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A Study on the Relationship between Hostel Investment and Inflation in Akure, Nigeria

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Abstract

One of the important objectives of holding an investment is to protect investors' real currency value invested against inflationary trend and enjoy a continuous positive flow of real return. In Nigeria, majority of investors in real estate are uncertain concerning the hedging capability and existing relationship between return in real estate and inflation rates. This research paper identifies the degree of relationship between returns in hostel investment and inflation rates in Akure, Nigeria. Environs of Federal University of Technology Akure (FUTA) were chosen as a study area because of influx of investors in hostel development in the area. Data on rental and capital income were collected from registered and practising Estate Valuation Firms in the study area through self-administered questionnaire, while rates on inflation were obtained from Central Bank and Bureau of Statistics data bank in Nigeria. 25 Estate Valuation Firms in Akure consist of the target population sourced from the NIESV (Nigerian Institution of Estate Surveyors and Valuers) Directory. Twenty-five questionnaires were administered to Estate Valuation Firms, fifteen were retrieved. The descriptive statistics include the mean return while inferential statistics used for the analysis includes Phillip Perron unit root test and Auto regressive distributed lag. The PP unit root result; shows the data sets exhibits a different combination order in terms of the integrations. Existing degree of relationship was seen to vary between hostel and inflation rates. However, instances where some hostels show a positive relationship with inflation component exist; while others show a negative relationship with the inflation components. The findings from this study will give empirical direction to both individual and institutional investors in hostels. It was recommended among others that the Nigerian government should work towards putting in place the relevant policy mix of fiscal and monetary policies to mitigate inflation rate to a single digit so that investors will be able to earn their real return.

Keywords: Nigeria, hostels, investment, returns and inflation rates, Akure

1.0 INTRODUCTION

The primary aim of investors is the achievement of the desired return and at the same time minimise risk on the investment (Odu, 2011; Uwubanmwen & Eghosa, 2015). However, it is important for investors to look out for investments that have hedge against inflation and protect the real value of the investment (Odu, 2011). Inflation is the continuous increase in the overall goods and services in an economy over a given period. However, as the overall price level increases, currency purchases lesser units of goods, thus eroding currency real value invested (Uwubanmwen & Eghosa, 2015). The impact of inflation on any economy can be negative or positive in real terms. It is negative when there is a decrease in the real currency value and other monetary terms over time; it is positive when nominal interest rates are adjusted by the monetary authorities to encourage investment in non-monetary capital projects (Uwubanmwen & Eghosa, 2015). It has been noted that during inflation periods, some investments do not exhibit a complete or partial hedging capability of such investment (Dabara, 2014; Rubens et al., 1989), because the revenue and earnings of the investments do not grow over time. Hence, it is important for investors to appraise the hedging capability of the investment before investing. An investment is said to effectively hedge the price level if it provides enough degree of protection in an economy over a set period (Arnason & Persson, 2012; Fraundorf, 2012).

Investors have the option of investing in either financial or real estate investment. Real estate investment allows the investors to invest in either unsecuritised or securitised real estate. Unsecuritised real estate implies the purchase and management of physical properties such as commercial and residential (Lee & Ting, 2009); while securitised real estate investment entails investors buying share or equities in real estate listed company (Liow, 2001; Li & Chow, 2015); However, hostel investment which is the major thrust of this study is under the residential type of real estate. Investment in real estate has been seen to provide protection against inflation over the years (Abdul-Rasheed & Tajudeen, 2006) and thereby protects the investor's money from devaluation as an effect of inflation. Wurtzebach et al. (1991) and Adrangi et al. (2004) noted that an asset is a unique one when it provides effective inflation hedging potentials during high inflation and attractive real returns during low inflation period. Wurtzebach et al. (1991) opined that the capacity of an asset providing inflation protection is measured by its ability to avert or reduce the dropping in currency value invested. In the Nigerian context, inflation has remained a constant

threat in the economic development. However, property market investors are not left out in the current inflation scenario ravaging the economy. The current economic scenario has necessitated fears in the mind of some investor because power of money is eroding out faster and at the same time whether real estate is an inflation protection against the economic volatility that has characterised the economic policy.

