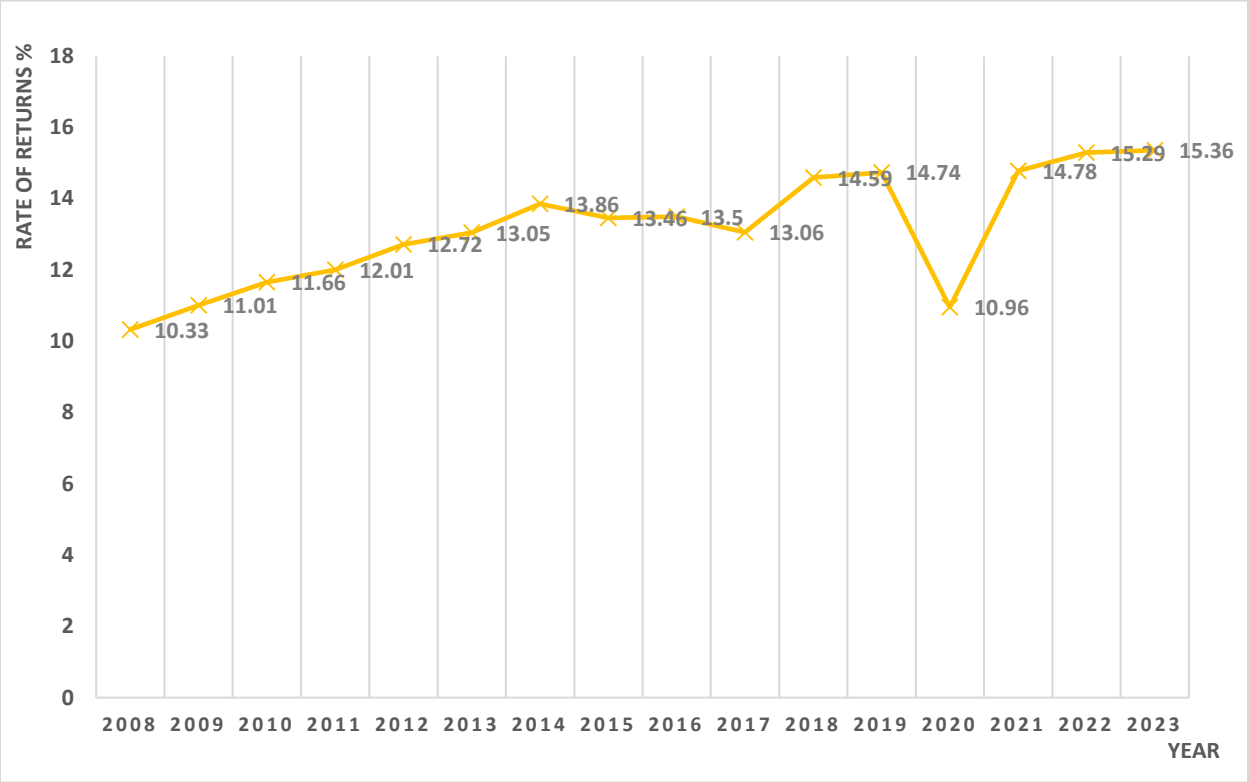

Figure 4: Trend of rate of returns on shops in Uyo, Akwa Ibom State

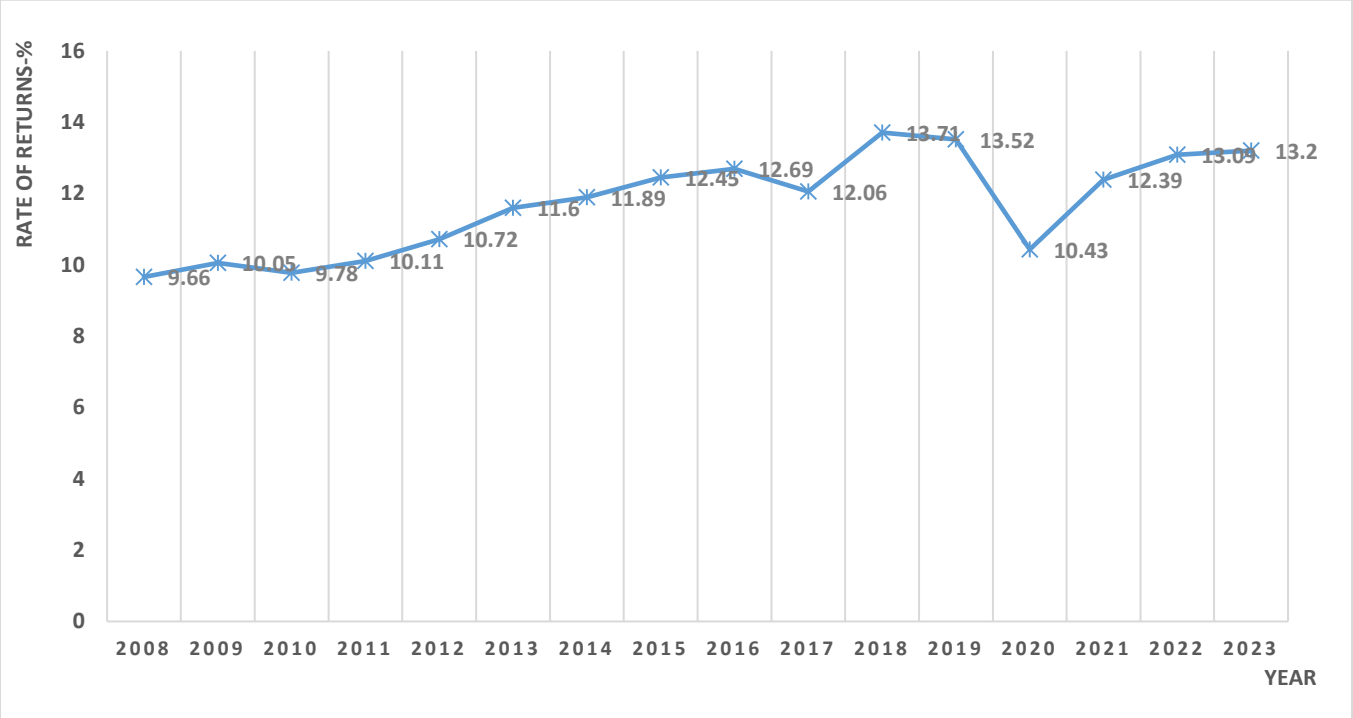

Figure 5: Trend of rate of returns on offices in Uyo, Akwa Ibom State

Figure 1 presents the trend of the rate of returns on 2-bedroom flats from 2008 to 2023. The trend shows fluctuations in the rate of returns majorly between 2008 and 2013, in which the returns fluctuated between 10.23% and 11.82%. From 2014, the rate of returns declined to the trough, which was 8.44% in 2016. This was the lowest within the study period and this could be attributed to the peak period of the country's economic recession, which

occurred between 2015 and 2017. After this period, we observed a steady rise in the rate of returns, which reached 12.39% in 2023.

Figure 2, which shows the rate of returns on 3-bedroom bungalows, reveals a growth in the rate of returns between 2009 and 2011, which rose from 10.41% to 12.28%. Thereafter, it declined gradually to the trough at 9.98% in 2016. This was the lowest within the study period and this could be attributed to the peak period of the country's economic recession, which occurred between 2015 and 2017. It rose again gently to the peak of 13.23% in 2022. We observed a gentle decline in 2023 to 12.97%.

In figure 3, the rate of returns on 5-bedroom maisonnettes gently declined from 12.34% in 2012 to a trough of 8.33% in 2017 and thereafter gradually rose to a peak of 12.65% in 2023.

In figure 4, the rate of returns on shops grew steadily from 10.33% in 2008 with a minor decline to 13.06% in 2017, while a sharp drop to the trough of 10.96% was observed in 2020. There was a sharp recovery in the growth of the returns in 2021 and this maintained to the peak of 15.36% in 2023. The trough in the rate of returns was traced to 2020, which was the COVID-19 pandemic year. This shows that the pandemic affected the rate of returns more than the economic recession.

