



EXAMINING THE CHANGE IN RENTAL VALUES OF RESIDENTIAL REAL ESTATE INVESTMENT IN IKOT EKPENE, AKWA IBOM STATE. NIGERIA.

***EKPO, MBOSOWO EBONG; **EMAH, IFREKE NTIEDO; & ***BILLY, UNWANA AKPAN**

*Department of Estate Management and Valuation, Akwa Ibom State Polytechnic, Ikot Osurua. Ikot Ekpene. Akwa Ibom State. **Department of Building Technology, Akwa Ibom State Polytechnic, Ikot Osurua. Ikot Ekpene. Akwa Ibom State. ***Department of Surveying and Geoinformatics, Akwa Ibom State Polytechnic, Ikot Osurua. Ikot Ekpene. Akwa Ibom State.

ABSTRACT

This research examines the change in rental values of residential real estate investment in Ikot Ekpene, Akwa Ibom State of Nigeria. In order to achieve the stated aim, the objectives were to examine the rental value of residential real estate investment and to evaluate the change in mean rental value of residential real estate investment, over time, in the study area. This research work adopted the cross-sectional survey type of design. Stratified random sampling method was employed in this research. 1800 copies of questionnaires were administered on household heads in the study area; however, only 1762

Introduction

Rental value is a fair market value of a property. This is the worth of lease of a property on a periodic basis. When the sum is equivalent to what any similar property would attract, such rent is normally referred to an Open Market rent or rental value. Rental value may therefore be defined as the worth of the property on periodic occupational basis. The open market worth of a property is the rent such property, or a similar one, would attract when offered in the market on the usual lease terms and conditions characterizing the market of such type of property. For instance, in Ikot Ekpene, rental values are often expressed in terms of scope of accommodation provided, holding constant for the same design standards, for example the rent of a 3-bedroom flat is higher than that of a 2-bedroom flat within the same neighbourhood with all other factors constant. On the other hand, the rental values of commercial properties are detailed on unit area basis, for example, shops, offices and warehouses are expressed on Naira per square meter, assuming the application of standards lease condition (Ekpo, 2021). Change in the mean return of a residential real estate plays a vital role in the physical and economic development of towns and cities all over the world. Nations and regions would be severely limited in development without a change in the rental value of real estate, which is a key factor for physical and economic growth. In Ikot Ekpene, most real estate investors expect an



copies of questionnaire were retrieved from representing 97.88% response rate. The scope of the work limited data to that collected only on 3-bedroom flat. Descriptive statistics such as percentages and charts were used in the analysis of the data. The data was obtained in two different years - that is the rental value of residential property in 2012 and that of 2021. Paired sample t-test was carried out to determine the change in mean rental value over time, assuming normality of the change. Findings from the study revealed that there was a significant difference in the rental values of residential real estate obtained in 2012 and that obtained in 2021. The investment information provided in this study has significant implications for both local and foreign investors desiring to invest in the Nigerian property market and it is a useful resource for development in this era.

Keywords: Change, Rental Value, Real Estate, Investment, Ikot Ekpene.

increase in demand for lettable space, which in turn tend to affect the supply of real property, thereby leading to a change in the rental values of real estate (Ekpo and Bassey, 2021). Little or no consideration is made by researchers to see whether there exists a change in the mean rental values of residential real estate over time. That is to say there is paucity of studies in determining the change in rental value of residential real estate, over time, assuming normality of the changes. Ikot Ekpene, otherwise known as Raffia City, being the first recognised Local Government Area in the whole West Africa has witnessed unprecedented development from 1952. Over the past 11 years, according to Ekpo and Jeremiah (2022), there has been a consistent increase in the rental value of residential properties in Ikot Ekpene and in Nigeria in particular and this development impacts positively the performance of the residential real estate. Several authors have attempted to ascertain the trend in rental value of residential real property developments and have found varying results. However, no author considered the change in mean rental value over time of development, assuming normality of change. Possible change in rental value, over time, have therefore elicited the interest of the researchers in this direction. It is against this background that this study was conceived. The aim of this research, therefore, is to examine the change in mean rental value of residential real estate investment in Ikot Ekpene. In order to achieve the stated aim, the following objectives were stated:

- (i) To examine the rental value of residential real estate investment in the study area.
- (ii) To evaluate the change in mean rental value of residential real estate investment, over time, in the study area.