Real estate can hedge inflation if its real estate returns pattern exhibits convergence with inflation rates whereas real estate that are not particularly good hedges against inflation will exhibit a divergence between real estate return patterns and inflation (Hartzell et al., 1987). There are various interpretations about the inflation protection characteristics of investment returns of real estate. Fama and Schwert (1977) opined that residential investment exhibited perfect inflation protection; Demary and Voigtlander (2009) had a contrary opinion concerning the inflation protection of real estate investment. Also, Bello (2004) established that Nigeria real estate is not a complete hedge against inflation all the time. Adrangi et al. (2004) noted that securitised real estate investment is negatively correlated to the inflation rate. The relationship that exist among inflation rates and hostel real estate returns has not gained due attention by several economists around the world. However, Nwosu (2019) studied hostel returns and inflation ability in Nigeria. The relationship that exist between inflation rates and hostels' returns was not investigated which this current study address.

The shortfall of hostel accommodation provided by the government in higher institutions have necessitate student to look for alternative accommodation provided by private individual and cooperate investors. The situation has led prospective investors to invest in hostel real estate considering the general perceived term that real estate is often addressed as an item that possess inflation hedging ability (Lee & Lee, 2012). With the influx of private hostel investment around the university environ, there is need to ascertain the relationship that exit between inflation rate and return on hostel real estate investment hence; this current study tends to study the relationship that exist between inflation rate and hostel real estate investment return in Akure. The outcome of this research article will come up with informed decisions that will assist prospective investors in hostel investment options. It will also be beneficial to scholars in field of portfolio management.

■2.0 LITERATURE REVIEW

2.1 Concept of Investment in Real Estate

Real estate entails an investment where streams of income and capital value are driven by rental income payable by occupiers usually under leases (CMP Capital, 2014). Investment in real estate is said to have the following unique characteristics that differentiate it from other investment options; large size, heterogeneous, high cost of transactions, high cost of management and illiquidity. The high transaction is responsible for longer holding periods compared to another asset class (Hoesli & Lizeri, 2007). Hudson-Wilson et al. (2005) identified options of real estate investment as direct and indirect real estate.

Investment in direct real estate is divided into two main categories. Commercial real estate are spaces for carrying out business transaction or apartment meant for income producing they includes, office space, shop space, space for warehouse, hotel buildings etc. (Hoesli & Lizeri, 2007; Nwosu, 2019). Residential are place of abode either for personal use or for investment purpose (Falk, 2012).

2.2 Review of Related Studies

Inflation is an economic term that nations and their governments use to address various economic policies and programmes (Osagie et al., 2012). It is decomposed into three perspectives namely actual, expected and unexpected inflation. However, consumer price index is often used as substitute for actual inflation, and 90-day Treasury bill rate used as representative of expected inflation. The actual less expected inflation is equal to what is adopted as unexpected inflation (Tehrani et al., 2012; Wahab et al., 2018).

The use of generalized autoregressive conditional heteroskedasticity model (GARCH-M) approach was used by West and Worthington (2006) to demonstrate (real estate investment trust) REITs and commercial properties inflation potentials. The results indicated a significant degree of relationship with the return of REITs while unexpected inflation demonstrates high correlations with commercial real estate income. Wang et al. (2008) studied relationship between inflation and housing investment in Taiwan. The Taiwanese CPI was a representative of actual inflation, while monthly Taiwan housing returns represent the income return. Co-integrating analysis was used to analyse data for the study. The outcome of the analysis indicates that inflation rates are higher than 0.83% threshold value, housing returns shows ability to protect against inflation. This is in tandem with the finding of (Li, 2001), that during high inflation real estate is a buffer against high inflation.

The examination of inflation capacity by Zhou and Clements (2010) from 2000 to 2008 examined the inflation capacity of real estate between 2000 and 2008. The return for real estate was obtained from Chinese real estate databank, CPI of Chinese market serves as an indication for actual inflation while Auto Regressive Integrated Moving Average represent the expected inflation. The analysis used for the study was Engle and Granger's co-integration, it found out that Chinese direct real estate was not a perfect hedge against unexpected and actual inflation.

