

Correlates of House Rent in Two Deluxe House Categories; Stand-alone and Semi-Detached Duplexes in Abia State, Nigeria

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Abstract

This paper assessed the correlates of house rent in Stand-alone and Semi-detached duplexes in Abia state, Nigeria. Six housing layouts in the two study locations of the state had 57 and 59 housing units respectively. From this number, the Multiple Classification Analysis (MCA) was applied to ascertain the determinants of house rent using house quality, house shortage, location, house agents and income as predictor variables. Results are that the MCA showed high r^2 values of 0.95 and 0.99 for the stand-alone and semi-detached apartments respectively. This consistency hence suggests that the few available housing units in these two categories will have high rents that are being paid by those at the high income echelon of the population. In this regard, injection of lower house categories into the housing market and public-private partnership among others were recommended.

Keywords: House rent, duplexes, housing, MCA, Abia State.

Introduction

Housing is a basic human requirement as food and clothing. The demand for adequate housing has increased in meteoric terms especially as cities all over the world are centres of production, distribution, services, finance and control and therefore are political and economic units (Brown, 1994). The United Nations Centre for Human Settlement/Habitat estimated that not less than one million people in less developed countries live in houses that are unfit for human habitation and it is believed that this number will increase rapidly unless deliberate measures are taken (World Bank /Habitat, 1990). So many reasons are blamed for this development; very high population growth rates, urbanization with the associated rising cost of rents among others.

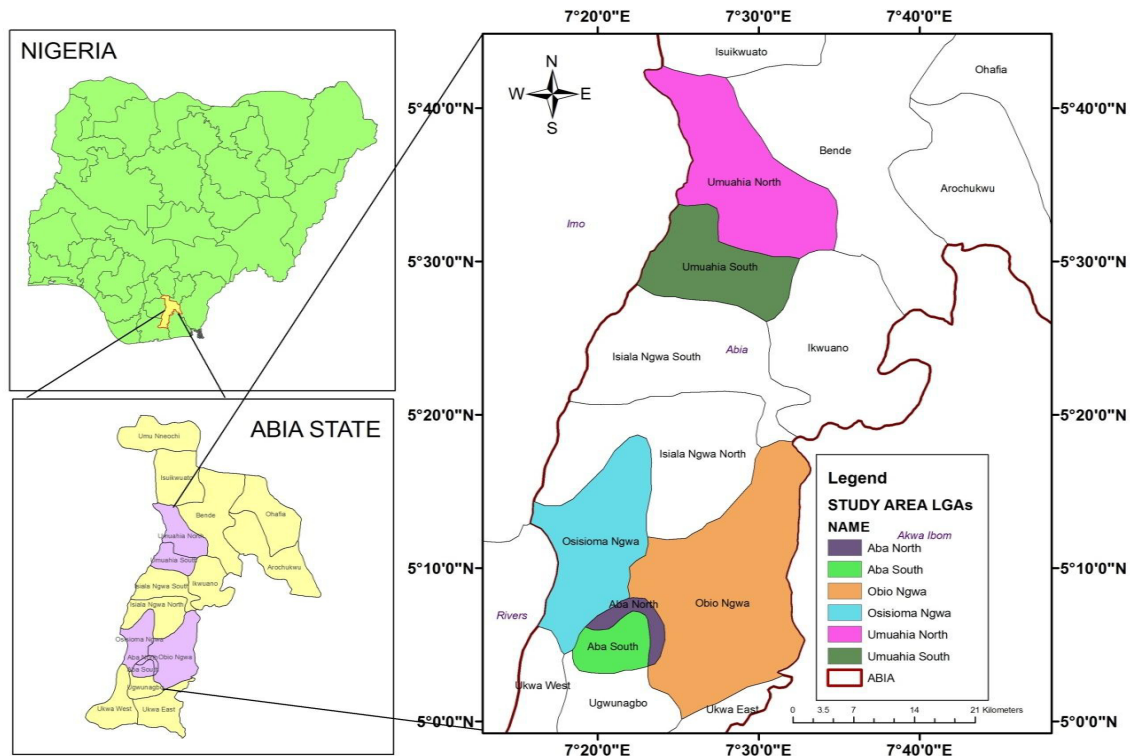
The trend in population growth and urbanization differs from country to country and from region to region and the human face of cities is the physical and social expression of individual lives (Brown, 1994). Today African cities are characterized by indiscriminate settlements. According to Stren (1990), in 1967 about 36% of the population of Dar es Salam and 27% of that of Lusaka lived in uncontrolled settlements. Lee-Smith (1990) also noted that 30 to 40% of the population of Nairobi lived in squatter settlements. In Nigeria however, the housing problem is a national issue (Sule, 1994) with more than 955 urban dwellers living in sub-standard housing. In Abia State, the target of government in the area of housing among others include; the provision of affordable housing primarily for the low income group. Even in the face of establishment of these residential layouts for mass housing as part of its statutory housing objective, a reasonable proportion of the population does not have access to good housing or cannot afford the rent of a comfortable accommodation due to income status. The response of government among other things ought to have been the enforcement of occupation of housing layouts by the categories of the workforce for which they were meant (high, medium and low income groups). Unfortunately, large and pocket layouts are allowed to rest in the hands of the high and mighty who wittingly compel others to pay rents as they desire (Ejenma, 2014).

