VOL. 04 NO. 4,
MAY, 2024
E-ISSN 3026-9210
P-ISSN 3026-815X



African Scholar Publications & Research International
www.africanscholarpub.com

Journal of Built Env. & Geological Research (JBEGR)

An Evaluation of the Performance on Residential Property Investments in some Selected Areas of Kaduna Metropolis Nigeria from 2014 to 2023

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Abstract
Investors in Real Estate are usually faced with the decision on the type of property to invest in. This study compared the performance of residential property investments of Kaduna metropolis using some selected areas. Data was obtained from questionnaire administered on firms of Estate Surveying and Valuation, practising in Kaduna metropolis. Data was presented in tables and analysed using percentages and mean. Hypothesis was tested using Person Product Moments Correlation (PPMC). Performance of residential property investment was measured by rental values growth, capital values appreciation and annual returns on investment. In terms of rental values growth and annual returns, 2-bedroom flats performed better than 3-bedrrom flats with 7.56% and 3.21% against 6% and 2.75%. But 3-bedroom flats performed better than 2-bedroom flat in terms of capital values growth with 4.4% against 2.9%. Statistically, there is a significant relationship between returns on 2-bedroom and 3-bedroom flats in Kaduna metropolis from 2014 to 2023. The correlation coefficient of returns on 2-bedrrom and 3-bedroom flats is positive 0.75. To minimise risk and maximise profit, 2-bedroom and 3-bedroom flats should not be combined in a property portfolio in Kaduna metropolis.

Keywords: Rent, Rental Values, Capital Values, Returns, Residential Property, Investments.

Introduction
Investments, in real estate (property), is the tying down of capital in land and buildings to produce future flow of income. Property investment according to Okoh (2009) is the commitment of capital to land to create development with the expectation of fair return.

Real estate development and investment is highly capital intensive, has along gestation period and once a decision is made, any error which may result if discovered cannot be easily remedied, hence great care must be taken in their procurement and management to ensure that the resources put into them are harnessed for maximum benefit with minimum risks.

Property investments are illiquid and indivisible. These attributes make decision taken on property investment very difficult to change that is why a lot of investors in property require feasibility and viability studies before the investment is done.

Investors are consistently fixed with decision on the type of property to invest in (Olujimi & Bello, 2003, and Dabara, Okunola, Odewame & Okorie, 2012). So, the need to evaluate the performance of different types of residential properties in different areas of Kaduna metropolis to ascertain the type of property that performs better.

The study has the following objectives to:

1. Determine rental values of residential property investments in the study area from 2014 to 2023.
2. Determine capital values of residential property investments in the study area from 2014 to 2023.
3. Compare returns on residential property investments in the study area from 2014 to 2023.

Hypothesis:

H_0: There is no significant relationship between returns on 2-bedroom flat and 3-bedroom flat in Kaduna metropolis from 2014 to 2023.

H_1: There is significant relationship between returns on 2-bedroom and 3-bedroom flat in Kaduna metropolis from 2014 to 2023.

The selected areas of Kaduna metropolis are Sabo, Barnawa, and U/Rimi. Residential property investments are limited to 2-bedroom and 3-bedroom flats.

Property investment performance measurement is based on rental value growth, capital value growth and returns.

Residential Property

Residential properties are properties that provide permanent (as distinguished from transient) housing for families or households) (Dabara, Okunola, Odewand and Okorie 2012).

For Ibrahim (2011) residential properties are mainly properties provided for dwelling purposes. Udoetuk (2008) define residential properties as a physical facility, unit or structure which provide shelter to its occupants. Types of residential properties according to Olujimi & Bello (2009) and Olujimi (2010) are face to face, semi- detached flats, duplexs and mansions. wokekoro & Uruuesheyi (2014) bungalows, block of flats, row houses, self- contain and temporary structures.