Arnason and Persson (2012) analyzed relationship of inflation rate and residential, unsecuritised and securitised real estates in Sweden. The data used for the study was the Quarterly and annual returns between the periods of 1993 to 2011. The results show that, during the study period, Sweden real estate considered did not provide an adequate protection against actual, expected or unexpected inflation, this connotes that real estate in Sweden are not good inflation protection. However, this finding is considered controversial to the finding of Maurer and Sebastian (2002) that only German funds exhibited the hedging capacity against expected inflation. The findings of Zhou and Clement (2010) conforms with the latter findings of Arnason and Persson (2012) that there is no inflation protection for real estate.

Park and Bang (2012) examining the effectiveness of direct commercial real estate investment and inflation rate in Korea using the autoregressive integrated moving average (ARIMA) to measure expected inflation rate. For actual inflation, the Korean CPI and GDP data were used. The return data was obtained from Korean appraisal database. The study indicated that expected and unexpected inflation components exhibited short-run positive co-movement with Korea commercial properties. This finding agrees with the finding of Lee (2012)

that investment in commercial real estate provides a long-term positive relationship with inflation. Lee (2012) and Park and Bang (2012) used the Johansen co-integration test and arrived at the same conclusion. The methodology that was used could have contributed to the authors arriving at the same findings. The findings of Arnason and Persson (2012) is contrary to the result attained by Park and Bang (2012) that inflation rates demonstrated short-run positive movement with commercial properties.

Tehrani et al. (2012) investigated the impact of long and short-term inflation on residential properties in developing countries between 1980 and 2011. ARDL co-integration approach was employed for data analysis. Findings from the study showed that small and medium size residential property provided a perfect hedge against inflation in developing countries. Also, study revealed that up to medium sized residential properties in developing countries exhibited a better short run and long-run relationship with inflation rate than large, luxurious residential properties and stock and time deposit. This result is contrary to the findings of Zhou and Clements (2010) that real estate did not provide an effective protection against inflation. Hence, there are divergent conclusion about the level of existing relationship between rates of inflation and investment in real estate.

In the Nigeria context, Bello (2004) investigated the real estate characteristics that provides inflation hedge for residential properties in Lagos, Nigeria. Data for the study was analysed using the Fama and Schwert's (1977) Ordinary Least Square Model. However, the findings showed residential portrays a strong inflation hedging characteristics against expected inflation. This is in tandem with the findings of Zhou and Clement (2010) that real estate was not an adequate protection against actual and unexpected inflation. Odu (2011) employed OLS to ascertained inflation potential of commercial properties in Lagos. Analysis indicated that commercial returns provided perverse inflation hedging protection against (actual) inflation in Victoria Island and Ikoyi while in Ikeja area, it shown a complete hedging protection against actual inflation.

Ogunba et al. (2013) studied office and shops inflation hedging characteristics in Ibadan, Nigeria. Data for actual inflation rate were derived from the Nigerian CPI while the expected inflation was derived from the Nigerian 90days TB rates. Estate Valuation Firms in the study area supplied data on rental and capital incomes. The OLS was employed for the analysis. Result of the research averred that return in office and shops spaces shown weak hedging against actual inflation, part protection against unexpected inflation, and it exhibited a perfect hedge against expected inflation. This result complies with the finding of Odu (2011) that commercial properties reveals complete hedging protection with actual inflation. This conformity of findings may be because of the same analytical tool of OLS employed.

Umeh and Omisore (2015) investigated hedging inflation ability of residential incomes in Ibadan for period of 2002 and 2014. The inflation component was decomposed into actual, expected and unexpected. OLS model was used in the data analysis. It found out that hedging ability of residential income vary across geo political sub-markets while there is no evidence of hedge for actual inflation for residential properties. While in Akobo residential total returns provides a complete hedge against inflation. While in Bodija estate, rental and total return were discovered to give complete and partial hedging buffer against inflation. However, Bello's (2004) findings are in contrast as such residential income and total return at least is a partial hedge against inflation. Wahab et al. (2018) examine inflation hedge potentials of house price returns in Abuja. The fully-modified OLS analysis shows that in short run housing markets is not a good hedge against inflation. However, outcomes of Bello (2004) conform with this finding that housing markets is not a complete hedge against inflation across all the markets.