In order to reside in a relatively decent deluxe apartment befitting the status of some categories of tenants in the state, stand-alone and semi-detached housing apartments are sought for. Originally, technical specifications of housing layouts were made for low and middle income categories of the workforce for housing categories like: three & two bedroom flats, one room self-contained and the tenement apartments. In other words, the technical and statutory specifications of the layouts to accommodate houses for mainly low and middle income earners have been eroded by the economic gains attached to the building of a stand-alone or semi-detached duplex where the plots ought to accommodate either the 3 or 2 bedroom flats. As a result therefore, the study seeks to examine the correlates behind the home rents paid on these two deluxe house apartments as most people reside in housing apartments whose environmental conditions are terribly degraded.

Study Area

Abia State lies between latitudes $4^{\circ}45'$ and $6^{\circ}17'N$ and longitudes 7° and $8^{\circ}10'E$. occupying a land mass size of about $833.77km^2$ representing 5.8% of the total land area of Nigeria (www.onlinenigeria.com). Its capital is Umuahia with much of its administrative units and infrastructure in Umuahia north Local Government area (fig.1). The major urban local government areas are; Aba North and South and Umuahia North while others are predominantly rural. On housing and urban development, the area had houses that were predominantly made of

mud and local bricks though with galvanized roofing sheets. The earmarking of the plots and the corresponding buildings were planned with special emphasis on sanitary lanes which provided a gateway for both inhabitants of the areas. The gradual disappearance of the old housing facilities is clearly made manifest in the other layouts that spring up on a routine basis outside the old town. The state government had at various times invested in the housing sector as a component of urban development with the overriding objective to make housing available to as many residents of the area and the state at large as possible (Abia State Economic Empowerment and Development Strategy, 2005). The implication of this is that majority of the populace are left uncatered for in the area of housing with skyrocketing rents especially for residential accommodation.



Methodology

The population of the study stood at 7817 plots from two zones comprising Umuahia and Aba. Umuahia zone comprised 4868 plot units from 13 layouts while Aba zone comprised 2949 plot units from 10 layouts. In all there were 23 layouts in the two zones (table 1). Since the interest of government in the housing sector is concentrated in the two most prominent urban centres of the state, Umuahia and Aba zones became the study locations following the six LGAs. This is line with the existing housing policy programme of the state (ABSEEDS, 2005). From this number a total of 2506 was chosen for the two study locations using the Yaro Yamene's formula as follows;

$$n = \frac{N}{1+N(e)^2}$$

Where: n = sample size sought
 N = total population
 1 = constant
 e = level of significance

$$n = \frac{N}{1 + N(e)^2}$$

Table 1. Numerical Characteristics of Layouts in Abia State

Zone	Number of layouts (Residential)	Number Developed	Number Undeveloped
Umuahia	30	15	15
Aba	14	8	6
Total	44	23	21

Source: Author's computation, 2012

For the purpose of specifics, there are six housing layouts each containing these deluxe apartments that are on rent (table 2.) although it is only in the Amokwe housing layout of Umuahia that stand-alone duplexes exist as part of government effort to solve the nagging problems of housing. It is however not within the financial carrying capacities of low and middle income earners hence still rests in the hands of the high and mighty.