Some studies have been conducted on the performance measurement of property investments in Nigeria and the include the following:

Nnamdi, Chukwudi and Chikwado (2018) carried out a study on the Analysis of the performance of commercial and residential property investments in Onitsha metropolis Anambra state, Nigeria. Performance of property investments was measured on the basis of annual return, risk profile and risk return profile. The results obtained showed that in terms of annual returns commercial property investments performed better than residential property investments. On the other hand, in terms of risk return profile, residential property investments performed better than commercial property investments.

Aje and Udoekanem (2023) carried out a study on an evaluation of the performance of residential property investments in Minna Niger state Nigeria. The study discovered that the variance in total returns for all residential property investment were statistically significant, the risk associated with returns varies according to the residential property investment type across all locations studied.

Udoetuk (2008) carried out a study on comparative evaluation of the performance of residential properties in selected areas of Lagos state. Rental values growth, capital values growth and returns was used in the performance measurement. The result showed that residential property investments in Victoria Island and Lekki phase 1 had the highest rental and capital values growth and returns. Ikeja and Agege had the lowest returns.

Oyewole (2013) A comparative analysis of residential and retail commercial property investments performance in Ilorin, Nigeria. The study compared the performance of residential and retail shops property investments using average returns, risk adjusted returns income growth and capital appreciation. The results showed that retail shops performed better than residential property investments in terms of risk adjusted returns, income and capital growth. Though both residential and retail shops property investments performed well with positive mean returns and risk adjusted returns.

METHODOLOGY

Data on rental and capital values from Sabo, Barnawa and U/Rimi was obtained from firms of Estate Surveyors and Valuers practising in Kaduna metropolis.

Returns on residential property investments was calculated using the formula $\frac{rental\ value}{capital\ value} \times 100$.

Data was presented using tables and analysed using percentage and mean.

Hypothesis was tested using Persons Product Moment Co-relation (PPMC) given by

$$PPMC = \frac{N\sum xy - \sum x \sum y}{\sqrt{(N\sum x^2 - (\sum x)^2)(N\sum y^2 - (\sum y)^2)}}$$

DATA PRESENTATION AND ANALYSIS

Data was presented and analysed based on the objectives of the study.

Objective I:

To determine the rental values of residential property investment in the study area from 2014 to 2023.

Table 1: Rental Values of 2-bedroom Flats in the Study Area from 2014 to 2023

Years	Sabo	Barnawa	U/Rimi
2014	150,000	200,000	300,000
2015	200,000	200,000	300,000

2016	200,000	250,000	350,000
2017	250,000	300,000	350,000
2018	250,000	300,000	400,000
2019	300,000	350,000	450,000
2020	300,000	350,000	500,000
2021	300,000	350,000	500,000
2022	350,000	400,000	500,000
2023	350,000	400,000	550,000

Source: Field survey, 2024

Table 1 shows that U/Rimi has the highest rental values. Next to it is Barnawa and the least is Sabo. In the year 2014, Sabo rental value was ₦150,000, Barnawa ₦200,000, and U/Rimi ₦300,00. The three areas maintained steady increase in rental values, and in the closing year 2023, the rental values were ₦350,000, ₦400,000, and ₦550,000 for Sabo, Barnawa and U/Rimi respectively.

Table 2: Rental Values Growth of 2-bedroom Flats in the Study Area from 2014 to 2023.

Year	Rental Value	Percentage increase
2014	220,000	—
2015	250,000	12
2016	270,000	7.4
2017	300,000	10
2018	320,000	6.25
2019	370,000	13.5
2020	400,000	7.5
2021	400,000	—
2022	420,000	4.76
2023	450,000	6.67
Mean		7.56

Source: Field survey, 2024

The table above shows the growth rate of rental values of 2-bedroom flats in the study area. The highest rate of growth of 13.5% was recorded in 2019, next it is 12% in 2015. There was no growth increase in 2021.

Table 3: Rental Values of 3-bedroom Flats in the Study Area from 2014 to 2023.