Nwosu (2019) studied the inflation hedging ability of private student hostels around the Federal University of Technology Akure (FUTA), South Gate, Akure. Data were analysed using Ordinary Least Square Regression. Result shows that hedge capacity of private student hostel investment is not a hedge against inflation all the time as perceived to be but with few exceptions that provided a perverse or partial hedge against inflation. The disparity in the above findings calls for a constant investigation of inflation protection capacity of investment in real estate to determine hedging capability of investment across the region. Hence, this current study will fill the existing gap by establishing the degree of existing relationship between hostel returns and inflation rates in Akure, Nigeria.

3.0 RESEARCH METHODOLOGY

The study ascertains the level of relationship that exists between hostel investment returns and inflation rates in Akure, Nigeria. The study was restricted to FUTA South Gate area because of huge concentration of hostel facilities in the area. Tenement and self-contained property types are chosen for this study because they are the property types that are mostly used for hostel around the FUTA environs. Lack of online data bank for the rental and capital values of hostel investment necessitate the choice of registered Estate Valuation firms who are members of the NIESV as target population of study. Sampling frame for the study was obtained from NIESV Directory (2017). From the directory, the total number of registered Estate Valuation Firms in Akure is twenty-five (25). Census survey was adopted because the sample frame is within a manageable frame.

Questionnaire administered on the Principal Consultants/Resident Surveyors of the practicing Estate Valuation Firms is 25. Out of a total of twenty-five (25) administered questionnaires to Estate Valuation Firms, fifteen (15) were retrieved. The Estate Valuation Firms provided information on the rental and capital values of hostel investment covering the period of 2009 to 2018. The time frame was chosen because a study of this nature needs to draw data from a time frame of ten years. However, the influx of hostel investment around the FUTA environs was within the period of 2009. The data on inflation required were extracted from Nigeria's National Bureau of Statistics (NBS, 2019) and Central Bank of Nigeria (CBN, 2019). Categories of inflation rates are the actual, expected and unexpected. Consumer price index represented actual inflation rate. The expected inflation rates were derived from the 90-day Treasury bill rates. Unexpected inflation was derived by deducting expected inflation from actual inflation. Descriptive statistics employed includes mean return and trend lines. Also, PP unit root test and autoregressive distributed lag were the inferential statistics used for the analysis.

3.1 Mean Return

However, using the formula below, the rental and capital values of hostel are converted to rates of returns as adopted by (Bello, 2005). The Total Return is expressed as:

TTR= IR + CR (1)

3.2 Trend Lines

Trend lines are often used to smooth out fluctuations in the data sets thereby indicating the pattern accurately (Dabara, 2014). A trend line is said to be accurate when its R-squared value is near 1.

The equation is in this form:

$k = cx + z$ (2)

where k is the dependent variables; c is line slope, which equals change in the value of k as a result of a change in the value of cx; x is the independent variable; and z is the intercept on the k-axis.

In time series analysis, is necessary to conduct a stationarity data set test to prevent outrageous results in subsequent analysis and adequately integrate data set long-run relationship.

3.3 Unit Root Test

The Philip Perron unit root equation adopted for this study is presented thus:

$bYt = \alpha + \text{cYt} - 1 + \varepsilon t$ (3)

Et I is zero-mean k-variate stationary time series process, α is a k-vector of drift parameters and ΔY is stationary.

Hypothesis is expressed as follows below:

H_o:δ=0 (Unit Root) (4)
H_1:δ=0

Decision rule states that if t*>PP critical value, the decision is to accept null hypothesis, indicating the presence of unit root. Meanwhile, if t*<PP critical value, the decision is to reject null hypothesis, indicating no presence of unit root.

3.4 Auto Regressive Distributed Lag

ARDL co-integration procedure was invented by Pesaran et al. (2001). The method is mostly employed to establish long run relationship that exist among series of data set with varying order of integration. ARDL co-integration approach mostly preferred when dealing with data sets of, I (0) and I (1). ARDL co-integration assists in identifying the co-integrating vector(s) that has a long run relationship single equation. Reparametrized results produce short-run and long run dynamic relationship of the variables (Nkoro & Uko, 2016). Thus, the F-statistics help to identify the underlying long run relationship (Nkoro & Uko, 2016).

It is expressed as follows:

$zt = n + \alpha 1zt\text{-}1 + \beta 0vt + \beta 1vt\text{-}1 + ut$ (5)

Where zt and vt are stationary variables, n is Constant, β0vt = dependent variable,
β1vt-1 = independent variable and Ut = error term.