Hypothesis

H₀: There is no significant difference in the rental values of residential real estate obtained in 2012 and that obtained in 2021.

H₁: There is a significant difference in the rental values of residential real estate obtained in 2012 and that obtained in 2021.

Review of Related Literature

Dabara *et al* (2012) assessed the rental values of residential properties in urban slums in Oja-Oba, Osogbo, Ogun State. The study adopted the survey research design in collecting data



from the respondents. The population of the study comprised 1,375 households in Oja-Oba Osogbo and 15 practicing Estate Surveyors in the same study area. Two different sets of questionnaires were adopted for the study namely: 165 copies for tenants as well as 15 copies for Estate Surveyors and Valuers administered respectively on household heads and principal Estate Surveyors of the randomly sampled population. However, only 149 and 13 questionnaires respectively, were retrieved and used for the analysis. The data obtained was analysed using both inferential and descriptive statistics. The Pearson Product Moment Correlation Coefficient for rental values and slum indicators was $r = 0.709$, $p = 0.000$ (2-tailed) bringing about a 70.9% positive correlation. The regression analysis carried out returned an R^2 value = 0.814 demonstrating a high positive correlation between all the variables. The Analysis of Variance showed the overall model is statistically significant with F-value of 56.335. It was also shown that that rental values of residential properties in the urban slums were low. It was, however, noted that the study neither considered a change in the mean rental value nor employed the paired sample t-test that the current study uses for the analysis. This clearly shows a gap that the current study is trying to fill.

Iroham *et al* (2013) examined the trends in rental values of the properties from 2006 to 2011. The study involved the survey of the entire 22 Estate Surveying Firms in the study area and also employed the use of copies of questionnaire as the primary source of data in the survey. Descriptive statistical techniques such as the frequency distribution table and inferential such as the simple linear regression as well as Analysis of Variance (ANOVA) were implemented in analysing the data. From the findings, it was discovered that the office space was mostly predominant (53%) while the shops were the most professionally managed property (46%). However, the purpose-built office space had the highest R-square value of 0.9 and the highest trend in rental values. The adoption of analysis of variance coupled with Tukey post-hoc test brought to the fore that the rental values of three properties at the 95% confidence level was significantly different ($p=0.000$). Based on the research findings, it was recommended that both investors and professional managing agents should embark on the investment in purpose-built office space with the highest rent and trend, in order to maximize returns. The study, however, did not look at the difference in mean rental value over time.

Awa *et al* (2020) in their research analysed the trend of residential and commercial real estate investments performances in the South-Eastern part of Nigeria with a view to developing a model for forecasts of future rents and capital values of different classes of properties in the study area. Survey method was employed in carrying out the study and copies of questionnaire employed to obtain data on annual rents and capital values of the surveyed properties. Linear Regression analysis model was used to determine the trend characteristics of the property rents, capital values and returns as well as to generate the forecasting model. The results showed that the rents and the capital values of the properties increased significantly with time, having p-values less than 0.05. Properties which were in Abakaliki, on average recorded the highest annual rent growth rate, followed by the ones in Aba, while properties in Owerri recorded the highest average annual capital value growth rate seconded by Aba. However, the current research noted that no difference in the mean rental value was carried out by the authors.