Table 2. Stand-alone and Semi-detached duplexes in the layouts

Layout	Stand-alone sampled	Layout	Semi-detached sampled
Old town (Umuahia)	15	Old town (Umuahia)	26
World bank (Umuahia)	20	New town (Umuahia)	6
Ehimiri (Umuahia)	3	Low Cost Umuahia	15
Old GRA (Umuahia)	3	Ehimiri (Umuahia)	4
Old GRA (Aba)	12	Old GRA (Aba)	4
Fuel Plantation (Aba)	4	Fuel Plantation (Aba)	4
Total	57	-	59

Source: Authors' field work, 2012

Correlates of house rent in these two house categories were analyzed with the multivariate techniques through the Multiple Classification Analysis (MCA), Andrews et al, (1973). This method was used to predict values of and explain variances in the dependent variable using independent or predictor variables. This technique requires that the dependent variable be measured on the interval (continuous) scale or be dichotomous, while the independent variable could be measured on any scale, nominal/categorical, ordinal, continuous or ratio.

Mathematically, MCA is given by:

$$Y_{ij} \dots n = \bar{Y} + a_i + b_j + \dots + e_{ij} \dots n$$

Where:

$Y_{ij} \dots n$ = the score (on the dependent variable) of individual no who falls in category j of predictor B, etc.

\bar{Y} = Grand mean of the dependent variable

a_i = the effect of membership in the jth category of predictor A

b_j = The effect of membership in the jth category of predictor B

$e_{ij} \dots n$ = Error term for this individual.

MCA yields three key coefficients: Eta, Beta and Multiple r-squared (r^2)

a) Eta and η^2 : Eta indicates the ability of the predictor using the categories given to explain variation in the independent variable. Eta is the correlation ratio and indicates the proportion of the total sum of squares explainable by the predictor:

b) Beta and β^2 are directly analogous to the eta statistics, but are based on the adjusted means rather than the raw means. Beta provides a measure of the ability of the predictor to explain variation in the dependent variable after adjusting for effects of all other predictors.

c) A multiple correlation coefficient (adjusted) for degrees of freedom estimates the proportion of variance in the dependent variable explained by all predictors together.

The multivariate model used responses from variables as house quality, house shortage, location, house agents and income status to explain the variation in house rents across the layouts. Data analysis was aided by the SPSS adapted software.

Accordingly, $\text{Rent} = a_1 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5$

Where: x_1 = house quality

x_2 = house shortage

x_3 = house location

x_4 = house agents

x_5 = income status

Results

The MCA results are presented on tables 3 and 4 for the correlates of house rents for the tenants of these deluxe apartments. The MCA shows good performance in the efforts of the explanatory variables on the dependent variable as identified.

Table 3. MCA for Stand-alone Duplex

Explanatory variables	Eta	Beta
House quality	0.759	28.445
House shortage	0.550	-22.824
Location	0.698	37.926
House agents	0.227	9.933
Income status	0.656	-57.674

$r^2 = 0.956$

Source: Author's calculation

From the table, the explanatory variables together explain 95% of the variation in house rent. The remaining 5% will be explained by other variables that were not factored into the MCA model as the stochastic variables. From the result of the test, there is a statistically significant relationship between house rent and the identified explanatory variables in the stand alone duplexes available in the two study locations.

Table 4. MCA for Semi – Detached Duplex

Explanatory variables	Eta	Beta
House quality	0.000	0.063
House shortage	0.948	15.864
Location	0.666	14.410
House agents	0.781	-16.703
Income status	0.961	-8.501

$r^2 = 0.99$

Source: Author's calculation.

In the semi- detached duplex, the identified explanatory variables together explain 99% of the variation in house rent across the study area where this deluxe house category exists hence there is a statistically significant relationship between house rent and the explanatory variables in the study area.

Conclusion and Recommendations

The overriding objective of the Abia State housing policy has been to make it available and affordable to majority of the people but the situation on ground suggests that decent accommodation especially those in the deluxe categories can only be occupied by those in the very high income brackets of the population. Also since these apartments have been erected by individuals to increase economic gains, the tenants see the correlates of rent in these areas as functions of; house quality, house shortage, location, house agents and income status. As part of the need to make housing available and relatively affordable within the ambit of the capacity of the workforce, massive injection of lower house categories will bridge this gap. This must be in the form of the four, three, two and one bedroom apartments. Housing as a necessary human requirement in most developing nations suffers the problems of availability and affordability as most tenants are compelled to pay high amounts of rents with little left as personal savings. This worsens the socio-economic conditions of the people especially as there exists a large wage differential between the various categories of the workforce and the population at large. As a result therefore, the establishment of a localized sustainable building materials industry that will be charged with producing some pre-fabricated bricks, reinforcement rods, tiles, toiletries, plastic pipes and fittings, ceiling materials and paints will reduce the hassles and financial difficulties being posed by the present situation.

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