■4.0 RESULTS OF ANALYSIS

4.1 Returns on Hostel Investment

Returns obtained from the two most dominant forms of hostel investment in the study area is presented in Table 1 below.

Table 1 Returns of hostel investment in FUTA
(Source: Field survey, 2019)

	Tenement			Self-contain		
Year	IR	CR	TR	IR	CR	TR
2009	0.35	5.26	5.61	0.44	5.26	5.70
2010	0.33	5.00	5.33	0.42	5.00	5.42
2011	0.34	8.89	9.23	0.43	11.41	11.84
2012	0.32	2.04	2.36	0.40	3.06	3.46
2013	0.34	16.66	17.01	0.39	7.86	8.25
2014	0.31	8.27	8.58	0.38	4.45	4.84
2015	0.31	3.91	4.23	0.37	1.73	2.10
2016	0.30	0.00	0.30	0.40	5.44	5.84
2017	0.30	5.00	5.30	0.40	6.37	6.77
2018	0.30	5.95	6.26	0.39	2.74	3.13

Table 1 indicates returns of hostel investments, tenement building has its highest total return in 2013 with a corresponding return of 17.01% and the lowest total return was seen in 2016 with 0.30.%. The high return is traceable to high demand of property type in the location during study period. The total return of tenement dropped in 2014 and 2016 and rose to 5.30% in 2017. Self-contain building reached its peak in terms of total return in 2011 at 11.84% and the lowest total return was in 2015 with a return of 2.10%. The high return is connected to a high demand in the property type in the location during the period. The total return of self-contain dropped between 2013 and 2015 and rose to 5.84% in 2016.

Tenement building reached its peak of capital return in 2013 at 16.66% and the least capital return was seen in 2016 at 0.00%. The capital return of tenement dropped between 2014 and 2016 and rose in 2017 at 5.00%. It is noticeable that self-contain building has its highest capital return in 2011 at 11.41% and the lowest capital return was in 2015 at 1.73%.

4.2 Inflation Hedging Components

This section indicates inflation components between 2009 to 2018 analysis. The decomposition of inflation rates into actual, expected and unexpected was necessary to be incorporated. This outcome was attained, as a result of real estate reactions to components of inflation.

Table 2 Inflation components during the period
(Source: National Bureau of Statistics (NBS, 2019) and Central Bank of Nigeria (CBN, 2019) statistical report)

Year	Actual	Expected	Unexpected
2009	12.59	3.67	8.92
2010	13.76	3.85	9.91
2011	10.85	10.07	0.78
2012	12.24	14.11	-1.87
2013	8.52	11.6	-3.08
2014	8.06	10.93	-2.87
2015	9.01	9.65	-0.64
2016	15.63	10.44	5.19
2017	16.55	14.36	2.19
2018	12.15	11.02	1.13

Inflation rates shown in Table 2 reviews the volatile nature of rates of inflation in economy of Nigeria. It inferred from that actual inflation rates show numerical differences that depicts instability in the economy of Nigeria. Within the period of 2009 to 2012, actual inflation was discovered to maintain a double digit. The actual rate of inflation maintained a relative stability by remaining on a single digit path between 2013 to 2015 but rose to a double digit from 2016 to 2018. The expected inflation was seen to increase from 2009 to 2012 but decreases in 2013 to 2015. The unexpected inflation decreased to 0.78 in 2011 but rose to 5.19 in 2016. The trend graph for inflation component is shown in Figure 1.