In figure 5, the rate of returns on offices grew steadily from 9.66% in 2008 with a minor decline to 12.06% in 2017, while a sharp drop to the trough of 10.43% was observed in 2020. There was a sharp growth of the returns to 12.39% in 2021. The highest rate of returns was 13.71%, which occurred in 2018. The trough in the rate of returns was traced to 2020, which was the COVID-19 pandemic year. This shows that the pandemic affected the rate of returns more than the economic recession.

From the trends in figures 1 to 5, the revealed that the economic recession affected residential properties (2-bedrom flats, 3-bedroom bungalows and 5-bedroom maisonnettes) more with the pandemic affected commercial properties (shops and offices).

more

Table 1: Correlation analysis of residential and commercial real estate investment returns in Uyo, Akwa Ibom State

		3-Bedroom Bungalows	2-Bedroom Flats	5-Bedroom Maisonnettes	Shops	Offices
3-Bedroom Bungalows	Pearson Correlation	1	.670**	.615*	.398	.173
	Sig. (2-tailed)		.005	.011	.127	.522
	N	16	16	16	16	16
2-Bedroom Flats	Pearson Correlation	.670**	1	.622*	.020	-.149
	Sig. (2-tailed)	.005		.010	.943	.582
	N	16	16	16	16	16
5-Bedroom Maisonnettes	Pearson Correlation	.615*	.622*	1	-.290	-.543*
	Sig. (2-tailed)	.011	.010		.276	.030
	N	16	16	16	16	16
Shops	Pearson Correlation	.398	.020	-.290	1	.897**
	Sig. (2-tailed)	.127	.943	.276		.000
	N	16	16	16	16	16
Offices	Pearson Correlation	.173	-.149	-.543*	.897**	1
	Sig. (2-tailed)	.522	.582	.030	.000	
	N	16	16	16	16	16