Year	Sabo	Barnawa	U/Rimi
2014	250,000	350,000	500,000
2015	250,000	400,000	600,000
2016	300,000	400,000	600,000
2017	350,000	400,000	700,000
2018	350,000	450,000	700,000
2019	350,000	450,000	800,000
2020	400,000	450,000	800,000
2021	400,000	500,000	900,000
2022	400,000	500,000	900,000
2023	500,000	550,000	900,000

Source: Field survey, 2024

Table 3 shows rental values of 3-bedroom flats in the study area. U/Rimi has the highest rental value among the areas studied. In the opening year 2014, it was ₦500,000 compared to ₦250,000 in Sabo and ₦350,000 in Barnawa. In 2023, U/Rimi rental value had reason to ₦900,000 and Barnawa to ₦550,000 and Sabo ₦500,000.

Table 4: Rental Value Growth of 3-bedrrom Flats in the Study Area from 2014 to 2023.

Year	Rental Value	Percentage increase
2014	370,000	—
2015	420,000	11.9
2016	450,000	6.7

2017	470,000	4.3
2018	500,000	6
2019	550,000	9
2020	580,000	5.2
2021	600,000	3.3
2022	600,000	—
2023	650,000	7.7
Mean		6

Source: Field survey, 2024

Table 4 above shows the growth in rental values of 3-bedroom flats. In 2015 the growth rate was 11.9% which is the highest rate, 2021 was 3.3% which is the lowest and 2022 did not witness any increase. The average growth rate for the period under study was 6.

Objective 2:

To determine capital values of residential property investments in the study area from 2014 to 2023.

Table 5: Capital Values of 2-bedroom Flats in the Study Area from 2014 to 2023.

Year	Sabo	Barnawa	U/Rimi
2014	7,500,000	9,500,000	9,500,000
2015	8,000,000	9,500,000	9,500,000
2016	8,000,000	10,000,000	10,500,000
2017	8,000,000	10,000,000	10,500,000
2018	8,200,000	10,000,000	12,000,000
2019	8,200,000	11,000,000	12,000,000
2020	8,500,000	11,500,000	12,000,000
2021	8,500,000	11,500,000	12,500,000
2022	9,000,000	12,000,000	13,000,000
2023	9,500,000	12,000,000	13,000,000

Source: Field survey, 2024

Table 5 above shows capital value in U/Rimi are higher than that of Barnawa and Sabo. Though in 2014 U/Rimi had the same capital value with Barnawa. Barmawa's capital values are higher than that of Sabo.

Table 6: Capital Values Growth of 2-bedroom Flats in the Study Area from 2014 to 2023.

Year	Rental Value	Percentage increase
2014	8,900,000	—
2015	9,000,000	1.1
2016	9,500,000	5.3
2017	10,000,000	5
2018	10,070,000	0.7
2019	10,400,000	3.2
2020	10,700,000	2.8
2021	11,000,000	2.7
2022	11,500,000	4.3
2023	11,600,000	0.9
Mean		2.9

Source: Field survey, 2024

Table 6 above shows that capital values growth rate ranges from 0.7% to 5.3%. 0.7% occurred in 2018 and 5.3% in 2016. The mean returns for the period under study was 2.9.

Table 7: Capital Values of 3-bedroom Flats in the Study Area from 2014 to 2023.

Year	Sabo	Barnawa	U/Rimi
2014	8,000,000	17,000,000	19,000,000

2015	10,000,000	18,000,000	19,000,000
2016	10,000,000	18,000,000	22,000,000
2017	12,000,000	18,500,000	22,000,000
2018	12,500,000	18,500,000	22,000,000
2019	12,500,000	19,000,000	25,000,000
2020	14,000,000	20,000,000	25,000,000
2021	14,000,000	22,000,000	27,000,000
2022	15,000,000	23,000,000	28,000,000
2023	15,000,000	23,000,000	28,000,000

Source: Field survey, 2024

Table 7 above shows that Capital values of 3-bedroom flats in U/Rimi are higher than that of Sabo and Barnawa. In 2014, U/Rimi had capital values of ₦19,000,000, it maintained a steady rise to ₦28,000,000 in 2023. Barnawa 3-bedroom flats had capital values of ₦17,000,000 in 2014 and ₦23,000,000 in 2023. Sabo had the least capital values, it was ₦8,000,000 in 2014 and ₦15,000,000 in 2023.