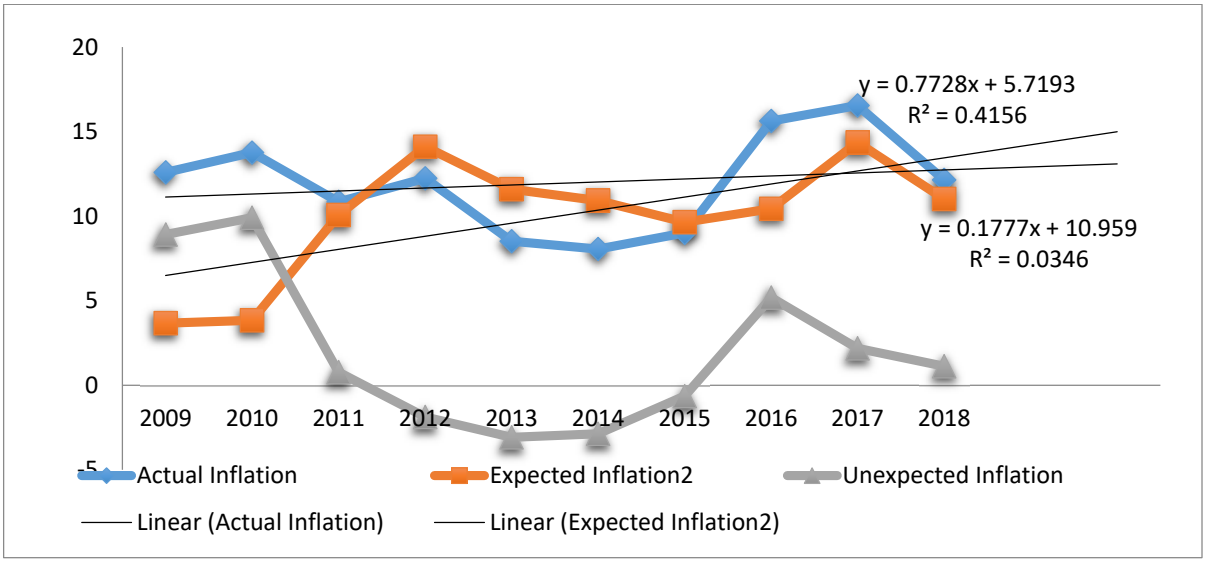

Figure 1 Trend lines for inflation rates component
(Source: Field survey, 2019)

Figure 1 shows coefficient for actual inflation is positive at 0.772, suggesting that every unit change in time will result to rise by 77.2% in actual inflation. The R^2 for actual inflation shows 41.5% implying that there may be other factors that contribute to the variation in the actual inflation. Also, the figure showed that the actual inflation tends to increase with time. The coefficient for expected inflation (0.177) is positive, implying that unit changes in time will result to a rise by17.7% in expected inflation. The R^2 shows the level of reliability of prediction, 3.4% for expected inflation. The R^2 for expected inflation is very low indicating that the possibility of other factors contributing to expected inflation variation may be weak. However, the result revealed that the expected inflation tends to rise with increase in time.

4.3 Unit Root Test

Table 3 presents the result of the unit root test. This is necessary, to avoid bogus result in the following analysis and efficiently capture the relationship of the data sets.

Table 3 PP unit root test of rate of returns and inflations data sets (2009 - 2018)
(Source: Field survey, 2019)

Level			Ist Difference			
	t-Stat 5%	Probi.		t-Stat 5%	Probi.	Integration Order
Actual Inflation	-1.9882	0.504	(Actual Inflation)	-1.9959	0.021	I(1)
Expected Inflation	-3.2598	0.027	(Expected Inflation)	-3.3210	0.250	I(0)
Unexpected Inflation	-1.9959	0.001	(Unexpected Inflation)	-1.9959	0.026	I(0)
TReturn Self-contain	-3.6651	0.028	(TReturn Self-contain)	-10.2429	0.000	I(0)
TReturn Tenement	-2.9197	0.081	(TReturn Tenement)	-7.5928	0.000	I(1)
CReturn Self-contain	-3.6830	0.028	(CReturn Self-contain)	-10.2214	0.000	I(0)
CReturn Tenement	-2.9217	0.081	(CReturn Tenement)	-7.5824	0.000	I(1)
RReturn Self-contain	-3.2005	0.054	(RReturn self-contain)	-3.3660	0.047	I(1)
RReturn Tenement	-1.6984	0.399	(RReturn Tenement)	-15.54321	0.000	I(1)

Table 3 shows PP unit root test of rates of returns and inflation. The PP analysis was conducted at 0.05% level of significance. Null hypothesis (H_0) is rejected if the p value is above 0.05% and accepted if the p value is below 0.05%. The PP unit root results indicate that time series variables are integrated at varying degree of integration order. Outcome of test suggest Autoregressive Distributed Lag appropriate in examining degree of relationship that exist between inflation rate and hostel real estate return investment in Akure shown in Table 4.