Ekpo and Udoh (2021) examined the trends in commercial property's rental value, capital value and returns between 2011 and 2020 in Uyo metropolis, Nigeria in order to provide information for good investment decision making. A survey was conducted to collect data on rental and capital values from investments in commercial properties (shops and offices) in Uyo



metropolis. The data collected from Principal Partners/branch managers of Estate Surveying and Valuation firms in the study area. A total number of 103 Estate Surveying and Valuation firms were sampled in Uyo, with an average of 2,163 commercial properties in their management portfolios (average of 21 commercial properties in each management portfolio). However, only 74 questionnaires were completed and returned for analysis (representing about 72% response rate). Both descriptive and inferential statistics as well as appraisal techniques were used in analysis of the data obtained, hence the use of frequencies; percentages; income, capital and total returns formulae; weighted mean and polynomial trend analysis. It was found out in the study that there was a steady and continuous increase in the rental and capital values of the selected property types between 2011 and 2020. This was portrayed by the trend line produced from data obtained from the field for shop rental values, office rental values, shop and office capital values. The study also discovered that investment in shops in Uyo entails much risk (with a standard deviation value of 12.18%) than office properties (standard deviation value of 2.39%). The rental income, capital income and returns indicated positive return values for both shop and office properties throughout the study period. However, the researchers did not consider the change in the rental income over the years of study.

Methodology

Ikot Ekpene in Akwa Ibom State constituted the study area. The study area lies between Latitude $5^{\circ}10'28''$ N and Longitude $7^{\circ}42'52''$ E of the Greenwich Meridian. It covers an area of 116.50km². Ikot Ekpene, also known as the Raffia City is a historic town in Akwa Ibom State of Nigeria. It is the cultural and political capital of the Annangs and forms a regional centre of commerce with noticeable exports of palm products as well as raffia products. The population is made up primarily of *Mbon Annang*, with a reasonable number of Igbo traders as well as people from other tribes like the Hausa, Tiv, Efik, among others. The socio-economic and administrative roles as well as the population of the study area have brought a noticeable change in the rental value accruable therefrom over time, which consequently resulted in increased rent for the available residential property. In this study, the survey research method was used to collect data from the study area. The targeted population for this study comprised occupiers/tenants in the study area. Disproportionate stratified random sampling technique was adopted for sampling household heads (lease occupiers/tenants). The sampled areas included thirty-six (36) districts in the study area. Both primary and secondary sources were used in this study. The primary data were sourced through personal observations as well as a structured questionnaire. In each of the villages, 50 questionnaires were administered on household heads. In all, 1800 copies of questionnaires were administered on household heads in the study area; however, only 1762 copies of questionnaire were retrieved from the respondents, representing 97.88% response rate. Data was collected only on 3-bedroom flat type of residential real estate. Descriptive and inferential statistics were used in the analysis of the data. The study involved two study periods, that is the rental value of residential property in 2012 and that of 2021. Paired sample t-test was carried out to determine the changes in mean rental value over time, assuming normality of the changes.

Paired samples t-test

A paired t-test is always implemented to compare the means of two populations. Each individual in one sample is paired with the another individual in the other sample. When the



values of the variables of interest h for the participants of the i th pair in collections 1 and 2 are denoted as h_{1i} and h_{2i} respectively, then the differences $d_i = h_{1i} - h_{2i}$ are assumed to have a normal distribution. The null hypothesis here is that the mean difference is zero, i.e., $H_0: \mu_d = 0$.

The paired t-statistic is

$$t = \frac{\bar{d}}{s_d/\sqrt{n}}$$

where \bar{d} is the average difference between the paired groups and s_d is the standard deviation of the differences d_i and n the number of pairs. Under the null hypothesis, the test-statistic possesses a t-distribution with $n - 1$ degrees of freedom. A $100(1 - \alpha)\%$ confidence interval can be calculated as follows:

$$\bar{d} \pm t_{\alpha} s_d/\sqrt{n}$$

where t_{α} is the critical value for a two-sided test with $n - 1$ degrees of freedom.

Data Presentation and Analysis

Analysis of the Average Rental Value in Ikot Ekpen

In this section, attempt was made to examine the average rental value in the study area in both 2012 and 2021, in order to fulfil the first objective of this research work. The data was obtained from the field survey, analysed and presented in Table 1.