Table 8: Capital Values Growth of 2-bedroom Flats in the Study Area from 2014 to 2023.

Year	Rental Value	Percentage increase
2014	14,700,000	—
2015	15,700,000	6.4
2016	16,700,000	6
2017	17,500,000	4.6
2018	17,700,000	1.1
2019	19,000,000	6.8
2020	20,000,000	5
2021	21,000,000	4.8
2022	22,000,000	4.5
2023	22,000,000	—
Mean		4.4

Source: Field survey, 2024

Capital values of 3-bedroom flats growth rate during the period of study ranges from 1.1% to 6.8%. The least of 1.1% occurred in 2018 and the highest of 6.8% in 2019. There was no increase in growth rate in 2023.

Objective 3:

To compare returns on residential prosperty investments in the study area from 2014 to 2023.

Table 9: Returns on 2-bedroom Flats in the Study Area from 2014 to 2023.

Year	Sabo	Barnawa	U/Rimi	Mean
2014	2	2.11	3.16	2.42
2015	2.5	2.11	3.16	2.59
2016	2.5	2.5	3.33	2.78
2017	3.1	3	3.33	3.15
2018	3.05	3	3.33	3.13
2019	3.66	3.18	3.75	3.53
2020	3.53	3.04	4.17	3.58
2021	3.53	3.04	4	3.52
2022	3.88	3.33	3.85	3.69
2023	3.68	3.33	4.23	3.75
Mean	2.79	2.86	3.63	3.21

Source: Field survey, 2024

Table 9 showed that returns on 2-bedroom flats in Sabo ranges from 2 (in 2014) to 3.88 (in 2022). The mean return is 2.79. Barnawa had the lowest returns of 2.11 (in 2014 and 2015) and the highest of 3.33 (in 2022 and 2023). The mean return is 2.86. U/Rimi had the highest returns of 4.23 in 2023 and lowest of 3.16 in 2014 and 2015. The mean return is 3.63.

Table 10: Returns on 3-bedroom Flats in the Study Area from 2014 to 2023.

Year	Sabo	Barnawa	U/Rimi	Mean
2014	3.13	2.06	2.63	2.61
2015	2.5	2.22	3.16	2.63
2016	3	2.22	2.73	2.65
2017	2.92	2.16	3.18	2.75
2018	2.8	2.43	3.18	2.80
2019	2.8	2.37	3.2	2.79
2020	2.86	2.25	3.2	2.77
2021	2.86	2.27	3.33	2.82
2022	2.67	2.17	3.21	2.68
2023	3.33	2.39	3.21	2.98
Mean	2.61	2.25	3.10	2.75

Source: Field survey, 2024

Table 10 shows that returns on 3-bedroom flats in Sabo records the highest of 3.33 in 2023 and the lowest of 2.5 in 2015. The return mean in Sabo is 2.61. Barnawa had the highest returns of 2.43 in 2018 and the lowest of 2.06 in 2014 and has a mean return of 2.25. U/Rimi recorded the lowest returns of 2.63 in 2014 and highest of 3.33 in 2021. The mean return of U/Rimi is 3.10.

Hypothesis:

H_0: There is no significant relationship between returns on 2-bedroom flat and 3-bedroom flat in the study area from 2014 to 2023.

H_1: There is significant relationship between returns on 2-bedroom and 3-bedroom flat in the study area from 2014 to 2023.