4.4 Relationship Between Inflation Rates and Hostel Returns Investment in Akure

This section presents the result of relation between inflation rates and hostel investment returns. The Autoregressive Distributed Lag was used to analyse the data set.

Table 4 Relationship of rate of returns and rate of inflation for hostel investment in the study area
(Source: Field survey, 2019)

Inflation	Type of Return	Property Type	Variables			
			Coefficient	Std. Error	t-Statistics	Prob*
Actual	Total	Self Con.	0.5604	0.0984	5.6942	0.0023*
		Tenement	-0.1605	0.3773	0.4254	0.6854
	Capital	Self Con.	0.5681	0.1125	5.0501	0.0039*
		Tenement	-0.1281	0.3798	-0.3372	0.7474
	Income	Self Con.	2.9911	1.2455	2.4016	0.0415*
		Tenement	4.2675	2.9823	5.4309	0.0119*
Expected	Total	Self Con.	0.2782	0.3597	0.7734	0.0486*
		Tenement	-0.1046	0.3437	0.3043	0.7712
	Capital	Self Con.	0.1442	0.4168	0.3461	0.7411
		Tenement	-0.2189	0.3291	0.6652	0.5307
	Income	Self Con.	0.9514	2.8930	4.3289	0.0034*
		Tenement	-1.7034	5.4192	3.3143	0.039*
Unexpected	Total	Self Con.	0.3193	0.4393	0.7268	0.4947
		Tenement	-0.0800	0.4424	0.1808	0.025*
	Capital	Self Con.	0.5122	0.3464	4.4789	0.0189*
		Tenement	0.0707	0.4540	3.1557	0.0014*
	Income	Self Con.	4.9965	6.4671	5.7726	0.0491*
		Tenement	7.3314	8.3957	3.8732	0.0422*

The significance level is 0.05

From Table 4, the three inflation components considered for this study (actual, expected and unexpected) exhibit a positive effect on total rate of return on self- contain, ($t=5.6942$, $p<0.05$), ($t= 0.7734$, $p<0.05$), ($t= 0.7268$, $p> 0.05$), actual and expected inflation indicate that a significant relationship exist; while the unexpected inflation revealed that the relationship between inflation rate and self -contained hostel investment return is insignificant. For tenement property, actual and expected inflation shows a negative effect on total return at ($t= -0.4254$, $p >0.05$) and ($t=-0.3043$, $p >0.05$); while unexpected inflation shows a positive effect on total return at ($t=0.1808$, $p <0.05$) on returns. Actual and expected inflation showed that there is no significant relationship; while unexpected inflation showed a significant relationship between inflation rate and tenement hostel return.

Income return, and (actual, expected and unexpected) inflation shows a positive effect on the return at ($t= 2.4016$, $p <0.05$), ($t=4.3289$, $p <0.05$) and ($t=5.7726$, $p <0.05$) on the self-contain hostel. Actual, expected and unexpected inflation indicate a significant relationship between inflation rate and self- contain hostel return. For tenement property, actual and unexpected inflation showed a positive effect on return at ($t = 5.4309$, $p <0.05$), ($t = 3.8732$, $p <0.05$), and a negative effect on expected inflation at ($t = -3.3143$, $p <0.05$), for the actual, expected and unexpected inflation it showed that there is significant relationship between inflation and tenement hostel investment return.

Inflation rates shows a positive impact on self-contain hostel return at ($t= 5.0501$, $p <0.05$), ($t=0.3461$, $p> 0.05$) and ($t=4.4789$, $p<0.05$) respectively. Actual and unexpected inflation suggest that relationship between them is significant; while expected indicate that the relationship between inflation rate and self-contained hostel return is insignificant. For tenement property, actual and expected inflation showed a negative effect on return at ($t = -0.3372$, $p>0.05$), ($t = -0.6652$, $p >0.05$), and a positive effect on unexpected inflation at ($t = 3.155672$, $p<0.05$), for the actual and expected inflation revealed that the relationship is insignificant; while unexpected inflation indicates a significant relationship.