Table 1: Average rental value of residential properties in Ikot Ekpen in 2012 and 2021

Districts	Average Rental Value in 2012 (₦)	Average Rental Value in 2021 (₦)
Abak_Oko	120000.00	257000.00
Abiakpo_Edem_Idim	102000.00	210000.00
Abiakpo_Ikot_Essien	150000.00	260000.00
Ibiakpan_Akanawaan	75000.00	190000.00
Ibiakpan_Ikot_Obioekere	60000.00	185000.00
Ibiakpan_Nto_Akan	70000.00	199000.00
Ifuho	100000.00	254000.00
Ikot_Abia_Idem	90000.00	214000.00
Ikot_Idem	80000.00	211000.00
Ikot_Inyang	130000.00	250000.00
Ikot_Obong_Edong	180000.00	270000.00
Ikot_Otu	140000.00	212000.00
Ikot_Ekpen_Village	190000.00	280000.00
Ikot_Obiokpon	110000.00	180000.00
Itak_Ikot_Udo	100000.00	190000.00
Nkap_Ikot_Obioebok	50000.00	150000.00
Nsiak	60000.00	170000.00
Uruk_Uso	170000.00	250000.00
Utu_Edem_Usung	95000.00	230000.00
Utu_Ikot_Ekpenyong	75000.00	200000.00
Utu_Ikot_Essien	78000.00	198000.00



Utu_Ikpe	140000.00	240000.00
Abak_Ifia	110000.00	210000.00
Abiakpo_Ntak_Inyang	122000.00	254000.00
Adaratak	75000.00	215000.00
Atai_Essien_Mbiaso	160000.00	236000.00
Ibong_Ikot_Akan	140000.00	248000.00
Ikot_Akpan_Abia	114000.00	180000.00
Ikot_Ediet	111000.00	120000.00
Ikot_Enwang	95000.00	162000.00
Ikot_Obong_Otoro	95000.00	150000.00
Ikot_Osurua	160000.00	260000.00
Ikot_Otu	130000.00	213000.00
Ikot_Ubo	140000.00	240000.00
Mbiaso_Nto_Obio_Ekong	102000.00	180000.00
Nyara_Enyin_Ntonguno	112000.00	210000.00

Source: Field Survey, 2022.

Table 1 shows that in 2012, the highest mean rental value (₦190,000.00 per annum) of residential property in the study area was found in Ikot Ekpene town while the least mean rental value of ₦60,000.00 per annum was found in Ibiakpan Ikot Obio Ekere district. On the other hand, in 2021, the highest mean rental value of ₦260,000.00 per annum was observed in both Ikot Osurua and Abiakpo Ikot Essien districts, while the least mean rental value of ₦126,000.00 was observed in Ikot Ediet district.

Analysis of the Change in Mean Rental Value over time in the study area,

In this section, attempt was made to achieve the second objective of the research. Paired sample t-test was used, assuming normality of the changes in the rental value. The analysis in Table 2, Table 3 and Table 4 represent the change in mean return of the rental value in the study area.

Table 2: Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Average_Rental_Value2012	111972.22	36	35143.368	5857.228
	Average_Rental_Value2021	213277.78	36	37971.125	6328.521

Source: Researchers' analysis, 2022

It can be deduced from Table 2 that the mean rental value in 2012 was ₦111,972.22 while that of 2021 was ₦213,277.78 with corresponding standard error means are 5,857.23 and 6328.52 respectively. The correlation of the sample was also analysed using SPSS (Version 25) and presented in Table 3.

Table 3: Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Average_Rental_Value2012 & Average_Rental_Value2021	36	.689	.000

Source: Researchers' analysis, 2022



It can also be deduced from the analysis that the data obtained from rental values in 2012 and that obtained in 2021 had a 68.9% correlation, when subjected to paired samples correlation analysis. Finally, the paired samples test was carried out and presented in Table 3.

Table 3: Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Paired	Average_Rental_Value2012	-101305.556	28953.973	4825.662	-111102.171	-91508.941	-20.993	35	0.000
	Average_Rental_Value2021								

Source: Researchers' analysis, 2022

The p-value associated with the test statistic, and a confidence interval for the mean difference. The results suggested that there was a significant difference in the mean rental value of both 2012 and 2021 ($t(35) = -20.99, p < 0.001$). The confidence interval indicates the rental value difference is somewhere between ₦1 and ₦19,594.