Pearson product moment correlation Table

x	y	x^2	y^2	xy
2.42	2.61	5.8564	6.8121	6.3162
2.59	2.63	6.7081	6.9169	6.8117
2.78	2.65	7.7284	7.0225	7.367
3.15	2.75	9.9225	7.5625	8.6625
3.13	2.80	9.7969	7.84	8.764
3.53	2.79	12.4609	7.7841	9.8487
3.58	2.77	12.8164	7.6729	9.9166
3.52	2.82	12.3904	7.9524	9.9204
3.69	2.68	13.6161	7.1824	9.8892
3.75	2.98	14.0625	8.8804	11.175
32.14	27.48	105.3586	75.6262	88.6773

Source: Field survey, 2024

Person Product Moments Correlation.

$$PPMC = \frac{N\sum xy - \sum x \sum y}{\sqrt{(N\sum x^2 - (\sum x)^2)(N\sum y^2 - (\sum y)^2)}}$$

Where x = returns on 2-bedroom flats

y = returns on 3-bedroom flats

$r = 0.75$

Decision rule:

If calculated r is greater than the table value of r, then the null hypothesis is rejected and the alternative hypothesis is accepted and if the calculated r is less than the table value of r then the null hypothesis is accepted and the alternative hypothesis is rejected.

Calculated r is 0.75

At 5% (0.05) level of significance
Degree of freedom n-2 which is 10-2 =8.
The table (critical) value of r= 0.621
The calculated r is 0.75 which is greater than the critical value of r 0.621
Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted.
There is a significant relationship between returns on 2-bedroom and 3-bedroom flats in Kaduna metropolis from 2014 to 2023.

DISCUSSION OF RESULTS

Rental values and capital values of 2-bedroom and 3-bedroom flats maintained a steady growth in all the areas studied.
The rental values growth mean rate for 2bedroom flats during the period studied was 7.56.
3-bedroom flats had a rental values growth average rate of 6 during the period studied.
The capital values growth average rate of 2-bedroom flats was 2.9.
Capital values growth rate for 3-bedroom flats was 4.4.
The annual returns on 2-bedroom flat for the period studied had a mean of 3.21.
The annual returns mean on 3-bedroom flats was 2.75.
Statistically, there is a significant relationship between returns on 2-bedroom and 3-bedroom flats in Kaduna metropolis from 2013 to 2023.
The correlation coefficient of returns on 2-bedroom and 3-bedroom flats is positive 0.75.

SUMMARRY OF FINDINGS

In terms of rental values growth 2-bedroom flats performed better than 3-bedroom flats with 7.56 against 6%.
3-bedroom flats in terms of capital values growth performed better than 2-bedroom flats with 4.4 against 2.9 %.
In terms of returns, 2-bedroom flats performed better than 3-bedroom flats with 3.21 against 2.75.
Statistically, there is a significant relationship between returns on 2-bedroom and 3-bedroom flats in Kaduna metropolis from 2014 to 2023.
The correlation coefficient of returns on 2-bedroom and 3-bedroom flats in Kaduna metropolis is positive 0.75.

CONCLUSION

Investments in 2-bedroom flats on the average offered a better rental values growth and annual returns than investments in 3-bedroom flats, though investments in both 2-bedroom and 3-bedroom flats are viable investments in the study area.
Investments in 3-bedroom flats on the average performed better than 2-bedroom in terms of capital values appreciation.
The relationship between 2-bedroom and 3-bedroom flats in the study area is statistically significant with a positive correlation coefficient.

RECCOMENDATION

Investors in residential property in Kaduna metropolis whose aim of investment is rental values growth and annual returns should consider investments 2-bedroom flats while those with the sole aim of capital values appreciation should consider investments3-bedroom flats.
To build a residential property investments portfolio in Kaduna metropolis that will minimise risk and maximise profit, 2bedroom and 3-bedroom should not be combined since their correlation coefficient is positive.

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