Table 5 Bound testing for Autoregressive Distributed Lag Model of relationship
(Source: Field survey, 2019)

Significance Level	Lower Bound Value	Upper Bound Value
10%	4.04	4.78
5%	4.94	5.73
2.50%	5.77	6.68
1%	6.84	7.84

Table 5 above contains the lower bound and upper bound values for bound testing at the significance level of 1%, 2.5%, 5% and 10%. If F-statistics is greater than lower and upper bound value, null hypothesis which states there is no existing relationship between inflation and hostel rate of return is rejected. It is accepted if the F-statistics of bound testing for ARDL is lower than the limit of lower bound and upper bound values. To determine the long run existing relationship among the variables, the null hypothesis of co-integration amongst the variables were tested against alternative hypothesis by means of F-test indicated in Table 6.

Table 6 F-Bound Test to test the level of relationship
(Source: Field survey, 2019)

		Total Return		Capital Return		Income Return	
Inflation	**Type of Property**	**Asymptotic**	**Decision Rule**	**Asymptotic**	**Decision Rule**	**Asymptotic**	**Decision Rule**
Actual	Self-contained	11.4260	Rejected	7.3887	Rejected	6.3497	Rejected
	Tenement	1.4802	Accepted	1.4124	Accepted	4.0711	Accepted
Expected	Self-contained	10.6943	Rejected	2.1953	Accepted	7.1613	Rejected
	Tenement	2.1660	Accepted	2.5177	Accepted	6.1911	Rejected
Unexpected	Self-contained	1.9093	Accepted	9.8434	Rejected	8.3015	Rejected
	Tenement	8.5575	Rejected	6.5508	Rejected	7.1364	Rejected

The significance level is 0.05
Note: I (0) is 4.94. I (2) is 5.73

In Table 6, drawing from the bound test, the F-statistics actual inflation and self-contain total, capital and income return respectively are above the upper critical bound of 5.73 at 0.05% significance. The result gives a comprehensive proof of a long run relationship with inflation rates and self-contain returns. Hence, the null hypothesis is rejected. In a similar vein, study shows relationship between actual inflation and tenement returns to be statistically insignificant because F-statistics is below upper critical bound indicating 5.73 at 0.05% significance. Hence, the null hypothesis is accepted.

■5.0 DISCUSSION OF RESULTS

The high return experienced in self-contained in 2011and tenement building in 2016 could be traceable to high demand in property type in FUTA during period of study due to increase in the number of courses run by the university and increase in the general admission quota for all courses in the university. The capital and rental income for tenement and self-contained was seen to be impressive in terms of positive returns. This confirms the findings of Idowu (2006) that returns should portray positive return to classify investment to be feasible.

The inflation digit was seen to mostly be in double digit during the period of study. This implies that the Nigerian economy is facing serious economic challenge in maintaining a single inflation digit. This agrees with findings of Dabara (2015) that Nigeria government is finding it difficult to bring down and maintain inflation figures to a single digit range. However, this is in sharp contrast with Zhou and Clement (2010) findings that actual inflation rates were mostly seen to be in single digit range.

In Table 6, result found out an existing long run relationship between inflation and self-contain this is in not far from the findings of Tehrani et al. (2012) that residential properties have a better short- and long-term relationship with inflation. Analysis in Table 6 can be inferred that self-contained total and income returns exhibits a long run relationship with expected inflation while self-contained capital return shows no evidence of long run relationship with expected inflation. Tenement returns exhibited relationship in long run with unexpected inflation. This provides conclusive proof of existing long run relationship with tenement returns and unexpected inflation rates.

■6.0 CONCLUSION

The study examines the relationship with hostel returns and inflation rates in Akure, Nigeria. Research findings revealed that increase in tenement and self-contained property type is insignificant. The findings show that inflation rate exhibit mostly double digit during the periods under review. The relationship existing between hostel return and inflation varies; there are instances where some hostel investment returns shows existence of positive relationship with inflation; while others shows negative relationship. The findings from this study will

recommend empirical guidance to hostel investors. The study among others, advise relevant fiscal and monetary policy mix be put in place to bring down inflation rate to a single digit to manage volatility. The study therefore recommends that investors should ensure adequate investment appraisal of investment types and degree of relationship between rate of inflation and the return on investment(s). The study also recommends that investor should ignore the general notion of real estate been a hedge against inflation but rather, proper appraisal should be conducted to determine the possible impact of inflation on the investment(s) options.

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