Discussion of Findings

In the analysis of the average rental value in Ikot Ekpene, it was found out that there was a change in rental values obtained 2012 and 2021. In other words, there was a noticeable increase in the rental value from lower values in 2012 to higher values in 2021 in all the areas. This implies that rental values appreciate in value from year to year. This is in congruent with the works of Awa *et al* (2020) and Dabara *et al*, 2012. It was also found out that there was a significant difference in the rental values of residential real estate obtained in 2012 and that obtained in 2021; thus the null hypothesis was rejected without any type of error.

Conclusion

The study examined the change in rental value of residential properties in Ikot Ekpene local government area of Akwa Ibom State. The study showed that there was a change (an increase) in the rental values of residential properties after ten years (that is from 2012 to 2021) in the study area. This was evidenced in the analysis which showed that there was a significant difference in the mean rental value obtained in 2012 and that obtained in 2021, during the paired difference test, which was significant at 95% confidence interval. It is therefore recommended that shrewd real estate investors should envisage possible difference in rental values of residential real estate in Ikot Ekpene, over time, when the normality of the rental values is assumed. In conclusion, there is a change (an increase) in the rental values of residential property in the study area, over the ten-year period.

References

Awa, K. N., Nwanekezie, F. O., Anih, P. C. (2020). Trends of Real Estate Investment Performance in South-East Nigeria; *PM World Journal*, Vol. IX, Issue V.



- Dabara, I. D.; Okunola, A. S.; Odewande, A. G. and Okorie, A. (2012). Assessment of the rental values of residential properties in urban slums: the case of Osogbo, Osun State Nigeria In: Laryea, S., Agyepong, S., Leiringer, R. and Hughes, W. (Eds) *Procs 4th West Africa Built Environment Research (WABER) Conference*, 24-26 July 2012, Abuja, Nigeria, 1-7.
- Dabara, I. D., Omotosho, L. K., Akinyemi, A. P., Anthony, A. I. (2016). Infrastructural facilities and the rental values of residential properties in Osun, Nigeria. *International Journal of Business and Management Studies*. 5 (1): 87-96
- Ekpo, M. E. and Basse, N. A. (2021). Trends in residential property values in Uyo real estate market, Akwa Ibom State, Nigeria. *The 20 Multidisciplinary Academic Conference: Developing World and Intellectual Researches for achieving the New Sustainable Development*. 28 October 2021. University of Abuja, Nigeria. pp13-14.
- Ekpo, M.E. and Udoh, U.E. (2021). Trends in Commercial Property Values in an Emerging Real Estate Market: A Case Study of Uyo, Akwa Ibom State, Nigeria; *PM World Journal*, Vol. X, Issue VI.
- Ekpo, M. E and Jeremiah, U. O. (2022). Returns Characteristics and the Inflation-Hedging Potentials of Residential Property Investment in Abuja, Nigeria. *Proceedings of the 25th Multidisciplinary Academic Conference, Impact of COVID-19 and Global Turbulent in attaining Sub-Sahara African Sustainable Development: Multidisciplinary Approach*. 28th April, 2022. University of Maiduguri, Maiduguri. Nigeria. pp31-43
- Olaleye, A. (2011). The effects of adding real estate into mixed-asset portfolios in South Africa. *Journal of Financial Management of Property and Construction*. 16(3), 272-282.
- Sean, S. L. and Hong, T. T. (2014). Factors affecting the purchase decision of investors in the residential property market in Malaysia. *Journal of Surveying Construction and Property*. 5(2): 18-42
- Udobi, A. N., Onyejiaka, J. C. and Nwozuzu, G. C. (2018). Analysis of the performance of commercial and residential property investments in Onitsha metropolis, Anambra State, Nigeria. *British Journal of Earth Sciences Research*. 6 (2): 21-32
- Udoudoh, F. P. (2016). *Real Estate and Infrastructure Economics in Urban Nigeria*, Uyo: MEF Nigeria Limited. 177 – 214pp.