**. The correlation was significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 1 presents the correlation matrix showing the Pearson correlation coefficients between different types of properties (3-bedroom bungalow, 2-bedroom flat, 5-bedroom maisonnettes, shops, offices) in Uyo. Each cell in the matrix represents the correlation coefficient between the two types of properties. The correlation coefficient

measures the strength and direction of the linear relationship between the two properties. From the correlation coefficients in Table 1, the returns on 2-bedroom flats and offices are negatively correlated as they have a coefficient of 0.149. The returns on 5-bedroom maisonnettes and offices are negatively correlated as they have a coefficient of 0.29. Also, 5-bedroom maisonnettes and shops are negatively correlated as they have a coefficient of 0.543. Applying the concept of the Markowitz diversification strategy, the major idea is to look at the degree of covariance between asset returns. To discuss this result, we have seen that the returns on 2-bedroom flats and offices, 5-bedroom maisonnettes and offices and 5-bedroom maisonnettes and shops are negatively correlated. Markowitz asserted that investors can maintain the expected portfolio returns and lower portfolio risk by combining assets with negatively correlated returns. From the correlation coefficients in Table 1, the best diversification option is to combine 2-bedroom flats and offices, 5-bedroom maisonnettes and offices and 5-bedroom maisonnettes and shops. as their combination has negative correlation coefficients. This implies that their returns do not move in the same direction. This means that the factors that affect the returns on 2-bedroom flats are not the same factors that affect office, factors that affect the returns on 5-bedroom maisonnettes are not the same factors that affect offices and factors that affect the returns on 5-bedroom maisonnettes are not the same factors that affect shops in Uyo.

Based on the analysis in Table 1, the diversification options of combining 3-bedroom bungalows and 2-bedroom flats were positively correlated as they had a coefficient of 0.670. The combination of 3-bedroom bungalows and 5-bedroom maisonnettes was positively correlated as they had a coefficient of 0.615. The combination of 3-bedroom bungalows and shops were positively correlated as they had a coefficient of 0.398. The combination of 3-bedroom bungalows and offices were positively correlated as they had a coefficient of 0.173. Looking at the portfolio combination of 3-bedroom bungalows with other types of properties, the riskiest is the combination with 2-bedroom flats, for which the correlation coefficient is 0.670. This can be understood from the point that both are residential properties that are often occupied by the medium income class, so the factors affecting returns on 3-bedroom bungalows may likely affect returns on 2-bedroom flats. This causes their returns to move in the same positive direction. In this category of combinations with 3-bedroom bungalows, offices are the least risky as their coefficient of positive correlation was 0.173 compared to 2-bedroom flats whose coefficient was 0.670. The relationship between 3-bedroom bungalows and offices can be explained by the fact that they are two different classes of properties (residential and commercial properties, respectively) so the factors affecting their returns are not the same.

Combination of 2-bedroom flats with shops had a positive correlation coefficient of 0.020. The correlation is almost neutral, and the reason is that they are different classes of properties, so the factors affecting their returns are not the same. The combination of shops and offices had a positive correlation coefficient of 0.897. This can be understood from the point that both are commercial properties that are often occupied by the business class, so the factors affecting returns on shops may likely affect returns on offices. This causes their returns to move in the same positive direction.

From the analysis in Table 1, the best diversification is the combination of 5-bedroom maisonnettes and shops in one portfolio as they are negatively correlated with a coefficient of 0.543, which has the widest variance from perfect correlation. The worst diversification was the combination of offices and shops, which had a positive correlation coefficient of 0.897, which was the closest to the perfect correlation coefficient of 1.

Conclusion

The correlation analysis provides valuable insights into the relationships between different types of properties in Uyo. The findings indicate both positive and negative correlations among various property types, which have significant implications for portfolio diversification strategies. The combination of 2-bedroom flats and offices,

5-bedroom maisonnettes and offices, and 5-bedroom maisonnettes and shops demonstrated negative correlations. This implies that investors can lower portfolio risk and maintain expected returns by diversifying across these property types. 3-bedroom bungalows exhibit positive correlations with 2-bedroom flats, 5-bedroom maisonnettes, shops, and offices. Among these combinations, the riskiest is the combination with 2-bedroom flats, likely due to similar factors influencing their returns as residential properties. A neutral relationship was observed on 2-bedroom flats and shops, suggesting that their returns are largely independent of each other.

Recommendations

We recommend as follows**:**

1) The best diversification option identified is the combination of 5-bedroom maisonnettes and shops, given their significant negative correlation coefficient. This suggests that combining these property types can reduce the portfolio risk
2) the combination of offices and shops is identified as the least favourable for diversification due to their high positive correlation coefficient, indicating similar factors influencing their returns
3) it is essential to carefully assess the unique characteristics and market dynamics of each property type when constructing diversified portfolios
4) Investors in Uyo seeking to optimise portfolio diversification should consider combining property types with negative correlations while avoiding combinations with high positive correlations.

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